USDA Agricultural Marketing Service

Transportation and Marketing

Specialty Crop Block Grant Program

Fiscal Year 2018 Description of Funded Projects

Number of Grants Awarded: 56
Number of Sub-award Project: 788
Amount of Funds Awarded: $72,157,417.86
For more information, please visit the program's website: https://www.ams.usda.gov/scbpg
NOTE: The project descriptions below were provided by the grant recipients. (File updated September 24, 2018)

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alabama Department of Agriculture and Industries	$494,794.76	Reducing Production Cost in Christmas Tree Production Through Improved Fertilizer Practices	Auburn University and Alabama Cooperative Extension Service will conduct a series of research trials to update fertilizer and lime recommendations for Alabama Christmas tree growers. Current recommendations are severely outdated. Recommendations generated through this project will be included in Extension publications to highlight best management practices for Christmas tree fertilization. Through this project, production cost will be reduced by mitigating risks associated with over- or under- applying fertilizer. This data will also assist new growers entering the industry with management decisions.	$25,000.00
Alabama Department of Agriculture and Industries	$494,794.76	Alabama Specialty Crops in Grocery Retailers	The Food Bank of North Alabama / Farm Food Collaborative will expand consumer access to and consumption of locally grown specialty crops by maintaining grocery retailers' vendor insurance requirements and facilitating cold-chain deliveries from multiple North Alabama farms to local grocery stores while raising the public's awareness of the economic and environmental benefits of buying local.	$24,989.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alabama Department of Agriculture and Industries	$494,794.76	Alabama Pecan Growers associations Farmer Educational Meetings & Summer Tour	The Alabama Pecan Growers Association will conduct farmer education efforts designed to offer new and beginner farmers the tools needed for successful farming. Farmers will hear from pecan specialists talking about what is new and improved in the pecan industry as well as good orchard management practices. Meetings and a tour will provide farmers with information on the pecan industry background and its regulatory requirements, recommended cultivars, promotion of Best Management Practices (BMP) in pesticide application, storage and others, as well as identifying opportunities for energy savings that will provide cost savings to the farmers. By cultivating and educating farmers and creating robust consumer demand for pecans through marketing and educational initiatives, this will positively impact the pecan industry in Alabama. In addition, these gatherings will enhance pecan growers to gather, talk, share ideas, and listen to the latest pecan production research. In the pecan industry information about growing, and improving production is always changing. These annual meetings are our way of providing pecan growers with the most up to date information and technology for growing pecans.	$25,000.00
Alabama Department of Agriculture and Industries	$494,794.76	Enhancing the Competitiveness of Apple Production in Alabama Through Improved Disease Resistant Varieties and Innovative Production Systems	Auburn University will partner with the ADAI to enhance the competitiveness of apple production in Alabama through investigating the performance of improved disease resistant apple rootstock varieties. Experimental trees will be cultivated under highly efficient Tall Spindle production system. The outcomes will lead to sustainable apple production practices resulting in reduced inputs, increased yield, increased efficiency, improved fruit quality and increased economic return to the grower, and contribute to conservation of natural resources, improved food safety and increased consumption of specialty crops. Results will be disseminated to stakeholders through grower meetings, field days, printed materials and web outlets.	$25,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alabama Department of Agriculture and Industries	$494,794.76	Establishment of a Demonstrative Teaching Garden and Shade House on Campus at Alabama State University	Alabama State University (ASU) will establish a demonstrative teaching garden and shade house on campus that will serve to introduce our students (undergraduate and graduate) as well as members of the local community to the nutritional health benefits and advantages of growing and consuming locally grown specialty fruits and vegetables. We will also conduct an educational workshop and field tour at ASU that will introduce our target audience to the benefits of consuming a diet that is rich in specialty crops. We will work with a registered dietician to educate these groups on choice and portion servings based on nutritional content and other factors that they should be considering when making meal choices. The workshop and field tour will also be a means to educate our audience on entomological diversity and sustainable agriculture production practices.	$25,000.00
Alabama Department of Agriculture and Industries	$494,794.76	Enhancement of Strawberry Production using Microbial Symbionts	The use of endophytic symbionts is an effective and appropriate alternative to sustain and improve crop yield without damaging the environment or human well-being. The specific objective of this project is to explore the role of beneficial fungal endophytes in improving strawberry production. Specifically, we will test 20 fungal endophytes isolated from naturally growing plants of different Alabama habitats for their ability to enhance strawberry production under greenhouse conditions. The outcomes of the project include identification of 4-6 beneficial symbionts that can improve strawberry production by 10-25% under greenhouse conditions compared to the non-symbiotic strawberry plants. The research finding is an essential step in developing bio-fertilizers or new improved seed varieties of strawberry and other specialty crops growing in Alabama.	$24,975.50

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alabama Department of Agriculture and Industries	$494,794.76	Postharvest Interventions to Improve Quality and Microbial Safety of Microgreens	The University of Alabama and the University of West Alabama will establish a partnership to optimize postharvest storage and transportation techniques to improve the nutritional and sensorial quality, shelf life, and microbial food safety of microgreens grown in Alabama. We will evaluate a variety of microgreens, including red amaranth, fenugreek, cress, broccoli, and daikon radish, by ranking their best storage temperatures. We will also study the use of different sanitizers before storage and transportation. The evaluation will be based on their nutritional quality, sensorial quality, and microbial safety, especially possible pathogenic bacterial contamination, during storage and transportation, with and without interventions.	$20,690.00
Alabama Department of Agriculture and Industries	$494,794.76	Educating our Community one specialty crop at a time - phase 2	Victory Teaching Farm will work to enhance the competitiveness of specialty crops through an increase in access, and consumption via the addition of a new production component at the farm consisting of microgreen specialty crops and through the addition of this component to our community education programming. We will also increase the consumption of specialty crops through increased production and distribution and increase knowledge base of Alabama specialty crops through assistance to chefs, markets and grocers that distribute, utilize and sell Alabama Specialty crops provided by Victory Teaching Farm.	$25,000.00
Alabama Department of Agriculture and Industries	$494,794.76	Rising Up and Raising Healthy Community Gardens and Gardeners Through Hands and Minds on Learning Focused on Specialty Crops	In service to the community, Talladega College and the Talladega County Cooperative Extension Service affiliated with the Alabama Cooperative Extension Service are partnering to create an outdoor learning center/garden that also includes an indoor campus classroom. The project title, Rising Up and Raising Healthy Community Gardens and Gardeners Through Hands and Minds on Learning Focused on Specialty Crops is based on community autonomy and the need to bring action to the challenge of having one in three children in the United States either overweight or obese and the fact that Alabama has the third highest adult obesity rate in the nation. Our concept of community autonomy is a group coming together to take decisive action around an agreed upon sustainable effort, which is growing and preparing specialty crops.	$24,864.87

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alabama Department of Agriculture and Industries	$494,794.76	Alabama Specialty Crops for School Gardens	Schoolyard Roots (SYR), formerly Druid City Garden Project, is a 501(c)3 nonprofit founded in 2010 in response to increasing rates of childhood obesity and a lack of healthy eating instruction in Alabama. We bring garden-based instruction to elementary schools. This is done by combining hands-on science and math lessons with Alabama Course of Study standards to meet the challenges in Alabama public schools. In our core program Gardens 2 Schools (G2S), our teaching gardens and innovative curriculum have been shown to increase consumption of fruits and vegetables, increase academic achievement, and get children excited about school. Our programs encourage entrepreneurial skills, involve parents at school, encourage environmental stewardship and sustainability, build positive character development and leadership skills, and energize teachers. Grant funds support our core 'Gardens 2 Schools' program in three major ways: maintaining our partner elementary school teaching gardens where we grow specialty crop and heritage seeds; the addition of heritage seed-based lessons to our award-winning, standards-based curriculum; and by providing support for our educators and partner school teachers.	$25,000.00
Alabama Department of Agriculture and Industries	$494,794.76	Trinity Gardens' Community Gardens Provides Specialty Crop to be Sold and Shared among Residents	Bay Area Women Coalition, Inc. (BAWC) Community Gardens Project provides an increase in production of fresh fruits, nuts and vegetables to be sold and shared among residents living in the Trinity Gardens' community. This project includes food security, reduction in disease risk, cultural preservation, creates a webpage and sustains green spaces. BAWC project provides each of the following: (1.) Food security by increasing the production of "Specialty crop"; (2.) Reduction in disease risk with access to nutritious fruits, vegetables and nuts; (3.) Cultural preservation, opportunities for neighbors to work together, (4.) Motivation to create and sustain green space which eliminates blighted lots, and (5) Entrepreneurship opportunities including selling the specialty crop and making a profit. Generating income is essential to the survival of small and urban farmers.	$24,521.40

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alabama Department of Agriculture and Industries	$494,794.76	Increasing Farm to School Connections in Baldwin County Alabama	Local Appetite Growers, a small-scale vegetable grower in Silverhill Alabama, will work with the Baldwin County Alabama Board of Education and the Auburn University Extension to increase the use of locally grown produce for the consumption in local schools. Also Referred to as a 'Farm to School' program, this project aims to increase the use of locally grown produce in the cafeterias of the local school system. This project would approach this effort in 3 ways, 1.) Exposure – by bringing school kids on tours to see the farm, to make them aware of how and where their food is grown, 2.) Working with school cafeteria staff to integrate locally grown produce into the menus of at least one local school, as a model for other local schools, and 3.) Acquiring GAP (Good Agricultural Practices) certification to help assure all parents / school staff that their food is produced and handled in the safest possible way. The goal is to make school aged children more aware of where their food comes from and offering these local products in their school cafeteria.	$21,645.00
Alabama Department of Agriculture and Industries	$494,794.76	Farmers Possessing GAP/GHP Certification	The demand for fresh produce in the marketplace along with the increase in local farmers markets has given Alabama farmers a foothold, but they lack the scale and capital to compete with regional and global wholesalers. Due to growing food safety concerns, many large buyers in the marketplace such as grocery stores, wholesalers, food service providers, schools, and other institutions require that all growers from whom they make purchases possess Good Agricultural Practices and/or Good Handling Practices (GAP/GHP) credentials. This credential ensures stakeholders in the supply chain that the product they are receiving is of a predetermined quality standard. The cost to obtain and maintain this certification over time can provide a financial burden on farmers and often hinders them from entering some marketplaces. The Alabama Department of Agriculture and Industries (ADAI) would like to initiate a reimbursement cost-share program with the goal of increasing the number of Alabama farmers with GAP/GHP certification at 75% percent of certification costs or a maximum of $500 to allow them to compete in these markets.	$25,000.00

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Alabama Department of Agriculture and Industries	$494,794.76	King's Garden community Education Garden	The growing demand for specialty crops in the central Alabama region provides a need for increased sustainable, healthy, nutritious food supply. The purpose of King's Garden (KG) is to address this issue through increased production of specialty crops. A key objective of KG is operating a community vegetable stand and selling in local farmers' markets to sell fresh fruits, vegetables, herbs, and flowers. KG provides opportunity, knowledge, and resources to at-risk populations regarding increased production of specialty crops through hands-on and classroom learning to residents and the community. KG currently collaborates with Master Gardeners, Alabama Cooperative Extension Service agents, and university researchers to advance its community garden program. King's Garden will use soil blocking to germinate specialty crop seeds efficiently, implement use of a germination chamber to prepare a greater number and variety of seedlings in all seasons, utilize more manual pest control, and practice cover crops.	$25,000.00
Alabama Department of Agriculture and Industries	$494,794.76	Cultivating the Next Generation of Aggies	Jackson Middle School (grades 6-8) will create an outdoor classroom where students will engage in experiential, food-based education by growing specialty crops in a variety of settings. The Alabama Cooperative Extension System (ACES) will provide educational and production support to the program. Our project will have several garden and instructional areas that will provide varied teaching opportunities for growing specialty crop fruits and vegetables. The students will participate in the process of building, maintaining, and marketing the multi-faceted sustainable food production system reaching parents and the community, increasing access to and awareness of many specialty crops. The crops will be produced in a student-run greenhouse, with raised garden beds, and hydroponic growing towers. The greenhouse will be the centerpiece of the system and the main component of the first phase of the program. It will provide specialty crop vegetable, herbaceous and flowering starts for the various plots on campus and will provide bedding plants and potted annuals that will be offered to the community in a spring plant sale. Students will sell produce they have grown in the edible schoolyard at a student run farm-stand and will donate a portion of produce to a local non-profit organization.	$22,499.60

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alabama Department of Agriculture and Industries	$494,794.76	Provide Commercial Grade Hygienic Facility for small scale honey producers to enhance food safety	The Baldwin County Beekeepers Association (BCBA) will develop better processing practices, educate individual beekeepers in modern techniques, and provides modern honey processing equipment in an effort to help eliminate as much unwanted contaminates as possible from the specialty finished product of local honey. We intend to utilize requested funds to develop written process control practices for honey processing, provide beekeeper classroom and hands on education to support the process control practices developed, and establish a Mobile Honey Processing Unit (MHPU) that will allow individual beekeepers the ability to prepare, extract, and bottle their honey in a clean, controlled environment. All these items combined should meet our goal to enhance competitiveness of the honey crop while enhancing food safety practices of the final local honey specialty product.	$23,000.00
Alabama Department of Agriculture and Industries	$494,794.76	Gardening for Justice: Building Sustainable Gardens in a Women's Prison to Provide Access to Fresh Fruits and Vegetables	Troy University will enhance consumption of and access to specialty crops amongst the female inmate population at Tutwiler Detention Facility through the development of a garden inside the prison. The garden programing and the garden site itself will increase health and nutrition knowledge of the participants. This project will also provide female inmates with the opportunity to gain horticultural skills that could be useful in gainful employment upon their release. We will teach approximately 40 female inmates housed in the Honors Annex how to set up and maintain a garden along with providing nutritional education classes. All the crops grown will be used to Tutwiler's kitchen for inmate consumption. This program will also provide inmates with the unique opportunity to develop horticultural skills that otherwise would not be afforded to them through regular prison programming while also providing them and other inmates with better access to fresh fruits and vegetables.	$20,984.93
Alabama Department of Agriculture and Industries	$494,794.76	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$36,651.46

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alabama Department of Agriculture and Industries	$494,794.76	Plant Something Alabama/ANLA	The Alabama Nursery & Landscape Association (ALNLA) will expose consumers to the national Plant Something marketing campaign by constructing an informative and inspirational consumer horticulture website, filled with relevant content, and promoting the site across various media platforms. By increasing consumer awareness of the benefits of gardening, best gardening practices, and discovery of local Independent Retail Garden Centers, we hope to increase sales of Alabama grown ornamental, floriculture, and vegetable specialty crops.	$25,000.00
Alabama Department of Agriculture and Industries	$494,794.76	Wholesale and Direct Market Readiness to Increase Profit and Efficiency for Alabama Specialty Crop Producers	Farmscape Solutions, in collaboration with Crotovina, Inc., will improve access to wholesale and direct markets for Alabama Specialty Crop Producers. Providing orientation, capacity building and resources for best practices in food safety, postharvest handling, packing, and business management to Alabama Specialty Crop Producers will increase efficiency and profit for participating farm businesses, while giving wholesale and direct buyers an incentive to increase their purchases of locally grown food. Farmer training meetings will be held at six locations around the state, including the 2019 Alabama Fruit and Vegetable Growers Association Conference, the 2019 Alabama Medicinal Plant Growers Association Annual Meeting, the 2020 Jefferson County Truck Farmers Association Meeting, and three additional locations, to be determined.	$24,973.00

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Alaska Division of Agriculture	$252,456.09	Inspiring Alaskan Growers with a Means of Efficiently Pressing Fresh Kenai Peninsula Grown Rhubarb into Juice	Oceanside Farms, www.OceansideFarms.weebly.com, will inspire and promote increased knowledge, enthusiasm, and greater use of Alaska grown rhubarb. Don McNamara and Donna Rae Faulkner, owners and operators of Oceanside Farms will purchase, maintain, and operate a commercial grade hydraulic fruit grinder and press that will process volumes of fresh rhubarb stalks into juice without the need to chop, freeze or cook it first. Alaska Department of Environmental Conservation (ADEC) protocols and rules regarding food safety related issues for rhubarb, rhubarb juice and products will be shared with interested rhubarb growers and vendors. "RHUBARB-PALOOZAS" at Homer Farmer's Market, Kenai Farmers Market and the Kenai Peninsula Fair in Ninilchik will be held in collaboration with UAF Cooperative Extension Agents to share information and recipes and invite pressing and tasting of rhubarb and rhubarb juice. A "RHUBARB-PALOOZA" for Homer Garden Club members at Oceanside Farms will include a special focus on growing and harvesting rhubarb as seen in the fields. Rhubarb surveys will be taken, and the results will be shared online through the Oceanside Farms website and made available to distribution networks like the Soil and Water Conservation Districts, UAF-CES, ADNR newsletters, and by invitation at farmer and gardener conferences and meetings.	$28,062.00
Alaska Division of Agriculture	$252,456.09	The High Tunnel Connection Homer, Alaska	To engender, promote, and sustain a culture of sharing information and building connections among those involved in our local food system, Homer Soil and Water Conservation District will: (1) facilitate three information sharing/networking events to benefit high tunnel producers, (2) organize and lead two high tunnel tours, and (3) identify mechanisms for maintaining networking and information sharing processes.	$10,332.00
Alaska Division of Agriculture	$252,456.09	Optimizing Post-harvest Botrytis Control and Handling of Fresh Cut Peonies	The Alaska Peony Growers Association, in collaboration with scientists at Washington State University and APGA grower members, will optimize the postharvest control of Botrytis gray mold on cut peony flowers by developing scientifically-based information relating to infection of flowers, disease levels in coolers, the efficacy of pre- and postharvest applications of fungicides/bio-pesticides, the influence of packaging of flower stems on decay Results will be disseminated to stakeholders through grower meetings/field days and publications.	$59,996.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alaska Division of Agriculture	$252,456.09	Increasing Crop Production Efficiency Yields with Innovative Technology	Twitter Creek Gardens (TCG) will provide a demonstration site to showcase the latest technology in the Market Gardening industry. With the acquisition of the newest technologies, a model of how to efficiently increase production while setting a standard for postharvest safety and proper food storage will be provided to market gardeners across the state. Stakeholders will have access to tool trialing as well as the documentation of production enhancing techniques via on site workshops and an online video series. TCG will work with a monitoring and evaluation committee of area producers and two Homer based organizations through the duration of the project	$30,400.00
Alaska Division of Agriculture	$252,456.09	Growth, Production, and Preliminary Market Preferences for Unique and Flavorful Rhubarb Cultivars	This project will evaluate survivals, growth, production, flavor, and market preference in Southeast Alaska for three cultivars of rhubarb selected for color, flavor, productivity, and availability. Although several rhubarb cultivars were previously evaluated at the UAF Matanuska Experimental Farm, most are now difficult to source. The three cultivars chosen for this project are readily available from commercial sources and from Alaska and will be evaluated at farm sites in Petersburg, Juneau, Gustavus, and Haines. Ten rhubarb crowns of three cultivars will be planted at each farm site to ensure sufficient transplant survivals for valid comparisons. Microclimate data will be collected at each farm site including rainfall, and soil and ambient air temperatures. All cultivation will use organic methods and soil tests and quality assessment measures will be assessed each growing season. For each cultivar and at each farm an evaluation will be done of 1) crown survivals, 2) growth and production (stem counts, stem height and girth measurements and photo digitization of leaf area), 3) flavor (acidity and sugar content) and color, and 4) market preference (survey of local consumers at area farmers markets on Salt and Soil online marketplace and for Alaskan retailers and markets).	$20,623.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Alaska Division of Agriculture	$252,456.09	Producers GLExpo Travel Stipends	This project will provide travel stipends to eligible Specialty Crop producers to attend The Great Lakes Expo as a group. Offering travel stipends for growers to attend the Great Lakes Expo hosted in Grand Rapids, Michigan, will offer Alaska growers the opportunity to learn from the various workshops, presentations, and demonstrations. Growers will gain knowledge about science-based tools through outreach and educational programs. The Great Lakes Expo is focused on demonstrating educational sessions on fruit crops, vegetable crops, and greenhouse production as well as covering a range of food safety topics and marketing strategies. Alaska Specialty Crop producers will come back to Alaska with increased knowledge to apply directly to their production businesses.	$50,924.64
Alaska Division of Agriculture	$252,456.09	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$52,013.42
American Samoa Department of Agriculture	$283,800.19	Recovery, Sustainability, and Building Resiliency	The American Samoa Government Department of Agriculture aims to support the post-cyclone recovery of the territory's specialty crops by utilizing tissue culture technology and other modern farming practices. Local production of bananas, taros, breadfruit, and other specialty crops suffered significant setbacks because of Cyclone Gita. It is estimated that damages in the agricultural industry reached approximately $14 million. Successful implementation of this project will supply the farming community with a much-needed supply of new plants. These plants will continue to be productive annually with regular maintenance and care, supplying produce year after year.	$283,699.85

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arizona Department of Agriculture	$1,501,187.18	Farm Fresh Forks, A Tasting Experience	The Yuma Fresh Vegetable Association will increase consumption of specialty crops through the Farm Fresh Forks program, a specialty crop tasting experience at a minimum of 8 local Yuma restaurants. The Farm Fresh Forks program is designed and implemented to increase the competitiveness of specialty crops. The restaurants supply complimentary tastings of three specialty crops each week using additional ingredients and labor at no cost to customers. They also supply the recipes at no charge to create the Farm Fresh Forks cookbook. They distribute grower menu cards to each of their customers that highlight the different growers and the specialty crops each week.	$61,917.00
Arizona Department of Agriculture	$1,501,187.18	Small/Medium Size Farm FSMA Preparedness	The University of Arizona trained staff will conduct On-Farm Readiness Review (OFRR) to assess small to medium sized farms level of preparedness to meet the Food and Drug Administration (FDA) Food Safety Modernization Act (FSMA) Produce Safety Rule. In addition, the U of A will also collect pre-harvest irrigation water samples on-farm to confirm water quality for growers looking to meet rule requirements. This project will involve working side-by-side with the Arizona Department of Agriculture, the Arizona Department of Environmental Quality, and small/medium sized growers across the state to address FSMA preparedness and support industry to achieve compliance.	$75,958.00
Arizona Department of Agriculture	$1,501,187.18	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$119,959.70
Arizona Department of Agriculture	$1,501,187.18	Science-based Interventions for Water Contamination	The University of Arizona will evaluate science-based interventions, which will allow growers to better manage their use of irrigation water treatment and/or sanitization methods following a contamination event. This project specifically targets water treatment solutions for the fresh produce industry, namely leafy greens specialty crops such as romaine lettuce. It will target water treatment effectiveness and recommendations solely for specialty crop producers concerned with the presence of the pathogenic bacteria E.coli O157:H7 in their irrigation water source.	$88,395.00

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Arizona Department of Agriculture	$1,501,187.18	Cultivating Arizona's Green Industry	The Arizona Nursery Association (ANA) will use these grant funds to accomplish three items: to update the Economic Impact Survey of the Green Industry, to promote purchasing plants through the award-winning and nationally recognized Plant Something program, and to support the Southwest Horticulture Annual Day of Education (SHADE). Increasing the competitiveness of the Arizona nursery industry is the primary focus of the successful Plant Something campaign which is designed to attract consumers to purchasing plants to enhance their landscapes for monetary, environmental and health reasons.	$58,800.00
Arizona Department of Agriculture	$1,501,187.18	Discover Arizona Wine	The Arizona Wine Growers Association in supporting its member's and fellow wine industry businesses by advertising in the Urban Communities to visit and partake in Agritourism of the growing specialty crop of grapevines, vineyards, and wine in Arizona. This will be accomplished using billboards, certified folder displays and rack cards.	$77,648.00
Arizona Department of Agriculture	$1,501,187.18	The Dish on Eating Local AZ	Randy Murray Productions will continue our series of iconic videos on eating locally grown foods that consists of 10 short webisodes adaptable to many social media distribution platforms (Facebook, Instagram, etc.). Using fast-paced editing, easy-to-see close-ups, upbeat music and easy-to-read graphics with crisp narration, each episode tells the story of a single food 'from seed to supper.' The 'eat local' movement is driven by environmental concerns, demand for higher quality, economic benefits of supporting our local farming community, and the search for better taste. While this trend is evident at grocery stores and restaurants, there's still tremendous market growth opportunity, particularly with younger consumers. By visually pairing production with preparation, the series makes the connection between Arizona specialty crops and the consumers' own dinner table.	$86,383.00

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Arizona Department of Agriculture	$1,501,187.18	Arizona Pecans: Integrated Fertilizer Management	University of Arizona faculty and staff will carry out a series of on-farm studies (conducted in commercial orchards in cooperation with producers) to evaluate pecan response to fertilizer amendments, and will use this data to improve upon current recommendations. This project is part of our overall goal of developing and distributing comprehensive guidelines to provide pecan growers with strategies to maximize fertilizer use efficiency, enhance profitability, and optimize tree growth, nut yield, and nut quality. Individual studies will address management of nitrogen, phosphorus, nickel, and zinc.	$66,981.00
Arizona Department of Agriculture	$1,501,187.18	Arizona's Tree Nut Industry: Economic Contributions	The University of Arizona Cooperative Extension Economic Impact Analysis team will conduct an economic contribution study of Arizona's tree nut industry, which includes the production of pecans, pistachios, almonds, and walnuts. The economic contribution includes, but is not limited to, farm cash receipts for tree nut commodities sold, other farm-related income from such activities as agritourism, and other value-added post-harvest products and activities, as well as indirect and induced economic multiplier effects. Multiplier effects represent additional economic activity that is stimulated in other Arizona industries to meet the demands of tree nut producers and processors, as well as households employed in the industry. This study will report the total contribution of the tree nut industry to the state economy, including these multiplier effects.	$25,385.00
Arizona Department of Agriculture	$1,501,187.18	Blister Beetle Risks to Specialty Crops	The University of Arizona Insect Diagnostics Clinic proposes to help growers cope with blister beetles through a comprehensive, multidisciplinary risk assessment on Tegrodera and the cantharidin it produces. Building on previously funded work, a multidisciplinary team comprised of three UA departments and Cooperative Extension seek outcomes to minimize health risks and potential economic losses, enhancing competitiveness of specialty crops in Arizona by (1.) Quantifying cantharidin levels in Tegrodera found in spinach fields (Soil, Water, and Environmental Science), (2.) Conducting toxicological screen of cantharidin in the mammalian mouse model (Animal and Comparative Biomedical Sciences), and (3.) developing and deploying educational resources for growers and pest managers to support accurate identification, understanding risks, and management of blister beetles in specialty crops (Entomology).	$36,239.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arizona Department of Agriculture	$1,501,187.18	Controlling Palo Verde Broom in Nurseries	The University of Arizona will determine how to control blue palo verde (BPV) witches broom disease in nurseries and how to prevent further spreading the disease in nurseries. The Arizona Nursery Association endorses and strongly supports this project. BPV landscape trees infested with broom suffer from dieback, breaking of branches with large brooms, and often removal of structurally damaged trees. Our objectives are 1. Determine if plants grown from seed of broom trees and showing symptoms as young trees are a source of virus for mite transmission, 2. Determine if application of miticides that are labeled to control eriophyid mites control the eriophyid mites on BPV nursery plants, and 3. Offer wholesale nurseries in Arizona the opportunity to have samples of BPV tested for the presence or absence of the virus causing witches broom disease. Virus testing will be done with PCR and qPCR, molecular technology that identifies the presence or absence of the virus. Our experimental approach will result in immediate recommendations how growers can control the disease and produce broom-free BPV trees in nurseries.	$93,730.00
Arizona Department of Agriculture	$1,501,187.18	DNA-based Tissue Diagnostics for Lettuce Fusarium	The UA Yuma Center of Excellence is leading multiple projects conducting research for improved management of Fusarium wilt of lettuce. Experiments will be conducted on methods of inoculation used to artificially infect lettuce with Fusarium, and on the interaction of soil conditions with disease development. Additional experiments will be conducted to further develop two promising diagnostic techniques; each technique requiring the refinement of unique PCR primers that are specific to the Fusarium wilt pathogen and sensitive to low DNA concentrations in lettuce tissue. In addition, web content and informational videos will be developed and disseminated to the production industry that will present an introduction to and step-by-step instructions for these novel diagnostic methods.	$59,196.00

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Arizona Department of Agriculture	$1,501,187.18	Electrostatic Spray for Produce Sanitation	The University of Arizona will study the sanitization of specialty crop produce with the use of an electrostatic sprayer. Electrostatic sprayers place a positive charge on droplets, allowing them to uniformly attach to surfaces, including inanimate and produce surfaces. This allows for more complete coverage of produce surfaces with a sanitizer, especially those with rough surfaces. We propose to evaluate the antimicrobial efficacy of an electrostatic sprayer and compare it to conventional sprayer applications of chlorine, non-staining less corrosive chlorine, and a natural plant antimicrobial for the sanitization of several types of produce including lettuce, cantaloupe, and broccoli. Test organisms will include Escherichia coli, Salmonella enterica, and Listeria monocytogenes.	$64,811.00
Arizona Department of Agriculture	$1,501,187.18	Native grasses and Groundcovers for Turfgrass Replacement	The University of Arizona Cooperative Extension Turfgrass Science program in Maricopa County will continue to evaluate native grasses and alternative groundcovers and focus specifically on water and nutrition requirements and pest management. Our project's ultimate goal is to introduce to the Arizona green industry and golf courses new groundcovers and native grasses, along with specific recommendations for their best management practices. Golf course superintendents, municipal water conservation personnel, school turf managers, and commercial landscapers will have increased awareness and knowledge about the characteristics and performance of the species to install and adopt. The expectations at the end of the experiments are to identify five to six species of drought, heat and salt tolerant, locally acceptable plants that can impact over 300 golf courses and landscapers.	$35,699.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arizona Department of Agriculture	$1,501,187.18	Perception of Arizona Grown Medjool Dates	Arizona State University will facilitate increased demand of Medjool dates by developing target-oriented marketing activities based on identifying consumers' perception of Medjool dates. Over the past few years, the gross production of Medjool dates has approximately doubled in Arizona, with the growing region increasing to over 7,500 harvested acres. As the supply of Medjool dates increases, consumer demand needs to increase correspondingly. The goal of this project is to create marketing and communication strategies that specifically target existing and potential customers of Arizona-grown Medjool dates. This insight will lead to a better understanding of which information consumers attend to, as well as the role of labeling information at the point of purchase. This information will provide marketers the capability to better understand shoppers and create consumer-oriented packaging strategies to more effectively communicate the credence attributes of Medjool dates to specific consumer segments. Additionally, word association tests are analyzed to elicit consumers' perceptions of dates, in general, and Arizona-grown Medjool dates in particular.	$79,165.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arizona Department of Agriculture	$1,501,187.18	Sequential Preemergence Herbicides in Tree Nuts	Grower Cooperators in the project "Managing Herbicide Use in Tree Nuts" (SCBGP-FB16-18) asked University of Arizona extension faculty to compare a single annual preemergence herbicide application in April with two sequential preemergence herbicide applications, the first in January and the second in late May. Growers desire yearlong weed control and are willing to make two preemergence herbicide applications annually to reduce the number of postemergence herbicide applications, especially of glyphosate (e.g., Roundup), and reduce their risk of developing herbicide resistant weed populations. The goal is to provide information to Arizona pecan and pistachio orchard managers to help them reduce their reliance on postemergence herbicides for weed control. Other outcomes include developing and presenting information on the duration of control and efficacy of additional herbicides under Arizona conditions to augment what is known about preemergence herbicides such as Pindar GT and Prowl H2O. The general tasks that will be completed during this project include establishing three research and demonstration plots in 2019, collecting weed control efficacy data, summarizing results, and presenting educational materials to growers.	$9,424.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arizona Department of Agriculture	$1,501,187.18	Specific, Rapid Quantification of Fecal Contamination	The University of Arizona will study the application of rapid, sensitive and more specific real time molecular methods than the use of generic Escherichia coli to evaluate the level and source of fecal contamination during primary production of fresh produce in Southern Arizona. The study will evaluate multiple fecal genetic markers including new markers that have been deliberately selected based on previous studies and the sources of fecal contamination more likely associated with agricultural areas. The relative proportion of the new and previous fecal genetic markers will be used to more specifically estimate the level and source of fecal contamination that may occur during primary production (i.e., irrigation) and harvesting of fresh produce. The assessment of fecal genetic markers will aid in the accurate identification of the type of host inputs (e.g., sewage, wildlife, agricultural) and consequently the reservoirs or sources of foodborne pathogens that will result in a more accurate assessment of the risks to human health. This information will lead to better direct management actions to reduce likely sources of fecal pollution in agricultural waters used for irrigation and processing of fresh produce in Southern Arizona.	$96,757.00
Arizona Department of Agriculture	$1,501,187.18	Understanding Brown Wood Rot in Lemons	The School of Plant Sciences & Cooperative Extension, University of Arizona, proposes a research and extension strategy that will mitigate brown wood rot (BWR) by (1) developing real-time PCR assay coupling spore traps to quantify seasonal abundance of AS spore load in lemon orchards, (2) determining when and how environmental and management conditions AS spores are released in Yuma lemon orchards, and (3) educate growers, PCAs, and other stakeholders through industry meetings and extension bulletins. Working closely with growers and industry stakeholder groups with whom we have already established strong collaborations, we will translate gained knowledge to inform disease prevention, mitigation, and decision-making, and, ultimately, minimize within-orchard and between-orchard spread and reduce the disease burden of BWR in Arizona citrus industry.	$85,610.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arizona Department of Agriculture	$1,501,187.18	Water and Salt Management for Melons	The University of Arizona's Yuma Center of Excellence for Desert Agriculture (YCEDA) has teamed up with UA and USDA Researchers, Irrigation Districts, USDA, USBR, NASA, Arizona Commodity Councils, and others to measure water applied, evapotranspiration, and soil salinity levels to generate data that can be used to create management tools for most desert cropping systems. The objectives of this project are to measure evapotranspiration from cantaloupe and watermelon across different production scenarios, measure water application efficiency and distribution uniformity under both furrow and drip irrigation, and determine soil moisture and salt distribution during the season. This data will allow for more efficient irrigation management and assist in making rotational management decisions that preclude detrimental salt accumulations in the soil.	$69,938.00
Arizona Department of Agriculture	$1,501,187.18	Zinc Nutrition of Desert Vegetables	The University of Arizona will address an urgent need to understand the full scope of Zn deficiencies in our soils, evaluate the response of several economically important vegetable crops to Zn fertilizers, collect background data as a basis of making soil-test based Zn fertilizer recommendations, and evaluate tissue tests to diagnose Zn deficiencies. At multiple sites across the production region in the desert we will collect paired soil and tissue samples to measure Zn status and compare to known levels of adequacy and deficiency. Soil samples will be air-dried and extracted for Zn using the DTPA extraction method. Tissue samples will be oven-dried, ground, and digested with peroxide and sulfuric acid. The Zn concentrations in the soil extracts and tissue digest will be determined by inductively coupled plasma mass spectroscopy. Field Zn fertilizer experiments will be conducted on sites where soil tests indicate a Zn fertilizer response is possible. We will also evaluate lower rates of commercially available Zn foliar products. The studies proposed here will include lettuce (leaf, romaine, and iceberg), broccoli, cauliflower, and celery. These field studies will include measurements of yield and quality as well as Zn nutritional status of soil and leaf tissue samples.	$61,070.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arizona Department of Agriculture	$1,501,187.18	Continuation of GHP/GAP Certification Cost-Share Program	The Arizona Department of Agriculture's Agricultural Consultation and Training (ACT) division will offer and provide a certification fee cost share reimbursement program for fresh fruit and vegetable producers/growers, distributors, wholesalers and handlers that become USDA GHP/GAP certified.	$4,200.00
Arizona Department of Agriculture	$1,501,187.18	Continuation of GHP/GAP One-to-One Assistance	The Arizona Department of Agriculture's Agricultural Consultation and Training (ACT) division will offer and provide one-on-one assistance to fresh fruit and vegetable producers/growers, distributors, wholesalers and handlers so that they can become USDA GHP/GAP certified. This assistance program will provide benefits to those producers looking to address food safety concerns of their customers. These funds will be used for a GHP/GAP Coordinator to expand upon the education and outreach efforts of the current GHP/GAP Certification Training Program and to provide "one-on-one" assistance to training participants as needed to develop GHP/GAP procedures. ACT is taking GHP/GAP training to the next level by becoming involved with the Sun Produce Cooperative, which grew from the Maricopa County Arizona GROUP GAP Project. This project incorporates the small growers of Maricopa County into a collective food safety assessment and certification system permitting these growers and producers to expand their operations and markets.	$52,000.00
Arizona Department of Agriculture	$1,501,187.18	Quantitative Assessment of Desert Tree Shade	Enumeral Research and Consulting, LLC will conduct a ground truth survey of a subset of the Maricopa County urban forest to assess the qualitative and quantitative characteristics of temperature mitigation by desert-adapted landscape trees. Data collected would constitute baseline data on these species that could serve as a starting point for future research in more complex landscape settings. Such ground truth data will be essential in using new remote sensing methodologies/technologies, such as drones, to assess and monitor urban forests. Analysis of this data will be made available to growers, members of the landscape construction and design communities, and municipal and industry leaders involved in promoting, expanding and maintaining the urban forest.	$20,241.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arizona Department of Agriculture	$1,501,187.18	Arizona Specialty Crop Reference Guide Update 2019	The Arizona Department of Agriculture (AZDA) will update and reproduce approximately 25,000 copies of an educational reference guide for consumers which will include: · Where our fruits, vegetables, and plants come from and the benefits reaped from buying Arizona grown produce and plants. · Directory of Farmers Markets, U-Pick Farms, and Vineyards throughout Arizona. · Directory of Arizona Wine Grape Growers. · Listing of Arizona Specialty Crop availability by season. · Food safety information for fruits and vegetables (what's being done and what consumers can do). The Arizona Specialty Crop Guide will increase consumer awareness and consumption of Arizona specialty crops through its distribution at county libraries, cooperative extension offices, and various agricultural events.	$70,000.00
Arkansas Agriculture Department	$351,220.54	Assisting Specialty Crop Procurers in Accessing New Market at the Produce Marketing Association Fresh Summit 2019	The Arkansas Agriculture Department will assist specialty crop producers reach new buyers and new market opportunities, resulting in new sales. This will be accomplished by providing access to the Produce Marketing Association's Fresh Summit 2019 in Anaheim, CA by purchasing space on the exhibition floor, renting a booth, providing exhibition passes, and graphics. More than 20,000 buyers will attend the show over two days, representing national and international companies, leading to new sales.	$78,076.98
Arkansas Agriculture Department	$351,220.54	Increasing Supply Chain Access for Specialty Crop Producers by Reducing Barriers	The Arkansas Agriculture Department seeks to increase the number of specialty crop growers selling produce into the supply chain by establishing relationships with food distributors, collecting information on what the distributors require of their produce suppliers, and making the information available and easily accessible on the Arkansas Agriculture Department's website. In the second phase of the project, the Arkansas Agriculture Department will host an event with distributors and growers to facilitate networking with specialty crop growers, and will also include a question and answer session.	$19,560.13

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arkansas Agriculture Department	$351,220.54	Closing the Loop – Development of Locally-sourced Fertilizer via Utilization of Food Waste	The University of Arkansas (UofA) will optimize the nutritive value of locally-sourced fertilizer developed through the composting of food waste from local restaurants. To successfully close the loop on food waste in Arkansas, development of a composting process for rapid and consistent production of a physically, biologically, and chemically ideal fertilizer for specialty crop producers is proposed. Fruit growth of tomato, fruit yield and quality will be measured. For both tomato and leafy greens, shoot biomass will be dried and measured and then biomass will be prepared for nutrient analysis. The primary outcome of this project will be the development of a novel technology for rapid generation of high quality and safe organic fertilizer from municipal food waste.	$44,999.76
Arkansas Agriculture Department	$351,220.54	Organic super herb turmeric: Production and processing for value-added uses as an ingredient in foods, dietary supplements, and cosmetics	The Department of Food Science, University of Arkansas will conduct research that will optimize the growth conditions for organic turmeric cultivation to obtain higher crop yields and prepare dried turmeric powder and curcumin extract as natural colorant and antioxidant demand for value added product application. The outcome will be the potential promotion of turmeric cultivation practice to meet the domestic demand of turmeric. A short-term outcome is to support the local growers who are willing to grow this crop, which can result in the production of organic turmeric powder with standardized curcumin content as a high-quality ingredient. This project will also introduce a technology and process through extraction of curcumin from turmeric for future application in food products as well as dietary supplement and cosmetic formulation for local entrepreneurs. Long term outcome of this project will be to establish the production of organic turmeric with improved and superior quality of turmeric root/rhizome at an economical price and its value-added applications.	$53,000.48
Arkansas Agriculture Department	$351,220.54	Plant based biological treatments for both bacterial and fungal pathogens in tomatoes grown in Arkansas	Arkansas State University will test and develop a control program for bacterial and fungal pathogens of tomatoes using natural plant extracts, determine effective dosages of most promising plant extracts on greenhouse tomato plants, develop field treatment plans for tomato plants. The results will be disseminated to stakeholders via growers' publications, the internet, social media, an industry meeting and field days.	$35,126.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arkansas Agriculture Department	$351,220.54	Novel Nutrient Management of Organic Edamame and Sweet Corn Production for New Veteran Farmers	The USDA-ARS will develop novel nutrient management options for two promising specialty crops (edamame and sweet corn) to new and beginning veteran farmers, which will decrease nutrient losses from Arkansas' most abundant organic nutrient source, poultry litter. To bring about much needed systems-based innovation, we will develop optimal use of an emerging manure management technology under rain-fed and irrigated conditions. Results will be disseminated to new and beginning veteran farmers through grower meetings and an existing beginning veteran farmer program.	$40,000.00
Arkansas Agriculture Department	$351,220.54	Economic Optimization for New Producers Initiating Organic Production	The Natural Soybean and Grain Alliance will research and develop a cursory plan for an intensive system of rotation utilizing 'row crop' type specialty crops such as edamame, dry edible beans, sweet corn, and sweet peas in an organic system to maximize the types and numbers of crops that can be stacked to capture the highest returns/acre. Overall returns, costs, effect on soil health and pest management will be evaluated on candidate crops to provide a framework to farmers in transitioning to, and creation of, a specialty crop operation.	$36,000.00
Arkansas Agriculture Department	$351,220.54	Arkansas Vine Ripened Pink Tomato Project	The University of Arkansas at Monticello School of Agriculture will assist Arkansas tomato growers in the production and marketing of pink tomato varieties developed exclusively in Arkansas. Research and promotion activities will be conducted to identify growers, markets, efficient production practices, production protocols, and a unique marketing trademark for Arkansas Vine Ripened Pink Tomatoes. An advisory committee of growers and other interested stakeholders will be organized to investigate the formation of an Arkansas Pink Tomato Growers Association (APTGA). If feasible, the APTGA will establish growing standards, membership criteria, fees, organizational structure, and marketing strategies.	$12,518.48

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Arkansas Agriculture Department	$351,220.54	Investigating Hops Production in Arkansas to Support Specialty Crop Growth	The purpose of this project from the University of Arkansas System Division of Agriculture is to investigate the feasibility of hops production in Arkansas by 1) determining production potential of hops in Arkansas (varieties, management, pests and quality), 2) investigating economic potential of diversifying farm operations with hops production in Arkansas, and 3) creating outreach opportunities for hops production in Arkansas. This project is timely for Arkansas to be competitive in the specialty crop area. The models developed will consist of new models for hop production in Arkansas including 1) an economic model, where we will estimate input costs versus potential returns, 2) a basic crop management model, including preliminary development of a basic fertility schedule, 3) a new scouting program specific to hops, and 4) analysis of qualities important to brewers of Arkansas-produced hops.	$28,978.56
Arkansas Agriculture Department	$351,220.54	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$2,756.81
California Department of Food and Agriculture	$22,677,909.83	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$2,008,233.62
California Department of Food and Agriculture	$22,677,909.83	(11) California Grown Specialty Crop Trade Show	This project will leverage existing Visit California and CA GROWN outreach by complimenting ongoing overseas promotional efforts to introduce specialty crop foods to a targeted audience of import decision makers. Objectives include conducting three outbound missions centered on major trade shows in markets with high growth potential; hosting sessions for specialty crop exporters to meet with importers; executing a promotional campaign in target countries; and taking part in other international events to continue specialty crop food education and awareness. Specialty crop awareness will be promoted via social media in target markets throughout the project. Sales are anticipated to increase from $6 million to $9 million (50 percent) as a result of marketing and/or promotional activities.	$298,165.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(12) California Grown Flowers Retail Promotion Campaign	Research reveals that 74 percent of consumers do not know where flowers come from; yet 58 percent of consumers would prefer to buy California grown flowers over imported flowers. However, California cut flower farmers are losing market share to cheaper, imported flowers from Colombia, Ecuador, and Mexico. To better compete for market share and drive consumer preference, the California Cut Flower Commission (CCFC) seeks funding to conduct California Grown Flowers promotional campaigns with retailers operating in California. The project would emphasize June, which has recently been declared California Grown Flower Month by the state legislature. This project will develop retailer-specific promotional campaigns, including point-of-sale marketing materials and videos profiling California cut flower farmers.	$176,730.00
California Department of Food and Agriculture	$22,677,909.83	(13) Creating Demand for California Dried Fruit in Schools	To meet the demands of school district guidelines as well as the picky palates of school-aged children, the California Dried Fruit Coalition (CDFC), a coalition of California's date, dried fig, dried plum, and raisin farmers, will embark on a research and development project to create a new concept featuring all four of California's dried fruit products. This is the time to develop a new market and differentiate California grown dried fruits due to the impact of imports displacing current domestic market shares. The new concept will also provide school-aged children with much needed nutrition. The CDFC will work with the California Polytechnic State University Food Science & Nutrition program to conduct multi-phase research to develop the new concept. The CDFC will also engage with school industry leaders to gather insights and share results to create demand for the new concept.	$288,522.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(14) Optimizing Access of Drip Irrigated, Organic Fresh Market Tomatoes to Soil Nitrogen Through Grafting and Irrigation Management	Drip irrigation can improve water use efficiency and increase the sustainability of farming in California. However, drip irrigation poses challenges for organic growers. The wetted soil volume is smaller than with other irrigation types, potentially limiting nitrogen mineralization from organic sources and reducing the zone of root nutrient uptake. Grafting is becoming popular for some vegetables and opens exciting possibilities to select rootstocks that are better able to explore the soil's nutrient pool. This research will examine spatial and temporal patterns of nutrient availability, crop uptake, and fruit quality under different irrigation schedules and drip tape configurations for grafted and non-grafted, organic fresh market tomatoes. The project aims to improve the sustainability of drip irrigation in organic systems by increasing nutrient use efficiency and decreasing the risk of nitrate leaching to the groundwater. The results will be transferable to other drip irrigated specialty crops.	$213,338.00
California Department of Food and Agriculture	$22,677,909.83	(15) Searching the U.S. Department of Agriculture Fababean Germplasm for Genotypes With Enhanced Biological Nitrogen Fixation	Fababean (Vicia faba) has the highest Biological Nitrogen Fixation (BNF) among annual legumes. To use the full potential of fababean as a cover crop, the U.S. Department of Agriculture fababean germplasm will be searched for genotypes with superior BNF. The germplasm has been widely used in various breeding programs, but the BNF potential is unknown. A population of 50-60 genotypes from the germplasm will be established in a replicated field trial. The population will be characterized for: 1) morphological traits, 2) biomass production, 3) BNF, 4) contribution to soil nitrogen, and 5) water use efficiency. This study will be the first to reveal the potential of fababean as a cover crop. Promoting fababean (and other legumes) can reduce the need for nitrogen fertilizers and animal manures that are known to add to environmental pollution and greenhouse gas emission.	$288,353.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(16) High-Throughput Screening for Salt-Excluding Walnut and Pistachio Rootstocks	Increasing salinity is projected to reduce California agricultural production by billions of dollars annually by 2030. Walnut and pistachio orchards mature slowly and remain productive for decades; therefore orchards planted today must anticipate salinity levels well beyond 2030. Most walnut and pistachio rootstocks are interspecific hybrids, but diversity for salinity tolerance within Juglans and Pistacia is not well understood. This project aims to: 1) optimize high-throughput hydroponic screens for salinity tolerance in walnut and pistachio rootstocks and 2) identify sources of salinity tolerance for breeding through screening of diverse germplasm. Success will be measured by comparing salinity tolerance between established, elite clonal rootstocks and newly discovered sources of tolerance.	$147,027.00
California Department of Food and Agriculture	$22,677,909.83	(17) Strengthening the Climate Resilience of Central Coast Specialty Crops with Organic Amendments Using the COMET-Farm Tool	California state agencies are advocating for the use of soil amendments derived from organic materials to increase soil health and improve climate resilience. The application of these materials has shown to increase soil organic carbon content, reduce fertilizer loss, and improve nutrient use efficiency. The use of these amendments, such as compost, is a common practice within the Central Coast specialty crop industry. Yet, fundamental questions remain concerning soil carbon sequestration limits, nutrient availability, crop yield stability, and greenhouse gas emissions. Previous work has shown that the influence of a single compost application on soil nitrogen dynamics, such as nitrous oxide emissions under nitrogen fertilization, depends on soil texture. This project proposes lab, field, and greenhouse experiments to improve understanding of these materials and inform the nutrient management component of the Natural Resources Conservation Service COMET-Farm Tool, aiming to make it more relevant for Central Coast specialty crop producers.	$300,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(18) Developing Sustainable and Climate-Smart Vineyards Through Sheep Integration	Sheep grazing in vineyards is gaining popularity among growers. It can provide multiple production benefits, while aiding in climate change adaptation and mitigation through gains in Soil Organic Carbon (SOC). To date, there is no research on Integrated Sheep-Vineyard Systems (ISVS) in California and impact assessments are needed. This project seeks to understand how more ecologically intensive ISVS may be utilized to increase SOC and soil health, and provide multiple production co-benefits. The project proposes to setup trials at the Huichica Creek Agricultural Demonstration Vineyard across established long-term tillage and forage treatments to evaluate the effects of sheep grazing. The project will evaluate ISVS effects on: 1) SOC fluxes and soil health; 2) nutrient retention and availability; 3) yields and quality; and 4) labor, water, and energy inputs. This project will set a strong basis to develop novel best management practices.	$278,252.00
California Department of Food and Agriculture	$22,677,909.83	(19) Effects of Composted Olive Pomace on Carbon Sequestration, Water Retention, and Soil Health in California Olive Groves	Using compost made from olive pomace (olive meat, seed, and skin byproducts) restores soil organic matter, increases soil health, and reduces dependence on irrigation. While previous studies have demonstrated these beneficial effects of olive pomace compost, little is known about the effects on California soils. This study will assess which compost blends and rates best increase soil organic matter, improve drought resilience, and promote soil health using a combination of field, greenhouse, and laboratory experiments. The project will develop scientific guidelines for using composted olive pomace in California and will extend these results through field days and educational outreach designed by The Regents of the University of California Davis Olive Center, which provides growers with scientific information on best practices.	$231,041.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(20) Carbohydrate Budget Analysis Tool for Improved Management of Nut Tree Orchards Threatened by Climate Change	This project will develop a new tool called the "Carbohydrate Observatory" to enable specialty crop growers to adapt management practices to changes in climate based on the Carbohydrate (CHO) status of tree crops. Using a citizen science approach, samples from growers and lab analysis will collectively build seasonal trends of the CHOs of major tree crops throughout California. Preliminary data suggests that chill portions, heat units, management practices, tree age, etc., are correlated with stored CHOs and may predict yield. Affordable access to CHO analysis for growers is an invaluable tool, especially for post-harvest management. This project aims to continue, over several seasons, to establish seasonal baselines from which growers can assess efficient management needs of crop trees.	$268,258.00
California Department of Food and Agriculture	$22,677,909.83	(21) Evaluating Production Practices for Organic and Conventional Moringa Oleifera in California	Moringa is a new crop for California that is drought tolerant. The plant has a growing market as an emerging superfood, has potential for increased acreage of organic production, and could be grown on a larger scale as it becomes more widely known. This project seeks to determine recommendations for production practices for moringa in California. Field trials will evaluate several seed accessions under different fertilization and irrigation regimes including organic soil amendments for growth and yield parameters and nutrient and antioxidant content. Plant cold hardiness tolerance and pest management strategies will also be evaluated. Recommendations on production practices will be made available to a statewide audience with the goal of increasing moringa production in California.	$299,736.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(22) Strategies to Augment Water Supply Through On-Farm Recharge on Pecans as a Key Element for Groundwater Sustainability Under the Sustainable Groundwater Management Act	Most of the San Joaquin Valley, which exports $20 billion annually in specialty crops, is designated as critically over drafted under the Sustainable Groundwater Management Act (SGMA). In some areas like Tulare groundwater provides half the water used. Unless groundwater supply is augmented, SGMA will cut San Joaquin Valley specialty crop acreage. On-Farm Recharge (OFR) offers a flexible approach by enrolling farmlands to capture floodwater to recharge groundwater. Pecans, which are facultative upland species and native North American cultivars, are a unique nut crop able to tolerate saturated soils and flooding past dormancy and well suited for flood zones. OFR practices and economics will be developed on pecan fields in commercial orchards. Pecans as a SGMA compliance element will also be assessed in the context of regional SGMA planning. Expanding pecan acreage could be a potential SGMA compliance strategy. Notably OFR will also increase root zone moisture profiles, increasing drought resilience and irrigation efficiency.	$292,746.00
California Department of Food and Agriculture	$22,677,909.83	(23) Development of Lettuce Cultivars With Improved Water and Nitrogen Use Efficiency and Environmental Impact Assessment	Optimal lettuce size and quality are attained during production when water and nitrogen are not limiting. Water is an increasingly unpredictable resource and climate models predict less water for California. Greenhouse gases (GHG) drive global warming, and atmospheric nitrous oxide, a long-lived and potent GHG, is the major source of nitrogen-based fertilizers. Since lettuce cultivars were developed under non-limiting water and nitrogen, this project aims to develop cultivars with improved nitrogen and water use efficiency that will lower the environmental impact of growing the crop and help ensure sustainability in California.	$295,420.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(24) Improving Date Palm Water Use Efficiency Through Updated Crop Water Use Information and Irrigation Practices	Efficient water management is a priority in the California Low Desert (LD) production area. The date palm is ideally suited for the LD region, and an accurate estimate of the crop's water use is essential for efficient irrigation practices and drought strategies. Growers have started to adopt micro-irrigation, but the lack of information on crop water use and the viability of micro-irrigation are the largest uncertainties facing date palm growers. This project intends to acquire and disseminate relevant information on crop water consumption and crop coefficients, to develop a user-friendly irrigation tool, and to assess the viability of micro-irrigation in LD date orchards. Extensive data collection will be conducted at four commercial, mature date palm orchards in the Coachella and Imperial Valleys using a combination of cutting-edge ground and remote-sensing technologies.	$299,785.00
California Department of Food and Agriculture	$22,677,909.83	(28) Selecting Insect Strains to Convert Specialty Crop Waste Into Value-Added Materials	Agricultural waste management is viewed by many as a challenge. This project will demonstrate how insect discovery and selective breeding is an opportunity to increase the sustainability of specialty crop waste management practices. The performance of a range of insect species as bioconverters will be compared. High performance insect strains will be selectively bred and reared on different organic agricultural wastes as animal feed additives. Existing facilities and preliminary data that support the claim that insect strains can effectively convert specialty crop waste and generate value-added materials will be used.	$179,784.00
California Department of Food and Agriculture	$22,677,909.83	(25) Integrating Compost Into Conventional Processing Tomatoes to Improve Soil Health and Water Management	Processing tomatoes are one of California's top agricultural commodities. Yet practices commonly used by tomato growers can lower yields, detrimentally impact soil moisture and quality, or promote disease risk, which could limit the long-term viability of this specialty crop in the state. Soil amendments and irrigation optimization are two resource management techniques with the potential for enhancing the sustainability of conventional tomato farming in California. This project will compare the costs and benefits of using compost and irrigation systems that reduce water use in conventional tomato systems. The effects on fruit quality, yield, soil pathogen suppression, and soil health will be assessed and outputs shared with University of California Cooperative Extension advisors, growers, and the scientific community via on-farm workshops, field days, conference presentations, and online publications.	$295,762.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(26) Recycling Nut and Other Organic Waste on Farms for Sustainable Nutrient Management and Nematode Control	About 10,000 growers and 200 processors of almond and walnut are in California producing about 2.7 million tons of shells and hulls annually. This project aims to create novel solid and liquid pest control and bio-fertilizer products from almond, walnut, and other organic wastes. These products will be used to suppress plant pathogens and pests, provide nutrients to tree crops, improve soil properties, sequester carbon, and reduce negative environmental impacts of chemicals. The solid product will be a mix of anaerobically digested organic waste (digestate) and nut shell biochar. The liquid product will be a concentrated digestate.	$299,551.00
California Department of Food and Agriculture	$22,677,909.83	(27) Developing a Hurdle Technology of Sequential Ozone and Infrared Treatment for Improved Safety and Quality of Dried Fruits	California is a top producer of fruits in the world and continues to be the number one exporter in the United States. Sulfur dioxide (SO2) is widely used in the preparation of fruits for drying, to improve the product quality and safety. However, it is harmful to human health and the environment. The U.S. Food and Drug Administration and the Office of Environmental Health Hazard Assessment have removed SO2 from the safe list of food additives causing health fears for consuming dried fruits and great concerns for fruit processors. This project's goal is to develop a hurdle technology using sequential ozone and infrared (IR) heating to replace SO2 treatment and produce dried products with improved safety and quality without health and environmental concerns.	$299,236.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(29) Developing Best Management Practices for Tomato Growers to Use Compost by Understanding the Effects on Carbon and Nitrogen Dynamics	With the implementation of California Assembly Bill 341 (AB 341), the availability of co-compost and green waste (also known as Food Waste Composting or FWC) as a soil amendment to improve soil health will increase. Composts improve soil productivity by increasing water holding capacity, tilth, and microbial activity. Frequent application of FWC can improve nitrogen (N) availability; however limited information is available to tomato growers about reassessing N inputs when using this compost. The project's goal is to improve N management planning and the financial performance of tomato growers by providing information to develop best management practices that use FWC. The project will investigate the benefits of FWC on tomato yield, soil carbon and N stocks, N use efficiency, GHG emissions, and estimate the economic value of FWC use in tomato systems. Findings will be reported to stakeholders through extension and outreach activities.	$297,210.00
California Department of Food and Agriculture	$22,677,909.83	(70) Farm Academy: Grapes–Vine to Table	The PLANT Foundation Farm Academy creates a connection between the science and technology of agriculture and the science and technology of everyday life for kids. Farm Academy programs lead to a future where students see opportunities in agricultural careers, becoming the innovators of tomorrow, and solving problems facing farmers. The PLANT Foundation will develop a series of on-demand video courses and one live interactive virtual instructional course focused on the grape industry. Courses will educate students on the history and cultural influences of grapes, the process of raising and processing grapes for multiple uses, the different varieties of grapes, the nutritional value of eating grapes and grape products, the methods to process grapes in the home kitchen, and the career opportunities in the grape industry. The goals of this project are to increase the awareness, knowledge, and consumption of table grapes and to educate and prepare students for the many career possibilities in the grape industry.	$48,743.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(83) Improving Irrigation Scheduling for Almonds Using Variable Rate Microirrigation, Soil, and Plant Water Status Monitoring	The Sustainable Groundwater Management Act (SGMA) along with more frequent droughts will result in constrained water supplies for almond growers. Growers will need to cope with limited water by enhancing water use efficiency. The purpose of this study is to help growers produce more nut yield per unit of crop water use by adopting Variable Rate Micro-irrigation (VRM). The project will develop a method for scheduling VRM based on integrated monitoring of the soil, plant, and Evapotranspiration (ET). Innovative technologies such as the cosmic-ray neutron probe, Stem Water Potential (SWP) sensors, and remote sensing of ET will be evaluated in this study. Outcomes of the study will include increasing the number of almond growers using VRM and the number of growers reporting increase in yield per unit of crop water use. The number of growers that have adopted precision irrigation technologies such as cosmic-ray neutron probes and SWP sensors will be monitored through surveys.	$299,138.00
California Department of Food and Agriculture	$22,677,909.83	(30) Decision Support Tools for Spatiotemporal Integration of Citrus Virtual Orchard and Soil Sensing	Increasing yield, improving fruit quality, and optimizing harvesting operations are the priorities of the citrus industry in California. These needs will be addressed by integrating high resolution soil mapping and time-lapse virtual orchard (VO), three-dimensional mapping of an orchard, in visible, near-infrared, and thermal bands. The main objectives of this research project are: 1) to integrate soil mapping and VO information to predict yield, fruit quality, and optimal ripening time; and 2) to create a user- friendly web platform for the management, analysis, and interpretation of the soil and crop data. Outreach activities will be geared towards educating growers, agricultural consultants, and scientist on the use of VO and geospatial soil-sensing technologies. Hands-on field workshops will be offered to growers. Three orchards in the eastern San Joaquin Valley will be used as research sites over two growing seasons. Three varieties of citrus will be investigated.	$298,062.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(31) Train Next Generation Specialty Crop Stakeholders to Use Cost and Return Studies to Improve Farm Management Decision Making	The competitiveness of California specialty crop farmers is contingent on making the best use of farm management time and resources. The University of California Agricultural Issues Center conducts farm-level cost and return studies on individual agricultural crops produced in specific regions in California. This project has three goals: 1) to develop 15 new cost and return studies for specialty crops; 2) to work with farm advisors on developing educational materials that teach specialty crop farmers how-to apply cost and return studies to make better farm-level economic decisions; and 3) to deliver materials to help those in farm finance, insurance, bargaining, and marketing make better use of the farm cost and return studies in providing services to the specialty crop farm community in California.	$263,587.00
California Department of Food and Agriculture	$22,677,909.83	(32) Reducing Uncertainty: Cover Crop Workshops, Outreach, and Education in Contra Costa Specialty Crop Farms	The Contra Costa Resource Conservation District (RCD) will conduct a multi-faceted outreach and education campaign aimed at addressing the uncertainties and barriers to cover cropping, as a practice, faced by specialty crop growers in Contra Costa County. The project will start by surveying Contra Costa growers to collect an industry wide assessment of the awareness of and the perceived barriers to cover cropping. With that data, the Contra Costa RCD will design an outreach campaign including direct mailings, email digests, and social media as well as quarterly workshops and biannual site visits to specialty crop farms that have adopted the practice. These workshops and site visits will rotate around Eastern Contra Costa County where specialty crop farms are located. Through this outreach campaign, the Contra Costa RCD will work to increase the awareness of cover crops and address the barriers preventing adoption, encouraging specialty crop growers to adopt the practice for the benefit of their farms and the industry as a whole.	$83,256.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(33) Meeting the Demand for Specialty Crop Professionals through Youth Engagement	A study funded by the United States Department of Agriculture (2015) predicts that agriculture will have 57,900 new skilled jobs to fill each year and only 35,400 qualified graduates to fill them. More qualified graduates in agriculture are needed to meet industry demands. The Farming, Agriculture, and Resource Management for Sustainability (FARMS) Leadership Program provides high school students with a two-year program that includes hands-on experiences in agriculture. Students learn about specialty crop jobs while working alongside industry mentors during monthly field days that take place during the school year. Students participate in job shadowing and internships and on completion of the program have a better understanding of how the specialty crop industry produces, distributes, markets, and sells crops. The goal of the FARMS Leadership Program is for participants to attend college with an interest in and/or start a career in the specialty crop industry.	$292,586.00
California Department of Food and Agriculture	$22,677,909.83	(34) Conservation Stewardship Training and Demonstration for Specialty Crop Growers: Investing in Your Farm	California specialty crop farmers face ongoing environmental and regulatory challenges including drought, flooding, increasingly irregular water supplies, new food safety regulations, and increased monitoring of fertilizer and water use. This project has three goals: 1) to train farmers on conservation practices that support and conserve farm resources; 2) to give technical assistance to farmers implementing conservation practices; and 3) to help farmers access conservation program funds. Technical assistance will focus on soil health practices, which enhance water infiltration and storage and nutrient cycling and storage, to improve overall plant health and reduce input costs. Success will be measured by evaluating the number of farmers implementing new conservation practices, the amount of acreage of these practices, and the increased use of National Resource Conservation Service (NRCS) conservation practices.	$112,458.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(66) Navel Orangeworm Sterile Insect Technique Pilot Project	This California Department of Food and Agriculture (CDFA) pilot project supports the training of a seasonal staff member by a permanent CDFA staff member to conduct the activities necessary to release the sterile Navel Orangeworm (NOW). The invasive navel orangeworm continues to damage—at rising levels—California's $6 billion pistachio and almond crops. The tree nut industry is calling for new and improved tools to fight back against this harmful pest. The sterile moths will be shipped to California, where the release process will be tested and field trial releases conducted in isolated almond and pistachio groves to evaluate the impact on NOW populations in the test area.	$50,143.00
California Department of Food and Agriculture	$22,677,909.83	(35) Growing Organics Through Workforce Skills Development and New Farm Incubation	The Growing Organics (GO) project will raise California's competitiveness in the fast-growing organic specialty crop industry by building the production and management skills of the next generation of farmers and agricultural professionals. GO will provide intensive, land-based training on organic specialty crop production and farm business management to beginning farmers and young agricultural professionals, many of whom have a background as field laborers. GO will incubate 40 incubator farms on the Agriculture and Land-Based Training Association's 100-acre farm in Salinas Valley, providing affordable access to land, equipment, markets, and technical assistance. Another 60 individuals will gain workforce skills on-farm and be connected to agribusiness employers in the region. An additional 200 youth from community colleges, high schools, and non-profit programs will receive on-farm training in organic agriculture and guidance on potential career pathways through direct exposure to local agribusiness professionals and farmer-entrepreneurs.	$286,811.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(36) Food Safety Management Act and Food Safety Training for the Specialty Crop Industry	The specialty crop industry can enhance competitiveness by ensuring compliance to the Food Safety Modernization Act (FSMA). This project will support California's Central Valley specialty crop industry with adoption of FSMA requirements and related food safety methodologies by providing affordable food safety training. The local specialty crop industry has difficulty attending food safety training as these trainings are offered in the larger cities and require out of town travel that is costly and disruptive to business operations. College of the Sequoias has experience delivering value-added, local, convenient, and affordable FSMA and food safety related training. This project aims to reach the local specialty crop industry including the workforce on farms, in packing facilities and in food processing plants.	$192,651.00
California Department of Food and Agriculture	$22,677,909.83	(37) Training to Support Winegrower Adoption of Best Management Practices to Promote Positive Environmental, Social, and Economic Outcomes	California winegrowers face many compliance challenges due to rapidly growing regulations (e.g., water quality, nitrates, air quality, and food safety). Technical training, tools, and resources are needed to help winegrowers adopt best management practices to more effectively comply with regulations and improve sustainability. The project's goals are to: 1) develop tools and resources to help winegrowers comply with regulations and increase best management practice adoption; 2) evaluate and communicate the effectiveness of specific best management practices; and 3) work with government and non-governmental partners to seek regulatory recognition, simplify the compliance process, and leverage resources. Activities and outcomes include 16 workshops and three webinars for 570 winegrowers, technical assistance for 90 winegrowers, and online tools and educational resources for more than 8,000 winegrowers.	$234,889.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(38) Supporting Small and Limited Resource Specialty Crop Growers to Adopt Efficient Irrigation and Nutrient Management Practices	Specialty crop growers continue to face pressures to adopt Efficient Irrigation and Nutrient Management Practices (EINMP) while encountering barriers to adoption. American Farmland Trust in partnership with Water Quality Coalitions, Resource Conservation Districts, University of California Cooperative Extensions (UCCE), California State Universities and others will organize and conduct a total of 16 workshops with farm tours over two years. The target audience will be small and limited resource specialty crop growers and employees in the major growing regions of California. The workshops will focus on the most current information regarding the availability, performance, cost, and implementation requirements for EINMP and sources of technical and financial assistance. Workshop attendees will be surveyed to assess efficacy of the current support system in assisting them with EINMP adoption.	$221,813.00
California Department of Food and Agriculture	$22,677,909.83	(39) Irrigation Training Program: Almond, Citrus, Grapes, Pistachio, and Walnut	The specific objective of this proposal is to initiate a statewide irrigation training program with a certificate of completion to address the increasing demand for practical training materials in irrigation and fertigation. The initial training will focus on five major specialty crops including almonds, citrus, grapes, pistachios, and walnuts grown in the Central Valley. Additional training will be conducted for table and wine grapes in the major production areas of the Sierra Foothills, Central Coast, Temecula, and Coachella. Trainings will be offered to irrigators, growers, and farm workers involved in all aspects related to irrigation and nutrient management to help them get "more crop per drop" and use irrigation and fertilizers efficiently.	$299,506.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(40) San Diego Farmer's Round Table and Business Training Program	Vegetable sales for San Diego County farmers fell more than $28 million from 2015 to 2016. Farming costs have risen with water costing up to 30 times more than the neighboring Imperial County. Due to these challenges and other factors, business excellence is important for farm sustainability. To address this need, Kitchen Table Consultants will develop The Farmer's Roundtable and Business Training Program. This business improvement program will use mentor-led forums to educate farmers on best practices, new ideas, and financial comparisons to improve business performance and profitability for 20 San Diego specialty crop farmers. Topics include bookkeeping consistency, financial analysis, opportunity assessment, budgeting, sales planning, and marketing tactics and execution, in addition to outside one-on-one coaching.	$98,307.00
California Department of Food and Agriculture	$22,677,909.83	(41) Ensuring Viability of California Specialty Crop Farms through Food Safety and Produce Safety Rule Training	California suffered 2,305 foodborne illness outbreaks resulting in 52,440 illnesses, 3,215 hospitalizations, and 108 deaths from 1998 – 2014. . According to the Center for Disease Control, 46 percent of those foodborne illnesses have been traced to produce. Since education can help stop foodborne illness from occurring, the Food Safety Modernization Act's (FSMA) Produce Safety Rule (PSR) now requires many California specialty crop growers to be trained in foodborne illness prevention. Education costs for compliance can be high (e.g., up to 6 percent of the average annual gross sales for smaller farms) and few trainings are available relative to the need. The Farm Employers Labor Service, California Farm Bureau, and Safe Food Alliance, through a new partnership, seek to provide 20 low-cost trainings to ensure compliance with the 2019/2020 requirements for small farms. The goal is to provide 1,000 growers with Produce Safety Alliance (PSA) training with success measured by the number of growers that become PSA-certified.	$289,200.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(42) Learn on Your Schedule: University of California Nursery and Floriculture Alliance Greenhouse and Nursery Grower Online Training	The University of California Nursery and Floriculture Alliance proposes to create a web-based, bilingual, informative training to implement practices needed to maintain the competitiveness of California's nursery and floriculture specialty crop producers. Funding will support adding English and Spanish narration on presentations about greenhouse pests, diseases, basic horticulture, and water management topics. These presentations will be converted into videos for online educational materials. This project would provide the industry with a valuable resource that will benefit Spanish speaking growers with knowledge to implement environmentally responsible best management practices for the production of greenhouse and nursery crops.	$246,915.00
California Department of Food and Agriculture	$22,677,909.83	(43) Introducing Specialty Crops to Students: Consumption, Cultivation, and Careers	This project introduces students to specialty crops to encourage lifelong consumption of California grown fruits and vegetables using three educational elements: consumption, cultivation, and careers. For the consumption element, elementary students will be encouraged to consume specialty crops through field trips to local farmers markets. Using a standards-based curriculum, students will meet farmers, learn about seasonal produce, and sample specialty crops. Handouts will reinforce educational messages. For the cultivation element, middle-schoolers will tour farmers' markets to learn about seasonality, growing regions, and farming methods. These students will also visit local farms to learn directly from beginning farmers about farming practices. For the careers element, high school students, in addition to trips to farmers markets and farms, will learn about science, management and marketing career opportunities within California's specialty crop industry.	$287,174.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(44) Time-Sensitive Methodology to Reduce the Risks of Alternaria Late Blight Resistance Build-Up in Pistachio Producing States	Alternaria Late Blight (ALB), caused by Alternaria alternata, is a destructive pistachio disease and an annual concern for commercial growers in California and Arizona. Severe ALB disease is observed in about 20 percent of the 1,200 pistachio orchards of California because of the conducive microclimatic conditions created by cultural practices. ALB control relies on multiple fungicide applications where the efficacy of these products has been affected by the presence of molecular mutations associated with the pathogens fungicide resistance. The project will develop a time-sensitive method to quantify the mutant populations during the latent state. The expected output is the ability to provide pesticide control advisors with early warnings about orchards under resistance risk and to allow the recommendation of the best fungicide combination to overcome the issue.	$192,813.00
California Department of Food and Agriculture	$22,677,909.83	(45) Bring the Farmers' Market to Your School	Sustainable Economic Enterprises of Los Angeles and the Los Angeles Unified School District (LAUSD) have partnered since 2002 on the Bring the Farmer to Your School Program. This program, the only one of its kind in Los Angeles County, brings local California farmers into Title I, LAUSD classrooms to deliver engaging educational experiences about California agriculture and nutrition not received through standard curriculum. It also incorporates a Harvest of the Month component, introducing specialty crops to younger students using interactive elements. This project adds connections to farmers markets through targeted market presentations and samplings at school sponsored events near local markets, to encourage families to purchase and prepare specialty crops. Two markets will pilot a monthly kid's cooking class, which will give students hands-on experience with preparation and consumption of fruits and vegetables.	$299,079.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(46) San Joaquin County AgVenture	AgVenture is a holistic agriculture and nutrition education program. Each year, over 1,000 specialty crop farmers, producers, and volunteers donate their time and expertise to bring educational presentations and displays to educate over 10,000 third-grade students and their chaperones at AgVenture field day events. This project includes nine field days held in the North, Central, and South areas of San Joaquin County for third-grade students, and three Healthy Dinner adult education classes for adult chaperones who attend AgVenture events. The Healthy Dinner program will serve 45 adults and reinforce the knowledge and nutritional information shared about specialty crops at AgVenture events as well as meal preparation with specialty crops.	$192,639.00
California Department of Food and Agriculture	$22,677,909.83	(47) What's Growin' On?	California Foundation for Agriculture in the Classroom will develop and distribute a free 16-page educational resource to 165,000 students (150,000 in English and 15,000 in Spanish) in grades 3-8. The resource will contain lesson plans and hands-on activities about nutrition and specialty crops aligned to state education standards. It will be distributed at no cost to teachers, after school programs, the California State Fair, county based agricultural education programs, and educator conferences. Students and teachers alike will learn about specialty crops and healthy eating.	$49,879.00
California Department of Food and Agriculture	$22,677,909.83	(58) Release of Generalist Parasitoids for Suppression of Spotted Wing Drosophila	Spotted Wing Drosophila (SWD), Drosophila suzukii, has rapidly become a devastating pest of soft skinned fruits across the United States. Unlike other Drosophila species, SWD larvae feed on undamaged, otherwise marketable fruit. Zero tolerance for SWD-infested fruit in the marketplace has led to crop losses of up to 80 percent in the Western United States and $718 million nationwide. Current management options for SWD rely almost entirely on insecticides, which are ineffective against SWD larvae within fruit. Prospective biological agents from the native range of SWD are currently in quarantine and show promise but do not yet have approval for release. There are several generalist parasitoids that attack SWD in California, and this project proposes to enhance SWD management programs by using natural enemies resident in California to suppress SWD populations in non-crop source habitats.	$145,222.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(48) Ventura County Child Wellness Initiative (VCCWI)	The goal of the Ventura County Child Wellness Initiative is to educate, inspire, and empower 10,000 children, including low-income or Title I students, to be their own healthy hero by eating more specialty crops. This expanded and enhanced program will teach children to embrace wellness. It will educate students by visiting schools during the day and after school in the Farm Fresh Mobile Classroom van to teach students about the nutrients and health benefits of Ventura County specialty crops. A different crop including berries, celery, citrus, tomatoes, and avocado will be highlighted each month. Students will be inspired to prepare a healthy after-school snack using specialty crops, while partner growers are empowered to donate fruits and vegetables that students can take home to share with their family.	$218,684.00
California Department of Food and Agriculture	$22,677,909.83	(49) Protein Quality Research Study of American Pistachios to Educate Consumers and Health Professionals	This project is a research study that could enable pistachios in the United States to use the Nutrient Claim, "A Good Source of Protein." This is a regulated claim that cannot currently be used without research. The U.S. Food and Drug Administration (FDA) requires the protein digestibility-corrected amino acid score along with the qualifying protein content per serving in order to calculate the percent daily value to make the "Good Source of Protein" claim. The study will determine the actual protein quality of pistachios, using a method that is accepted by the FDA and the World Health Organization to legally promote them as such.	$246,158.00
California Department of Food and Agriculture	$22,677,909.83	(50) Promoting Alternatives to Citrus for Backyard and Community Gardeners in the Fight Against ACP/HLB	The health benefits of eating the recommended servings of fruits and vegetables include reductions in chronic diseases, however only 15 percent of Los Angeles County adults reported eating five or more servings a day. This project has two key goals. First, it will encourage Los Angeles County residents to eat more specialty crop fruit by increasing access through gardening. Second, the project ramps up efforts to engage residents in the fight against the Asian citrus psyllid (ACP) and the devastating disease it carries called Huanglongbing (HLB or citrus greening disease), which threatens the citrus industry. At multilingual events, University of California Master Gardeners will share nutrition messages paired with tastings featuring specialty crop fruit. Participants will also be introduced to the many alternatives to citrus for backyard orchards and learn strategies for managing existing citrus trees to reduce the risk of ACP and HLB.	$173,380.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(51) Developing Pomegranate as a Specialty Crop for K-12 School Lunch Programs	The goal of this project is to enhance and expand pomegranate consumption in the United States by including pomegranates in student lunch pilot programs in California. This research project has two objectives: 1) determine K-12 consumer acceptance of 'Wonderful' pomegranates in school lunches; and 2) determine consumer preferences for other cultivars in the U.S. Department of Agriculture's Agricultural Research Service's germplasm collection. Student and parent sensory panels will be conducted in K-12 schools to determine preference for 'Wonderful' pomegranates versus other pomegranate cultivars grown in CA and conventional fruits such as apples and citrus. Parents and siblings of schoolchildren will be included in these studies to determine if there is a link between parent-child and family preference for this California-grown specialty crop.	$83,476.00
California Department of Food and Agriculture	$22,677,909.83	(52) Identification of Baby Leaf Lettuce Varieties and Genes for Rapid and Uniform Growth, High Quality, and Disease Resistance	Spring mix is a popular type of packaged salad and Baby Leaf Lettuce (BLL) is one of the main ingredients. BLL is a higher, value-added crop for growers than whole-head lettuce. Seeds for BLL are sown at a very high density of 7.4 million seeds per hectare, which makes BLL profitable for seed companies. The industry prefers varieties with uniform, rapid early-growth and thick leaf textures. High planting density enhances occurrence of Bacterial Leaf Spot (BLS), the disease that can make the crop unmarketable. This project will evaluate 450 lettuce accessions for growth rate, chlorophyll content, leaf thickness, and resistance to BLS. Chromosomal regions conferring desirable traits will be identified. The objectives of the project are to determine the best lettuce varieties for each trait and associated genes.	$282,367.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(53) Investigating and Improving Detection Methods for Spotted Wing Drosophila Insecticide Resistance in California	Insect management for berry and cherry crops was amenable to integrated pest management prior to the 2008 invasion of Spotted Wing Drosophila (SWD) in the United States. SWD has transformed pest management practices and growers now rely on frequent applications of insecticides to avoid crop loss. Although growers practice resistance management, the lack of alternative controls, especially for organic farms, and the short generation time of SWD suggests that resistance development may be inevitable. SWD populations with tolerance to insecticides have recently been found in California berry crops. This timely project will investigate resistance mechanisms in these SWD populations by a combination of insecticide bioassays and high throughput DNA sequencing. The success of this project will be measured by the identification of mutations that confer resistance and the development of molecular tools to improve early detection of resistant SWD.	$298,414.00
California Department of Food and Agriculture	$22,677,909.83	(54) Finding Sources of Resistance to Armillaria Mellea Within the Pyrus Germplasm Collection	The objective of this project is to identify sources of resistance to Armillaria root disease caused by the fungus Armillaria mellea, within the genus Pyrus. Armillaria root disease is an issue of increasing concern for the California pear industry and needs to be addressed in a timely manner. Currently, no sources of resistance are known among the few pear rootstocks used commercially. This project proposes to evaluate a core collection of approximately 200 pear accessions from the U.S. Department of Agriculture's Agricultural Resource Service (USDA-ARS) National Clonal Germplasm Repository (NCGR) in Corvallis, Oregon. An in vitro screening assay, previously shown effective for identifying resistant germplasm in grape, almond, and walnut (and now optimized for pear), will be used to evaluate the core collection. Moreover, the phenotypic data collected with the in vitro screening, and already available single nucleotide polymorphism-based genotypic data, will be used to attempt genome-wide association studies and identify the genetic locus(i) linked to resistance.	$291,012.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(55) Automating Citrus Disease Diagnostic Procedures Through Inline Instrument Engineering	Citrus diseases, such as Huanglongbing (HLB), tristeza stem-pitting, and leprosis, could devastate California's citrus. Citrus labs in California test thousands of samples every year to protect California's citrus. The Citrus Clonal Protection Program and the Technology Evolutionary Components Center at the University of California, Riverside have been developing inline instruments that incorporate citrus tissue processing, nucleic acid extraction, and an inline Polymerase Chain Reaction (PCR) thermocycler utilizing the Multifluidic Evolutionary Component (MEC) system to increase lab diagnostic capacity. This project will work to validate the inline instruments with "real life" samples and measure changes in throughput, cost, processing time, and the need for specialized labor and equipment. These instruments will also become model systems for diagnostics in other specialty crops.	$299,107.00
California Department of Food and Agriculture	$22,677,909.83	(56) Hyperspectral Remote Sensing to Detect and Diagnose Arthropod Pests in Greenhouse Nursery Crops	In this project, commercial nursery operations will be mimicked to demonstrate that Hyperspectral Remote Sensing (HRS) can be used to detect and diagnose emerging arthropod infestations such as Lygus, whiteflies, leafminers, Western flower thrips, and two-spotted spider mites in Gerbera and Chrysanthemum. This project addresses a priority for the automation of pest detection in the nursery industry and provides the scientific foundation for integration of robotics and advanced HRS techniques into twenty-first century nursery operations. Specifically, integration of this technology will enable detection and diagnosis of emerging pest infestations much earlier than traditional monitoring methods (i.e., manual scouting for infestations and symptoms), allowing precise control efforts to be taken to help prevent severe pest outbreaks.	$281,527.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(57) New Detection Tools and Sustainable Control of Almond Canker Diseases	Trunk and scaffold canker diseases are the major cause of tree death in almond orchards. These diseases reduce the yield and the lifespan of orchards. Canker diseases are caused by many unrelated pathogens that infect trees mainly through pruning wounds, cracks, and shaker injuries. Field diagnosis is difficult as symptoms among the various canker diseases are similar. Laboratory tests are required to obtain accurate diagnosis and currently rely on tedious isolation methods. Control depends on the use of toxic chemicals with limited efficacy. The objectives of this research are to develop new molecular detection tools for fast and reliable diagnosis of canker diseases and provide biological control solutions to growers to reduce reliance on chemicals and improve the sustainability of almond production.	$252,796.00
California Department of Food and Agriculture	$22,677,909.83	(59) Molecular Detection and Quantification of Fusarium Oxysporum Vascular Wilt Pathogens	Fusarium wilt is an important disease causing significant losses for a wide range of California specialty crops. Due to a lack of morphological differences among host-specific strains and molecular markers for accurate and rapid identification, it is difficult to identify taxa or determine inoculum levels in the soil prior to planting. Diagnosis from diseased plant material can also be complicated by colonization of the host by strains that are not pathogenic. This project will develop a molecular assay system that could rapidly identify and quantify these pathogens allowing growers to determine the risk of disease prior to planting, assess efficacy of control measures, and provide a rapid test for diagnosticians.	$296,867.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(60) Crop Water Stress Index for Precision Irrigation Scheduling of Pistachio Trees	Pistachio is a major crop in California and a suitable candidate for deficit irrigation practices without sacrificing the crop yield and quality. Deficit irrigation requires precision irrigation to avoid crop loss. Precision irrigation is not common in pistachio groves where growers more commonly use weather-based irrigation scheduling with a single crop coefficient approach and/or soil water profile monitoring. Pistachios are almost entirely under micro-irrigation in California even though these trees have deep roots and soil water monitoring in the top few feet of soil may not indicate the true available water for crop use. Thus a more suitable approach for irrigation scheduling is a dual crop coefficient approach due to frequent wetting versus a single crop coefficient. This project will employ the crop water stress index to detect water stress and schedule irrigations. Success will be measured by water savings while maintaining crop yield and quality at the field level.	$228,650.00
California Department of Food and Agriculture	$22,677,909.83	(61) Improved Management of Strawberry and Lettuce Soilborne Plant Pathogens Using Microbiome-Based Disease Prediction	California is the number one producer of strawberries and lettuce in the United States. Soil fumigation has been indispensable for maintaining high quality and economic returns in strawberry production, and provides indirect benefits for lettuce production. Fumigation reduces the propagule density of soil borne plant pathogens, including Verticillium dahliae. The severity of soil borne diseases depends on propagule density, which steadily increases over time following fumigation. Knowing the propagule density is critical for the timing of fumigation, determination of application rates, and the choice of crop to plant. To make propagule density data more readily available, this project proposes using a machine-learning approach to develop a model that can accurately predict propagule density in the soil based on quantitative characteristics of the soil microbiome.	$299,944.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(62) Biological Characterization of Sterile Navel Orangeworm With and Without Mating Disruption	Navel Orangeworm (NOW) is the key insect pest of almond and pistachio, and an important pest of walnut. These crops are planted on more than 1.5 million acres and are worth more than $6 billion per year. The pistachio industry, in cooperation with the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS), has committed to a pilot program of at least three years examining the impact of Sterile Insect Technique (SIT) as a component of NOW pest management. The research for this project, as an adjunct to the pilot project, will test methods for improving the competitiveness of sterile NOW, determine the impact of mating disruption on competitiveness of irradiated NOW, and compare the trapping radius of pheromone traps for males compared to traps attractive to females in the presence and absence of mating disruption. Deliverables include the documentation of optimal conditions for using SIT for NOW and improvement of existing monitoring techniques for NOW in the absence and in the presence of mating disruption.	$284,220.00
California Department of Food and Agriculture	$22,677,909.83	(67) Sustainability Research, Education, and Promotion to Enhance U.S. Winegrowers' Competitiveness	The U.S. winegrape growers and vintners face mounting pressure in a globally competitive marketplace with growing interest in sustainability. The California Sustainable Winegrowing Alliance in partnership with other organizations from California, New York, Oregon, and Washington will conduct consumer and trade research to gauge interest and understanding of sustainable winegrowing; training and education for growers, vintners, trade and consumers; and promotion of sustainably produced U.S. winegrapes and wine to trade and consumers. The goal of this project is to use research, education and promotion to enhance the competitiveness of the U.S. wine industry and to increase adoption of sustainable practices to boost profitability, long-term viability, and marketability of U.S. winegrapes and wine.	$299,998.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(63) Novel Field-Based Diagnostic Strategies for Management of Powdery Mildew in California Specialty Crops	In 2017, California producers lost yield and fruit quality due to uncontrolled disease epidemics related to fungicide resistance. This project will develop new tools to monitor the development and presence of fungicide resistance in pathogens that are responsible for specialty crop losses in California. It will build upon current, commercially available inoculum monitoring technologies for grape and expand them to other high-value crops such as strawberry and apple. The project will: 1) assess fungicide sensitivity and stability and geographic distribution of isolates collected from table and wine grapes across two seasons; 2) validate molecular assays for monitoring resistance to quinone outside inhibitor (QoI) and sterol 14ademethylation inhibitor (DMI) fungicides in Erisyphe necator and develop markers for other groups; and 3) evaluate fungicide sensitivity and transferability of diagnostic assays in powdery mildew species on strawberry and apple.	$283,760.00
California Department of Food and Agriculture	$22,677,909.83	(64) Testing the Safety and Efficacy of Imported Biocontrol Agents for Bagrada Bug	Bagrada hilaris, commonly known as bagrada bug, was discovered in California in 2008 and has become a damaging pest to cole crops. The pest has rapidly spread from Southern California into the Central Valley and along the coast to Monterey Bay. Conventional pesticides are the primary means for controlling this pest leaving organic growers with few options. A long-term solution is the introduction of parasitoids specialized on this pest. However no parasitoids specialized on bagrada bug are known to occur in California. This project plans to test two bagrada bug parasitoids from Pakistan for safety and efficacy and to collect other parasitoids within the native range of bagrada bug in Africa. Project success will be measured by the number of novel parasitoids and non-target stinkbug species tested and the number of novel bagrada bug parasitoids discovered.	$202,204.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(65) Identifying Genetic Sources of Virus and Vector Resistance in Cucumis Melo for New Cultivar Development	Cucurbit Yellow Stunting Disorder Virus (CYSDV) is a threat to melon production in California. Insecticides are not effective in controlling whitefly vectors or limiting CYSDV spread. Repeated crop failures have led to the elimination of the fall melon season in desert areas. Melon cultivars with resistance to CYSDV and whiteflies are necessary for restoration of fall melon profitability. The goals of this project are to: 1) develop rapid, laboratory-based virus and vector resistance phenotyping methods to accelerate breeding efforts; 2) use phenotyping methods to identify the genetic and molecular mechanisms of CYSDV and whitefly resistance in four melon accessions; and 3) produce resistant germplasm for crosses with elite melon cultivars. As a result of this project, the melon industry will be presented with information about newly developed germplasm and virus management using host-plant resistance.	$283,335.00
California Department of Food and Agriculture	$22,677,909.83	(68) Proximal Remote Sensing of Plant Pathogenic Virus in Western Flower Thrips	Specialty crop farmers need improved diagnostic tools to rapidly and cost effectively monitor risks posed by insects vectoring crop diseases such as Tomato Spotted Wilt Virus (TSWV). Western flower thrips transmit TSWV to tomato crops in both California and Florida. This project seeks to demonstrate that proximal remote sensing can be used to detect TSWV in field sampled Western flower thrips. The main goals is to determine if Western flower thrips with and without TSWV can be detected with a minimum of 80 percent accuracy and to develop a tool that can be adopted and commercialized by diagnostic labs to improve monitoring and detection of TSWV for specialty crop farmers. This research and diagnostic tool is highly relevant to a wide range of insects vectoring important specialty crop diseases including other thrips, leafhoppers, citrus and potato psyllids, and aphids.	$299,994.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(69) California Farm to School: Growing Healthy Hearts and Minds	This project will increase awareness and consumption of California grown specialty crops among school children by supporting farm to school programs in California. This project supports the work of the California Farm to School Network (the Network) and the 2019 California Farm to School Conference (the Conference). Farm to School programs, which encompass everything from procurement to nutrition education to school gardens, are one of the most effective ways to put specialty crops on the plates of students and teach them to be life-long eaters of fruits and vegetables. The Network will provide ongoing support, technical assistance, and resources to farm to school practitioners throughout the state, including school food service professionals, teachers, parents, specialty crop farmers, and community organizations. The project will measure success through the general activities of the Network and the Conference specifically.	$293,334.00
California Department of Food and Agriculture	$22,677,909.83	(71) Buy Local Bok Choy	Special Service for Groups' Asian Pacific Islander Forward Movement (APIFM) proposes to increase the competitiveness of bok choy in California through increased access and awareness. APIFM will create, implement, and evaluate Buy Local Bok Choy, a comprehensive campaign aimed at supporting local farmers by engaging local community institutions to source bok choy from local Asian and Pacific Islander farmers. The impact of the Buy Local Bok Choy campaign will be assessed by measuring and analyzing any changes in bok choy sales between the local APIFM partner farmers and local community institutions throughout the campaign.	$50,000.00
California Department of Food and Agriculture	$22,677,909.83	(72) Watch Us Grow	The Watch Us Grow project will provide a full "ground to table" experience for young people from underserved communities in Fresno County. Participants will plant and grow specialty crops during events at the African American Farmers of California (AAFC) 20-acre farm and at smaller urban farms in Fresno County. Participants will also learn about the nutritional benefits of consuming these specialty crops at outreach events including recipe development. The goal of this project is for participants to develop an affinity for fruits and vegetables and an intent to consume more specialty crops. It is also expected that some participants will continue with the Watch Us Grow project and ultimately enter careers in specialty crop production.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(73) International GardenFood Workshop Series	Netiya will offer 12 International GardenFood workshops over the course of one year in an International Foods Garden in the San Fernando Valley. These workshops will cover water-wise gardening of specialty crops; history of crop cultivation throughout the world; preparation of a variety of cultural foods; and instruction on how to create freshly prepared meals comprised mainly of specialty crops. The goal of the workshops to bring together gardening, cooking, and health of body, mind, and spirit to foster wellness, self-care, and community care.	$50,000.00
California Department of Food and Agriculture	$22,677,909.83	(74) Increasing California Specialty Crop Consumption through Summer Youth Internship and Youth Education Youth Program in Schools	Huerta del Valle (HDV) will increase the consumption of California specialty crops in the Inland Valley service area – especially among low-income families – through a youth-led awareness campaign. Ten high school-aged youth will be selected for a paid summer intensive training internship at HDV's training farm. Interns will be educated in areas of food, farming, environmental conservation, and nutrition. Each intern will be responsible for sharing their knowledge with peers in the form of five presentations during the following school year. The program will be evaluated through quantitative and qualitative measures to gauge the attendance of the presentations and the effectiveness of the presentations on promoting the consumption of California specialty crops.	$48,674.00
California Department of Food and Agriculture	$22,677,909.83	(75) Identifying Competitive Exclusion Microorganisms Against Listeria monocytogenes From Biological Soil Amendments by Metagenomic, Metatranscriptom	The Center for Produce Safety will partner with Clemson University to identify competitive exclusion microorganisms against Listeria monocytogenes from compost. Compost has been used as a biological soil amendment in agricultural practices for centuries, as it provides readily available nutrients for plant growth and improves soil properties. Owing to the richness of the microbial community, compost can also mediate suppression of plant diseases and human pathogens. The goal of this proof-of-concept project is to utilize powerful high-throughput sequencing approaches to understand microbial composition and functions at the microbial community level in a variety of composts including dairy waste and poultry waste based, and to identify and isolate Competitive Exclusion (CE) microbial species. Findings from this project will reveal the diversity of indigenous microflora in compost samples.	$48,523.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(76) Simulation Analysis of In-Field Produce Sampling for Risk-Based Sampling Plan Development	The Center for Produce Safety will partner with the University of Illinois at Urbana-Champaign to develop and validate a produce-field simulation model to evaluate sampling plans. Effective pre-harvest, field-level produce sampling is challenging because current practices typically yield few positive samples with fields rarely re-testing positive. The goal of this project is to provide data and simulation tools that will help growers better identify and manage pre-harvest food safety risks. As a result of this research growers will be able to: 1) develop improved sampling plans for in-field produce; 2) customize those plans for their individual fields; and 3) quantify the performance and costs of the new plans to make the business case for their implementation. Project findings will be published in at least two peer-reviewed, open-access publications.	$268,172.00
California Department of Food and Agriculture	$22,677,909.83	(77) Towards a Decision-Support Tool for Identifying and Mitigating On-Farm Risks to Food Safety	The Center for Produce Safety will partner with University of California, Davis, to develop decision-support tools for produce growers to minimize risk. Growers, industry, and conservation organizations have expressed strong interest in making informed decisions about on-farm practices to improve produce safety without comprising environmental health. While evidence is accumulating regarding the efficacy of many practices, results are often not made available to growers in a useable way. The first goal of this project is to synthesize existing literature to develop data driven, pre-harvest, decision-support tools to help growers predict and mitigate risks associated with foodborne pathogens. The second goal is to explore novel methods for suppressing foodborne pathogens—specifically, this project will evaluate how soil amendments and farm management affect the ability of feces-feeding soil bacteria to suppress pathogens (Escherichia coli and Listeria). By combining literature syntheses with lab and field experiments, this project will provide growers with both new strategies for mitigating pathogen prevalence and an effective tool to assist in navigating decisions regarding the food safety and conservation “stale-mate.”	$316,358.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(78) Illuminating the Role of Whole Genome Sequencing in Produce Safety	The Center for Produce Safety will partner with the University of Arizona to improve the use of Whole Genome Sequencing (WGS) as a tool to investigate foodborne outbreaks. As WGS continues to be developed as an investigative tool it needs to be refined to maximize its potential, and thus reach the ultimate goal of speeding up investigations. The goal of this project is to determine the mutation rates of Salmonella, Listeria, and Escherichia coli O157:H7 during long-term persistence in agricultural soil and irrigation water maintained under different geographical conditions. Understanding these mutational rates will help improve the development of the Food and Drug Administration's GenomeTrakr for regional identification during an outbreak investigation as well as using this data to close internal knowledge gaps within the produce industry.	$90,644.00
California Department of Food and Agriculture	$22,677,909.83	(79) Development of a Model to Predict the Impact of Sediments on Microbial Irrigation Water Quality	The Center for Produce Safety will partner with the University of Arizona to determine how sediment, pathogens, and flow properties affect irrigation water quality in canal systems. Sediments at the bottom of waterways can serve as reservoirs for enteric pathogenic bacteria; however, little is known about the impact of sediment resuspension on microbial water quality in constructed irrigation canals. This project will determine the impact of sediment-associated indicators (e.g., sediment size, flow velocity) and pathogens (i.e., Escherichia coli, Listeria monocytogenes, and enteric viruses) on the quality of irrigation water in constructed canal systems. Project results will be used to develop guidelines for growers and producers for risk assessment and sampling strategies to minimize the occurrence of pathogenic bacteria and viruses in irrigation water in canal systems.	$156,344.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(80) Preventive Sanitation Measures for Listeria monocytogenes Biofilms in Critical Postharvest Sites	The Center for Produce Safety will partner with Clemson University to develop preventative sanitation measures against Listeria monocytogenes (Lm) biofilms in stone fruit packinghouses. The project will investigate critical packinghouse microenvironments where bacteria can reside and serve as reservoirs. These critical areas will be identified directly in stone fruit packinghouses in California, in collaboration with plant management, through topographical measurements and environmental swabbing, and then will be recreated as fabricated surfaces for laboratory testing regarding the potential for biofilm formation. The team also will test whether the sanitizer treatments selected for this study meet or exceed Environmental Protection Agency requirements for hard surfaces found in the packinghouses other than stainless steel. Results from this study will provide improved pathogen control in addition to basic good agricultural practices, thereby helping the stone fruit industry to produce safer produce for human consumption.	$115,774.00
California Department of Food and Agriculture	$22,677,909.83	(81) Listeria Monocytogenes Growth Potential, Kinetics, and Factors Affecting its Persistence on a Broad Range of Fresh Produce	The Center for Produce Safety will partner with the U.S. Department of Agriculture's Agricultural Research Service-Beltsville Agricultural Research Center in Beltsville, MD to evaluate the growth potential, kinetics, and persistence factors of Listeria monocytogenes (Lm) on produce. Lm has been implicated in several produce associated foodborne outbreaks and is a major concern for the fresh produce industry. Information is urgently needed on Lm growth potential and underlying factors for growth on commodities for which there are limited, conflicting, or no data. The goals of this project are: 1) to examine Lm growth potential and kinetics on a large variety of whole and fresh-cut fruits and vegetables representing multiple produce categories, under typical pre-market storage and/or retail display conditions as well as under elevated abusive temperatures; and 2) to investigate how the nutritional and physiochemical characteristics and microbiota of the produce commodity affect Lm growth and persistence. The expected outcome from this project will be information that can be used by industry and regulatory agencies as well as the scientific community to develop best practice, risk-based guidelines and control applications.	$389,372.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(82) Non-Fouling Food Contact Surfaces – Prevention of Biofilm and Surface-Mediated Cross-Contamination	The Center for Produce Safety will partner with the University of Massachusetts, Lowell, to enhance the non-fouling properties of Food Contact Substances (FCS). Sanitary design and sanitization are critical steps to help ensure food safety and prevent pathogen cross-contamination mediated by FCS. The overall goal of this project is to develop an applicable postharvest preventive control approach to enhance the non-fouling properties of FDA-approved FCS against Listeria monocytogenes (Lm) biofilms for the produce industry. The research team will: 1) evaluate non-fouling properties of existing FDA-approved FCS; 2) enhance FCS performance by simple and cost-effective physical/topographical modification without altering the chemical composition; 3) evaluate whether the top-performing FCS are compliant with sanitary designs for the fresh produce industry; and 4) validate the research findings at a fresh-cut processing pilot plant. Project outcomes will provide scientific information that will support sanitary design of packing, holding, and processing equipment and devices, coatings, and coating modifications to simplify cleaning and sanitization, and to prevent pathogen attachment and biofilms on FCS for new and retrofitted equipment.	$289,092.00
California Department of Food and Agriculture	$22,677,909.83	(1) California Grown – Love California	The “Love California” campaign will educate and inform a targeted audience by demonstrating the process from growing to transporting specialty crops from start to finish, while educating the audience about the love and care farmers and farmworkers put into producing specialty crops every step of the way. A new event program entitled “Meet California Grown” will simultaneously engage California shoppers at point of sale and through various digital platforms. The program will develop and distribute new weekly recipes featuring multiple California specialty crops, California specialty crop farmers, and in-season California specialty crop content.	$1,547,200.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(2) Food Safety Compliance Training for Specialty Crop Producers	The Training Institute, an entity of State Center The California Training Institute will address the priority of assisting California's specialty crop growers, farmers, producers, and manufacturers in adopting the standards and requirements of the Food Safety Modernization Act (FSMA) to reduce the risk of product recall or other financial repercussions. The target region includes the eight counties of Central California's San Joaquin Valley. The project estimates that 420 specialty crop growers and workers will satisfy the FSMA safety requirements and gain knowledge of the FSMA compliance by engaging in: 1) Produce Safety Alliance certified training for growers and key personnel; 2) a train-the-trainer program for farms doing worker produce-safety training in-house; and 3) produce safety training for farms not offering worker training.	$132,399.00
California Department of Food and Agriculture	$22,677,909.83	(3) "Outstanding in Their Field," a Promotional Campaign Tying California Farmers' Conservation Efforts to the California Grown Identity	"Outstanding in Their Field" addresses the need to create a greater connection between farmers and consumers by sharing farmer stories, conservation efforts, and more. This 7,000 square foot California grown exhibit, which will be designed and built for transport, will be featured at three consecutive CA State Fairs and includes product tasting, retail market space, and a social media campaign tying consumers to the California grown identity using the CA State Fair website. The goal of the exhibit is to connect farmer stories to today's environmentally conscious consumer resulting in increased awareness about the quality of California grown specialty crops as well as sales.	$293,552.00
California Department of Food and Agriculture	$22,677,909.83	(4) California Food for California Kids: Summer Meals Promotion in the Central Valley and Riverside County	The Center for Ecoliteracy will work with regional clusters of school districts that are part of the California Thursdays® Network in Riverside, San Joaquin, and Stanislaus counties to conduct "Farm to Summer" capacity building and marketing campaigns to promote California grown fruits and vegetables in fresh, healthy summer meals. The program builds on a pilot 2016 Specialty Crop Block Grant-funded summer meal promotion by advancing the creative design and the most successful marketing strategies. The program is designed to increase procurement of specialty crops for summer meals, awareness of specialty crops in summer meals, and the consumption of fruits and vegetables at summer meal sites within the school districts.	$290,405.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(5) Leveraging the California Grown Identity to Boost Sales of California Olive Oil to Nationwide Retailers	California produces 99.2 percent of the olive oil in the United States. Over the past five years, retail sales of olive oil in the United States grew by 22 percent while California olive oil sales rose by only 4.5 percent. The United States is buying more olive oil but foreign olive oil purchases dominate the market. California needs to differentiate its oil to grow sales. The California Olive Oil Council (COOC) represents 90 percent of California olive oil growers and is the only entity that promotes on behalf of the entire industry. Through this project COOC seeks to leverage the California grown identity and promote olive oil to retailers nationwide. The project will target high-value retailers and train growers to market themselves since 90 percent of California olive oil growers have their own label. The goal is to increase sales by $66.7 million directly benefiting growers.	$297,438.00
California Department of Food and Agriculture	$22,677,909.83	(6) Leveraging the California Grown Identity to Grow California Prune Sales Among Generation X and Millennial Snack Consumer	There is an industry need for marketing efforts that can drive higher returns to California prune growers. Sunsweet Growers (SSG) represents 65 percent of prune sales in the United States and 244 California prune growers and through this project seeks to share the value of California grown prunes with Generation X and Millennial snack consumers on behalf of all growers. This will be accomplished by launching a public relations and digital advertising campaign that leverages the rise in value-added dried fruit and nut snacking by these consumers and new California prune snack products in the market. The goal is to boost consumption of California prunes to drive a 13.8 percent sales increase by 2020 while lower-value, unprocessed bulk prunes are shifted to higher, value-added uses.	$300,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(7) California Backroads: Growing Markets for California Grown Wine on the Roads Less Traveled	There has been a 32 percent increase in wine imports in the United States since 2001. California wine sales in the United States have fallen 10 percent since 2004 and long-term declines are predicted. Imports are now 35 percent of the market in the United States. California growers and vintners need to reverse this trend and prevent further import traction now to maintain viability. For this reason, expanding California Grown wine grape and wine sales is an industry priority. To accomplish growth in wine grape and wine sales, the Wine Institute, representing approximately 1,000 California wineries and 85 percent of wine production in the United States, seeks to launch a marketing campaign to create awareness and demand for lesser-known California wine regions.	$295,001.00
California Department of Food and Agriculture	$22,677,909.83	(8) California Grown Figs FIT a Healthy and Active Lifestyle: A Robust Digital Marketing Campaign to Increase Demand for California Grown Figs	Figs and fig products are gaining in popularity due to the strong nutritional profile and portability of figs. This is a prime opportunity for California fig farmers to ensure consumers are seeking out California grown figs. The California fig industry produces 100 percent of the figs sold commercially in the United States, while imports represent 60 percent of figs sold in the United States. The California fig industry has seen a 67 percent increase in fig imports since 2015. The project aims to raise awareness, stimulate consumption, and drive sales of California grown figs by establishing a robust presence online where today's consumer is actively seeking out health and nutrition information.	$296,800.00
California Department of Food and Agriculture	$22,677,909.83	(9) Zinfandel Stories: Preserving California's Legendary Vineyards	Economic forces are pressuring farmers to replant California's Zinfandel vineyards with varieties that are not uniquely Californian. Increasing the profitability of small-block Zinfandel farming by increasing demand for single vineyard designated wines will allow vineyard owners to preserve historic plantings for future generations. This project will raise awareness of this issue by connecting consumers with farmers, winemakers, and vineyards via multiple touch points including innovative digital storytelling, media, consumer and trade events, and tours. Key influencers will visit vineyards and hear farmer stories.	$259,141.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
California Department of Food and Agriculture	$22,677,909.83	(10) California Specialty Crop Sales and Promotional Mission to Southeast Asia	This project will expand opportunities for California specialty crop stakeholders through export promotions, media events, and trade and consumer educational opportunities throughout Southeast Asia. In partnership with CA GROWN, the Center for International Trade Development (CITD) will host activities highlighting specialty crops ensuring regional buyers understand the value of these high quality products. Targeted outreach activities will provide opportunities to develop new export sales via business-to-business meetings arranged by CITD on behalf of California specialty crop exporters. Promotions will include product sampling and chef demonstrations focused on using California specialty crops in local dishes. As media and consumer awareness promotions are established, export activities will build on the project's momentum with promotions in each target market. The project will conclude with an outbound trade mission serving 20 California specialty crop suppliers.	$299,241.00
Colorado Department of Agriculture	$875,483.20	CDA Colorado Proud	The Colorado Department of Agriculture will implement a television advertising campaign in the Denver metro market during the summer of 2019 aimed at encouraging consumers to buy Colorado grown fruits and vegetables. The project will use cash receipt data from USDA Economic Research Service to determine an increase in sales for Colorado produce. Consumers in the market will also be surveyed to determine if they are more likely to buy Colorado grown fruits and vegetables labeled with the Colorado Proud logo. Project results will be shared with growers and produce organizations through newsletters and presentations.	$57,000.00
Colorado Department of Agriculture	$875,483.20	CDA Caribbean Inbound Trade Mission	The Colorado Department of Agriculture (CDA) will work directly with the Colorado specialty crop industry to identify companies interested in exporting product to the Caribbean. CDA will work with a contractor located in the Caribbean to find buyers who are interested in buying US specialty crop products from Colorado. CDA and the contractor will make sure the buyers are suitable and able to buy product from the participating Colorado companies. In 2019, CDA will arrange for Contractor and qualified buyers to travel to Colorado to meet one-on-one with participating Colorado companies, tour local facilities and farms and see the US retail market.	$30,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Colorado Department of Agriculture	$875,483.20	RMSG Sod	The Rocky Mountain Sod Growers (RMSG), in partnership with the Northern Colorado Water Conservation District, will engage consumers with facts and scientific information concerning the benefits of sod to the environment, and to property values, thus allowing consumers to make educated choices with their landscaping needs and desires. In 2019 the RMSG would like to run a total digital campaign, update the official website, and invest more in geo-targeting. We also want to more effectively boost our social media campaigns and extend advertising time.	$25,000.00
Colorado Department of Agriculture	$875,483.20	Livewell	LiveWell Colorado will promote specialty crops to low-income communities throughout Colorado through the Double Up Food Bucks program (DUFB). DUFB increases access to healthy food, increases sales for specialty crop farmers, and keeps food dollars circulating in local communities. LiveWell partners with 85 farmers markets, farm stands, and small and large retailers to promote Colorado-grown produce to low-income communities throughout the state. When customers spend $1 on any SNAP (Supplemental Nutrition Incentive Program) eligible items, they receive $1 for Colorado-grown fruits and vegetables. DUFB only partners with Colorado producers and at most sites incentives can only be spent on Colorado-grown fruits and vegetables.	$59,930.00
Colorado Department of Agriculture	$875,483.20	CWIDB Extension	The Colorado Wine Industry Development Board (CWIDB) and the Colorado Association for Viticulture and Enology will work jointly to establish a master's level viticulture specialist position within Colorado State University's (CSU) Extension Service to expand the outreach and informational resources available to Colorado's wine grape growers. The position, based out of CSU's Western Colorado Research Center-Orchard Mesa in Grand Junction, will conduct seminars, workshops, site visits and other educational opportunities in all regions of Colorado where wine grapes are being grown or are being planted on an experimental basis. The program is intended to improve the quality of wine grapes grown in Colorado through the additional information and resources this position will make available to Colorado's grape growers.	$73,860.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Colorado Department of Agriculture	$875,483.20	Pickens Hydroponic	Pickens Technical College, a career and technical school within Aurora Public Schools, will transform a greenhouse with state-of-the-art hydroponic technology so that it can use the greenhouse to produce specialty crops to be sold to the Aurora Public Schools Nutrition Services Department. This lettuce will be a consistent source of locally-grown, high-quality produce for APS cafeterias. The Urban Agriculture program at Pickens Technical College will purchase and install the hydroponic equipment in one existing greenhouse during the summer of 2019 so that students will be able to begin planting and harvesting crops in September of 2019. These students will be responsible for monitoring the crops and harvesting approximately every two months. The lettuce will then be sold to APS cafeterias across the district. This lettuce will allow APS to increase the diversity of meals offered on APS menus and introduce students to locally-grown produce.	$40,000.00
Colorado Department of Agriculture	$875,483.20	Youth Farm Stands	Slow Food Denver and Denver Urban Gardens will increase the awareness and consumption of Colorado specialty crops by supporting schools in the growing, purchasing, marketing and selling of specialty crops, befitting the community with fresh produce, enhancing educational opportunities for students and supporting a fundraising program for the school gardens. We intend to expand the reach of the YFS program throughout the participating school communities through intentional marketing materials and processes that we will develop.	$23,635.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Colorado Department of Agriculture	$875,483.20	CPAC Soil Health	This project is a partnership between the Colorado Potato Administrative Committee (CPAC) and Colorado State University (CSU) designed to enhance the competitiveness of potato growers through increased understanding of potato production systems that will improve soil health. This research will provide best management practices to Colorado potato growers resulting in improved soil health. Improved soil health will result in building sustainable soil fertility with fewer inputs, reductions in yield robbing soil-borne pathogens, and potential environmental benefits from less pesticide and irrigation water use. This project is designed to enhance and expand upon previous research CSU, USDA and Agro Engineering have conducted on cover crops, biological nematode control, and companion cropping potential. This research will 1) determine soil-borne populations of pathogens, neutrals and beneficial bacteria and fungi in response to rotational length and cropping sequence, 2) determine the contribution of rotation length and diversity on soil fertility status, and 3) determine the economic benefits to these cultural practices alone and in combination. Field studies will be conducted on farm under commercial grower operations. A major output of this work will be the development of best management practices to enhance the resilience of soil in intensive potato cropping systems.	$69,340.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Colorado Department of Agriculture	$875,483.20	CSU Weed Control	The Specialty Crops Program at Colorado State University (CSU) will improve the competitiveness of specialty crop producers in Colorado by offering discovery learning opportunities designed to engage and equip growers with results-based best management practices for sustainable and sensible weed control. We will conduct an observational weed study to further evaluate an OMRI-approved, non-synthetic herbicide. Suppress® is a new formulation containing caprylic acid (47%) and capric acid (32%). Evaluating this relatively new tool and teaching growers about its usefulness will help them make decisions regarding weed management on their farm. Our observational weed study will assess the efficacy and phytotoxicity of caprylic/capric acid applied to weeds in diversified vegetable cropping system. This observational weed study plays a central role in our outreach plan. A secondary impact of our outreach plan is that growers who attend these workshops may share what they discovered with their neighbors, thereby providing others the testimony for which they are looking.	$24,995.00
Colorado Department of Agriculture	$875,483.20	CSU Cytospora	This Colorado State University (CSU) project aims to develop integrated pest management (IPM) strategies for Cytospora canker on peaches in Colorado. We will build on previous research that enabled the development of a molecular marker specific to Cytospora leucostoma, the causal agent of Cytopsora canker in peach orchards in western Colorado. Our specific objectives are to characterize the epidemiological cycle of C. leucostoma that allows for new canker infections by determining if spores are disseminated aerially, and/or by insects. Further, if C. leucostoma is insect vectored, we will determine the insect species involved in dissemination.	$36,786.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Colorado Department of Agriculture	$875,483.20	CSU Perennial Production	Colorado State University has partnered with Plant Select® to increase the success of propagation of herbaceous perennials that are especially adaptable to the Rocky Mountain Region. By developing protocols designed to optimize rooting efficiency and decrease costs and labor and sharing these methods through meetings with industry professionals in the region as well as presenting and publishing our data, we aim to increase productivity in the propagation of Plant Select® species. The practices that we hope to further investigate include sprinkler nozzle types used in cutting propagation, sprinkler duration, and evaporation control. Our goal is to investigate these practices in further depth while controlling other variables, and to find the best propagation systems that result in more uniform propagation and increase the number of cuttings that will successfully root from stock plants of varieties that have been more difficult to successfully propagate on a production scale.	$53,348.00
Colorado Department of Agriculture	$875,483.20	CSU Perennial Propagation	Colorado State University has partnered with Plant Select® to increase the success of propagation of herbaceous perennials that are especially adaptable to the Rocky Mountain Region. By developing protocols designed to optimize rooting efficiency and decrease costs and labor and sharing these methods through meetings with industry professionals in the region as well as presenting and publishing our data, we aim to increase productivity in the propagation of Plant Select® species.	$14,163.00
Colorado Department of Agriculture	$875,483.20	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$106,546.38

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Colorado Department of Agriculture	$875,483.20	CSU Powdery Scab	This project will be completed by Colorado State University (CSU) researchers and will take place at the CSU San Luis Valley Agricultural Research Station. This project addresses the soil-borne potato pathogen Spongospora subterranea subsp. subterranea (Sss), which causes the disease powdery scab. Powdery scab is one of the major potato diseases in Colorado and it impacts potato quality, storability, and export. We will test spore germination methods under field conditions and the outcome will be research-based recommendations for powdery scab management in potato fields. We will test chelated iron, which is reported to induce Sss spore germination, to determine if it reduces Sss inoculum in soil. We will also test common rotation crops to determine how these crops affect pathogen inoculum. Because potato farmers also must manage other important soil-borne diseases, we will also monitor Helminthosporium solani (cause of silver scurf), Colletotrichum coccodes (cause of black dot), and pathogenic Streptomyces (cause of common scab) in our field plots to confirm that the treatments being tested do not result in higher levels of these other common pathogens. Well-established PCR assays are available for all of these pathogens, so molecular assays will be used to monitor inoculum levels.	$40,000.00
Colorado Department of Agriculture	$875,483.20	CSU Cool Season Legumes	Colorado State University will evaluate the feasibility of growing cool-season (dry pea and lentil) and warm-season (chickpea, faba bean, and blackeye) grain legumes across the state. Research plots will be established at four locations across the state including irrigated and dryland systems. High yielding and quality cultivars of dry pea, lentil, chickpea, faba bean, and blackeye will be planted in two growing seasons. Feasibility of growing these crops under various conditions will be determined using experimental and modeling approaches. The results will be used to determine feasibility of including these crops in Colorado cropping systems under various soil, climate, and farming specifications.	$52,640.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Colorado Department of Agriculture	$875,483.20	CSU Specialty Crops Production Research	The Colorado State University (CSU) Specialty Crops Program (SCP) Coordinator will oversee and conduct well-focused research combined with technical support and outreach to provide Colorado specialty crop producers with science-based information to stimulate innovation, competitiveness, and success. Specific projects the CSU Coordinator will manage include greenhouse and field evaluation of drought tolerant cucurbits (i.e. summer squash and watermelon) under deficit irrigation, weed management, demonstrating the proof of concept of plasticulture "grow tubes" in a field environment to reduce consumptive water use and water loss due to deep percolation, and winter production of strawberries grown under supplemental LED top lighting of various spectra.	$68,509.00
Colorado Department of Agriculture	$875,483.20	CDA Colorado Pavilion 2019 PMA Fresh Summit	The Colorado Department of Agriculture (CDA) will partner with Colorado produce associations, growers and handlers to exhibit at the Produce Marketing Association's (PMA) Fresh Summit Expo to be held in Anaheim, CA October 17-19, 2019. A Colorado Pavilion at PMA, the largest produce expo in the United States, increases exposure and sales potential of Colorado specialty crops and companies. CDA will assist up to 12 Colorado companies and associations in gaining a national and international buying audience through attendance at Fresh Summit Expo, increasing awareness of Colorado as a reliable supplier of fruits and vegetables.	$98,739.00
Connecticut Department of Agriculture	$414,125.60	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$39,092.00
Connecticut Department of Agriculture	$414,125.60	Economic Impacts of Greenhouse Grown Specialty Crop Production	This project will implement targeted analytics that will be utilized to generate a comprehensive greenhouse specialty crop industry study that will detail its economic value to Connecticut's economy. This study will address greenhouse grown specialty crop production, associated trends, marketplace competition, emerging industry challenges, and it will offer a blueprint for greenhouse specialty crop producers to consider for implementation in their long-term strategies.	$45,500.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Connecticut Department of Agriculture	$414,125.60	Intercropping wine-cap mushrooms in Christmas trees	The Connecticut Agricultural Experiment Station (CAES) will develop a new intercrop, wine-cap mushroom for Christmas tree farms using woodchip mulch. The project has dual purposes: 1) develop a new cash crop, wine-cap mushroom for Christmas tree farms; 2) use woodchip mulch to improve root health by controlling weeds and thus preventing damage from herbicides, maintaining cool, moist soil conditions, suppressing injurious root pathogenic nematodes, and adding organic matter into the soils. The combined effects will improve establishment and growth and lead to growing better Christmas trees.	$75,000.00
Connecticut Department of Agriculture	$414,125.60	Integrated Pest Management (IPM) education for Varroa destructor mites in honey bees	The Connecticut Agricultural Experiment Station will develop and deliver educational seminars on Integrated Pest Management Strategies for the Varroa destructor mite, the number one killer of honey bee colonies in Connecticut.	$58,076.00
Connecticut Department of Agriculture	$414,125.60	Evaluation of Heirloom Tomato and Onion Cultivars for Growing and	The Connecticut Agricultural Experiment Station will evaluate 45 varieties of heirloom tomatoes and 30 varieties of onions for yield, quality, disease resistance, and marketability and will disseminate results to stakeholders through grower meetings and field days as well as Station bulletins, fact sheets, and peer reviewed articles. Yield, quality, and disease resistance of each variety will be evaluated at two research farms in Hamden and Windsor for three years. In addition, tomato and onion plants will be supplied to three farmers to include in their operation and they will provide feedback on the yield, quality, and disease resistance of the varieties as well as their marketability as they sell each variety.	$54,807.00
Connecticut Department of Agriculture	$414,125.60	Connecticut Native Shrub Cultivars	The University of Connecticut will develop propagation methods sufficient for large-scale production by commercial growers for Connecticut derived cultivars of the ecologically important and landscape adaptable native shrubs bayberry, sweet fern, mountain holly and spicebush. Two hands on workshops will be conducted where growers will learn how to successfully propagate the new Connecticut native cultivars. Growers will have the opportunity to trial the Connecticut native cultivars for adding to their product lines.	$23,085.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Connecticut Department of Agriculture	$414,125.60	Increasing the Access and Awareness of Connecticut Grown Specialty Crops to Chinese Americans	This project has plans increase access and awareness of Connecticut Grown specialty crops to the ever-growing Chinese American population in Connecticut, Massachusetts and New York's metropolitan areas through television, social media, print, and interactive opportunities. Outreach efforts will take place April through October with the outcomes of the project measured through bus tours and other means to experience Connecticut Grown specialty crops and specialty crop farms.	$118,563.00
University of the District of Columbia	$240,527.67	Graduate Urban Agriculture Apprenticeships to Enhance Competitiveness of Specialty Crops in the District of Columbia	Capital City Farm, a limited liability company, will utilize bio-intensive, aquaponic, and hydroponic production methods to train University of the District of Columbia (UDC) graduate students through a one-year, renewable Graduate Urban Agriculture (GUA) Apprenticeship. This apprenticeship will create pathways to entrepreneurship and job creation in the urban agricultural supply chain including production, processing and preparation, and distribution. Each GUA Apprentice will address and expand on one of the following goals of UDC centered food hubs: (1) Specialty crop production through biointensive and efficient urban agriculture including hydroponics and aquaponics. (2) Specialty crop processing and preparation through commercial kitchens that also serve as a business incubator. (3) Specialty crop distribution through networked farmers' markets, grocery stores, restaurants, farm stands and/or community supported agriculture (CSAs).	$74,236.93
University of the District of Columbia	$240,527.67	Urban and Island Sustainability: Evaluating the Use of Repurposed Waste for Production of Specialty Crops	The University of the District of Columbia will partner with the USDA-ARS and the University of the West Indies at Cave Hill (Barbados) to investigate the potential of using green waste products to lower inputs of fertilizer, irrigation, and weed management. This will also increase the yield and nutrient density of hot peppers and sweet potatoes in the U.S. and Barbados. We will encourage adoption of green waste mulch for specialty crop production by providing results to, and working directly with, commercial and home growers.	$74,236.93
University of the District of Columbia	$240,527.67	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$17,816.88

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
University of the District of Columbia	$240,527.67	Implementation of a Moveable Urban Farm to Increase Specialty Crop Access in Urban Food Deserts	While paved space is often available for temporary use in urban settings, long-term access to viable property for specialty crop production is a frequent problem for urban farmers. Using 300 self-contained grow-boxes, DC UrbanGreens will demonstrate the potential of a moveable urban farm model to increase urban specialty crop production on properties available for a term of 9 months or more. At the conclusion of our project, we will publish a “How-to” manual, for public dissemination, to encourage others to consider urban specialty crop production on vacant, urban land, even if only available for temporary use.	$74,236.93
Delaware Department of Agriculture	$362,527.73	Evaluating Monitoring Techniques and Natural Enemies for Improving Cucurbit Pest Management	This University of Delaware research project will conduct research on the two most important cucurbit pests, two-spotted spider mites and cucumber beetles, and their natural enemies. Commercial watermelon fields will be sampled for spider mites, cucumber beetles, and their natural enemies on a weekly basis to identify potential for biological control. Spider mite populations in research plots will be manipulated to determine thresholds for treatment. Rye strips will be sampled in the fall and spring to determine how they might contribute to spider mite survival and early season buildup and predatory mite habitat. Commercially available insect-killing nematodes will be evaluated for cucumber beetle management in research plots. We anticipate additional management options will be identified that would reduce pesticide input, preserving chemical management tools by decreasing resistance selection pressure, and reducing exposure to non-target organisms and workers. Educational materials and outreach will be provided to stakeholders.	$26,930.93

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Delaware Department of Agriculture	$362,527.73	Development and Testing of Lima Bean Varieties with Improved Plant Architecture and Stress Tolerances	Lima bean breeding efforts at University of Delaware have been carried out by the Extension Vegetable and Fruit program, with support from faculty from the Department of Plant and Soil Sciences. The first two cultivars from the breeding program were released in spring 2016. The proposed project will address product quality problems currently troubling lima bean growers and processors and build on past work to address three major production constraints of lima bean in Delaware: heat stress, downy mildew caused by Phytopththora phaseoli, and root-knot nematode (RKN). Breeding and selection for upright plant architecture will increase mechanical harvest efficiency and improve succulent bean quality by keeping pods from coming in direct contact with the soil. Heat tolerance will improve succulent bean quality by reducing split sets which cause dry seed to be present at harvest. Resistance to downy mildew and RKN will decrease need for pesticide applications and reduced production costs for the lima bean crop, which is important for the viability of Delaware's processing vegetable industry.	$47,508.00
Delaware Department of Agriculture	$362,527.73	Utilizing Poultry Byproduct Compost for Vegetable and Small Fruit Production	The University of Delaware Cooperative Extension vegetable program will be the lead partner in this project and will work with Perdue AgriRecycle to evaluate compost produced from poultry litter and other poultry biproducts for vegetable and small fruit production. The goal of this project is to evaluate how to best use this compost with specialty crops in Delaware.	$41,764.00
Delaware Department of Agriculture	$362,527.73	Market Access Assistance to Delaware Growers through Third-Party Food Safety Audit and Water Testing Support	The Delaware Department of Agriculture, Food Products Inspection Section, hopes that through this grant, we can assist in offsetting the financial burden on Delaware growers in continuing their food safety education and obtaining a Third-Party Food Safety Audit. These growers may take a significant financial hit in efforts to comply with new rules and regulations set forth by buyer requests and the Food Safety Modernization Act (FSMA). Parts of these efforts are the extensive and costly water testing that growers are required to be perform. Water testing and other effects will continue to provide safe food for Delaware citizens, as well as citizens of the United States and abroad.	$47,089.58

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Delaware Department of Agriculture	$362,527.73	Improving the Viability of Commercial Broccoli Production in Delaware	Magee Farms will be partnering with the University of Delaware Extension Vegetable Program to test the potential to expand commercially viable broccoli production in the spring and to expand commercially viable late-Summer and Fall production of broccoli in Delaware. On-farm trials evaluating new varieties and breeding materials for both Spring and late-Summer/Fall production as well as particle films will be used to demonstrate the potential for developing a more viable broccoli industry in Delaware. This will allow for expanded production into other seasons and thus allow Delaware growers to supply the demand for local broccoli in our region over a longer period. The overall goal is to increase current broccoli production from the current level of under 10 acres to over 200 acres.	$43,870.00
Delaware Department of Agriculture	$362,527.73	Increasing the Sustainability of Beekeeping in Delaware through Education and Teaching Apiaries	This three-year specialty crop block grant intends to engage beekeepers and specialty crop growers through increasing the honey bee education available in Delaware. The Delaware Department of Agriculture (DDA) and beekeepers are developing Best Management Practices (BMPs) for beekeepers. These practices will be explained and demonstrated in workshops, trainings, and involving hands-on sessions in a network of teaching apiaries. The multiple teaching apiaries will be maintained by DDA, Delaware Beekeepers Association (DBA), University of Delaware Cooperative Extension, and Wesley College, thus increasing our reach and collaboration. These education opportunities will improve the knowledge, skills, and abilities that beekeepers need to operate their apiaries in a sustainable manner and minimize colony losses. This will in turn benefit specialty crops with healthier pollinators and allow for increased income for beekeepers, through honey, wax, and pollination services.	$49,949.80

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Delaware Department of Agriculture	$362,527.73	Read It and Eat: Teaching Children about Specialty Crops through Books in School Libraries	Delaware Farm Bureau will increase children's knowledge, and thereby, the consumption, of specialty crop foods by placing into elementary school libraries at least a dozen books that accurately describe these crops and how they are grown, harvested, and eaten. Children are more likely to taste a new food if they have been introduced to it in an engaging manner. Books will be housed in a colorful, enticing, made-to-order "Book Barn" bookcase presented to each school library at an assembly arranged with the school at which an age-appropriate book will be read, and connections made to Delaware farmers who grow specialty crops. A take-home page will be provided which lists locally produced specialty crops and a link to the Department of Agriculture website showing where they can be purchased, along with recipes for their use.	$37,906.70
Delaware Department of Agriculture	$362,527.73	A Value Chain Approach to Expanding Production and Marketing of Ethnic Produce in Delaware	Delaware State University Cooperative extension program will conduct specialty crop research and demonstrations at university farms and farmers' plots and conduct food demos at farmers' markets, state fairs, and other extension events. This project aims to help Delaware farmers increase the availability and marketability of high quality ethnic fruits and vegetables that are in high demand in the Northeast and Mid-Atlantic States. Delaware State University will collaborate with University of Delaware, University of Maryland Eastern Shore, producers, buyers of ethnic produce, and consumers. The project will primarily target small, immigrant and minority producers in Delaware and surrounding communities; however, all producers will have access to information that comes from the project.	$45,747.70
Delaware Department of Agriculture	$362,527.73	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$1,891.70

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Delaware Department of Agriculture	$362,527.73	Let the Worms Bee: How to Control Small Hive Beetles (Aethina tumida Murray) with Entomopathogenic Nematodes	The University of Delaware, Department of Entomology and Wildlife will research the Small Hive Beetle. The Small Hive Beetle (Aethina tumida Murray) is a non-native sap beetle that feeds, defecates, and reproduces in honey bee and bumble bee colonies. Currently no effective in-hive treatments exist to reduce adult populations of this beetle. Control strategies focus on chemical treatments (pupal stage) and in-hive traps (adult stage). Entomopathogenic nematodes are effective at infecting the immature stages of the beetle; however, once larvae are present in a colony significant damage has already occurred, and the pupal stage is difficult to target due to its secretive behavior in the soil. Researchers from University of Delaware's Entomology and Wildlife Ecology Department will examine the infectivity of four entomopathogenic nematodes (Steinernema feltia, S. carpocapsae, S. kraussei, and Heterorhabditis bacteriophora) on the pupal and adult stages of the Small Hive Beetle. We will also examine the non-target effects of entomopathogenic nematodes on honey bee (Apis mellifera L.) and bumble bee (Bombus sp.) larvae and adults to design a safe and effective in-hive treatment for adult small hive beetles. Results from this work will be used to develop and deliver management strategies to Delaware beekeepers to ensure pollination services for specialty crop growers.	$19,646.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Combating insecticide resistance in silk flies infesting Florida sweet corn	This project aims to develop a glass vial bioassay that will be used to determine the threat of pyrethroid resistance in silk fly populations in the Everglades Agricultural Area and the Homestead area. In addition, field evaluations will determine whether the use of biological insecticides can enhance pyrethroid efficacy against silk flies. Laboratory and field experiments will determine the efficacy of selected conventional insecticides for control of silk flies. Anticipated outcomes of this project are a more sustainable sweet corn production system and greater capacity of sustainable practices associated with increased knowledge of stakeholders and increased adoption of recommended practices, respectively. Greater efficiency of silk fly insecticidal management is anticipated to increase cost savings, as well as economic and environmental sustainability. Thus, this project is expected to enhance the competitiveness of Florida sweet corn growers. This two-year project will be conducted primarily at the UF/IFAS Everglades REC in Belle Glade and Tropical REC in Homestead.	$105,249.00
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Development of Hop Cultivars and Their Production Management System for Florida Growers	In this two-year project, we propose developing higher yielding hops cultivars adapted to Florida's climate through 1) screening H. lupulus var. neomexicanus germplasm native southwestern U.S climate and potentially less sensitive to day length and chilling hours for use in conventional breeding, 2) in parallel, reducing day length sensitivity in existing superior cultivars using the cutting edge CRISPR gene editing technology, 3) testing chemical interventions to overcome low winter chilling hours, and 4) developing integrated pest management practices appropriate for Florida's climate. This work will be conducted at the UF/IFAS Mid-Florida Research and Education Center (MREC) in Apopka, FL. The project will result in high-quality hops adapted to be grown profitably in Florida's sub-tropical climate.	$193,517.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Yield forecasting system for the Florida blueberry industry	The Florida blueberry industry experiences production pressures from South America in March and Georgia in May. With the rapid expansion of major acreage in Mexico, the industry has experienced crippling and extreme production pressures. The Florida Blueberry Growers Association will develop or obtain a Florida Yield Forecasting System by modeling a Florida specific matrix which accounts for differing developmental needs and yield potentials of each age-variety combination to accurately project blueberry production yields by the week for the entirety of the Florida season. Accurately predicting statewide production and informing retailers of the volume and availability during the production window will ensure that growers can remain competitive.	$134,499.00
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Mechanical Picker for Strawberry Harvesters	The University of Central Florida (UCF) and University of Florida-Gulf Coast Research and Education Center (UF-GCREC) will develop aa new mechanical picker that is plug-and-play in different strawberry harvesters, universal for different strawberry varieties, and can harvest strawberries by mimicking a human's hand without damaging fruits, leaves or plants. Additional outcomes include picker performance analyses, assessed mechanical damage on plant canopy and postharvest fruit quality, and economic impact of the new technology. The long-term goal of the project is to rejuvenate the Florida/domestic strawberry industry by accelerating the development and adoption of mechanical harvest systems and reducing the dependence on ever-decreasing harvesting labor.	$232,189.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Exploration and Implementation of Novel Small Molecule Compounds for Management of Bacterial Spot in Tomato	The University of Florida Board of Trustees will explore the efficacy of novel small molecule compounds, including carvacrol, N-acetyl-L-cysteine (NAC), 3-indolylacetonitrile (IAN), and D-leucine, along with the plant-derived large molecule compound, tannic acid, to manage bacterial spot of tomato. The proposed project will be completed with the following objectives (1.) determining the minimum concentrations of the compounds for significant reduction of bacterial spot on tomato, (2.) optimizing application timing of the compounds for best efficacy in control of bacterial spot on tomato, (3.) exploring the potential for improved efficacy against bacterial spot by incorporating each compound with reduced copper-based bactericides, (4.) investigating the mechanisms of the compounds in control of bacterial spot of tomato, and (5.) evaluating and demonstrating efficacy of the compounds for control of bacterial spot on tomato under field conditions. Completion of this project will be expected to lead to the development of a cost-effective and environmentally friendly approach to manage bacterial spot, particularly for the disease caused by copper resistant strains of X. perforans.	$210,261.00
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Increasing sales of Florida Peaches	The Florida Specialty Crop Foundation's goal is to create awareness of the young and growing Florida peach industry to both retail buyers as well as consumers, and to increase sales of peaches for Florida growers. Through cooperation with the Fresh From Florida staff, both educational and promotional materials will be developed to encourage retail promotion of Florida peaches during peak season. This program will include advertising to the produce retail buyers to increase awareness of Florida peaches, development of a website, and a social media campaign will grow a community of Florida peach advocates, connecting consumers and retailers. Funds are requested to support trade advertising to engage retailers, development of in-store sampling programs and circular advertising by retailers, expand Facebook outreach, and develop social network outreach to engage consumers.	$249,367.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Profitable Development of Protected Agriculture	This project will contribute to the development of profitable commercial farms using protective structures (greenhouses, high tunnels, and shade structures) to grow vegetables and herbs in Florida and other southeastern states. Profitable business models, based on market research and analysis of production costs will be developed, and educational programs for growers will facilitate adoption of those models. Ultimately, this project will support beginning farmers going into specialty crop production, help growers increase revenue, and contribute to the expansion of regional food systems, including farm-to-school programs. To achieve these outcomes a team of researchers and extension agents, with input from a stakeholder advisory committee and other collaborators, will conduct a market assessment, set up year-long production demonstrations, conduct profitability analyses, prepare educational materials, and deliver Extension programs.	$104,023.00
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Smart Strawberry Monitoring and Logistics	Using strawberry as the test model, The University of South Florida Board of Trustees will tackle the significant issue of fresh specialty crops postharvest waste caused by poor distribution practices. The outcome of the project will be the establishment of a quality-based distribution system which leverages state-of-the-art advances in sensor and communications technologies to monitor product quality at the pallet level from harvest to distribution, with the destination of the pallets selected at the distribution center to match their remaining shelf life. We will establish the most straightforward and cost-effective way to monitor strawberry quality, using wireless temperature sensors embedded with strawberry quality models and translating measured temperatures into remaining shelf life values. We will then quantify the reduction of waste achieved by implementing a quality-based inventory management strategy at the distribution center, where the destination of the pallets is matched to their remaining shelf lives.	$151,582.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Improving St. Augustinegrass for Resistance to Southern Chinch Bug	In this project, The Florida Subtropical Crop Research Laboratory propose to use plant breeding approach to screen for high resistant plants from a segregating population, determine genetics of the resistance, and identify DNA molecular markers associated with the resistance. The anticipated results should be helpful for determination of the suitable breeding method to facilitate integration of the resistance into adapted cultivars. The outcomes of this project will play a key role in development of resistant cultivars and their use in sod production, landscaping, and home lawns in Florida. Use of resistant varieties is important to the sustainability of the sod producing industry and critical to the maintenance of high quality turfgrass in the Florida residential areas.	$148,295.00
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Tasting Florida's Rainbow	The desired outcome of Florida Agriculture in the Classroom, Inc.'s 'Tasting Florida's Rainbow' project is to expand students' and teachers' knowledge of the variety of specialty crops that can be grown in Florida, their nutritional benefits, and to improve access to these fruits and vegetables, therefore increasing consumption. These desired outcomes will be reached through three different tasks. The first task will be the distribution of seventy-five $500 school garden grants. Florida teachers will be eligible for these grants, be required to grow Florida specialty crops and use at least one lesson from one of FAITC's school garden curricula. The second task will be the creation of two 'Rainbow of Nutrition' specialty crop plant selection guides. The third task will be teacher workshops. We will hold at least seven school garden focused workshops throughout the state of Florida. Teachers will learn how to use their school gardens as a teaching tool and learn which specialty crops are grown in Florida and how to best incorporate those into their gardens.	$65,670.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Anhydrous Ammonia-Alternative Soil Fumigant	We propose to study the prospects of using anhydrous ammonia (AA), a readily available and widely used source of nitrogen fertilizer, as an alternative soil fumigant in vegetables. To facilitate an even distribution and adequate retention of applied AA, a deeper shank application of AA followed by chiseled incorporation will be explored, prior to pressing the beds and plastic mulch installation. As an added measure to prevent the fumigant escape, we will also explore the possibility of using nitrification inhibitor, such as N-Serve to delay the conversion of AA to nitrate, and to improve the retention and efficacy of applied fumigant.	$90,194.00
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Comprehensive Lettuce Downy Mildew Management	We aim to identify the races of B. lactucae present in Florida andevaluate Florida adapted breeding lines that belong to the University of Florida Lettuce Breeding Program to identify levels of resistance and/or tolerance. Fungicidal efficacy will also be investigated and integrated into a comprehensive management program with varietal resistance to minimize fungicide resistance, a very real threat with DM pathogens. This will insure that Florida producers will have the most effective tools available and be able to use them in the most cost-effective manner. Generated knowledge will be shared with the stakeholders through the Cooperative Extension Service.	$156,003.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Developing a Florida Tomato Products Industry to Benefit Additional Cropping Solutions for the Existing Packing/Processing Houses in Florida	The desired outcome of this project is to conduct proof of concept research to expand the Florida tomato market by determining the feasibility of producing processed tomato products (juice, paste, sauce, etc.). Processing tomatoes have the potential to provide a new industry for growers and keep a juice processing industry in Florida. This University of Florida Board of Trustees research aims to 1) integrate the existing juice processing infrastructure, 2) provide increased value for fresh market tomato culls, and 3) deliver a market for mechanically harvested CGH tomatoes. This project will develop pilot scale products created from Florida tomatoes to identify advantages or disadvantages over current commercial products, and conduct economic analysis for developing a Florida tomato products industry. Pilot products will be developed from fresh market tomatoes representing a possible tomato cull (off-grade but intact) source, and CGH tomatoes. A tomato juice product has been selected to begin initial studies, with this research potentially extending to other processed tomato products.	$146,491.00
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Identifying Caladium Cultivars with Resistance to Major Diseases and Nematodes for Florida Growers	Due to the repeated occurrence of Pythium root rot, Fusarium tuber rot, bacterial leaf blight, and root-knot nematodes, caladium tuber yield has dropped by approximately 50% over the last 15 years. These diseases and nematodes have caused extensive economic losses to caladium growers and have severely impacted greenhouse growers, nurseries, and landscapers who depend on caladium tubers. These diseases and nematodes also pose a huge threat to the marketability of caladium tubers to foreign markets. Florida caladium growers have urged us to identify caladium cultivars that can resist these diseases and pests and help them produce a decent crop of quality tubers. In this project, 12 recently introduced cultivars and 30 new caladium selections will be evaluated for resistance to Pythium root rot, Fusarium tuber rot, bacterial leaf blight, and root-knot nematodes. The identified resistant cultivars and caladium selections will be multiplied, and tubers will be distributed to growers for them to use as planting stock.	$179,662.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Strategies to Improve Peach Fruit Quality and Size	Fruit quality and market acceptability in peaches are reliant on optimum fruit size and high soluble solids (sugars). Variable and small fruit size can be serious obstacles for Florida peach growers, who spend a significant amount of money and time attempting to meet consumer and market requirements for optimum fruit sizes. This project will focus on developing techniques to increase fruit size with high sugar content to improve Florida peach marketability. An approach based on the influence of fruit location within the canopy on fruit size will be tested for integration into winter pruning and fruit thinning practices. Such a technique potentially can improve peach fruit size under the Florida environment and reduce the risk of production in the short term. Using plant growth regulators (PGRs) for improving fruit size can also provide an opportunity to manipulate fruit size and quality in the long term. We will test PGRs to induce fruitlet abscission, so the remaining fruitlets size more quickly. Using PGRs to enhance or extend cell division in the remaining fruitlets will be tested to further increase fruit size. Improving fruit size and quality by selective thinning and application of PGRs will simplify orchard management and reduce the cost of peach production.	$149,976.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Integrating attract-and-kill| biological control| and disruption in gut microbiota to improve management of Drosophila suzukii in Florida blueberries	The spotted wing drosophila (SWD), Drosophila suzukii Matsumura, is a serious economic threat to the small fruit industry. The first desired outcome for this project is to investigate the effect of attract-and-kill technology (SPLAT) on SWD populations. The desired outcome will be accomplished by evaluating the relative attractiveness of SPLAT to SWD in laboratory experiments and the effectiveness of SPLAT to manage SWD in blueberry fields. A second desired outcome is to survey for and identify natural enemies of SWD in blueberries. We will evaluate the presence of natural enemies of SWD in blueberry fields using sentinel traps with SWD infested fruit. We will also sample for predators using sweep netting and vacuuming and gut content analysis will be used to confirm whether predators fed on SWD. A third desired outcome is to investigate the role of symbiotic microbes associated with SWD and their potential for their use in pest management. We will test SWD foraging preference toward bacteria and yeast isolated from blueberry and other host plants using established trap assays. The findings from the proposed project will provide alternative strategies to weekly chemical sprays that stakeholders can adopt as a sustainable approach to manage SWD in blueberries.	$156,020.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Identifying Sterile| Non-invasive Cultivars in Lantana| Ligustrum and Nandina for Florida's Environmental Horticulture Industry	Cultivated forms of Lantana montevidensis, Ligustrum sinense, and Nandina domestica are very important specialty crops for the Florida's $21 billion environmental horticulture industry. However, these species have been listed as invasive. This status has caused substantial losses of sales and is severely limiting the marketability of these crops and restricting their use in Florida. The goal of this proposed project is to assess the invasive potential of Lantana montevidensis, Ligustrum sinense, and Nandina domestica cultivars and identify sterile, non-invasive alternatives for Florida nurseries, growers, and landscape service businesses. The specific tasks are to 1) collect Lantana montevidensis, Ligustrum sinense, and Nandina domestica cultivars, evaluate their invasive potentials in north and central Florida, and identify non-invasive cultivars, 2) prepare and submit Infraspecific Taxon Protocol requests for newly identified non-invasive cultivars for consideration by the IFAS Invasive Plants Working Group to recommend their use in Florida, and 3) disseminate findings to the industry and the general public. The completion of this project will bring immediate benefits to the industry, increase the marketability of sterile, non-invasive cultivars, and help reduce the potential environmental impact of lantana, ligustrum and nandina.	$181,030.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Tahiti' limes and lime-hybrids| citrus greening rootstocks	This project builds on the previous project to establish and maintain a lime and lime-like scion-citrus greening rootstock (CGR) demonstration trial to determine the best lime scion-rootstock combination for increasing a renewed lime industry in Florida. The desired outcomes of this project are continuing the evaluation of the tree scion-rootstock performance. Trees are now beginning to produce fruit and data on fruit quality and yield is essential and will allow us to conduct economic analyses and formulate management recommendations for potential and existing lime producers. In addition, information on the insect and disease control tactics used during the project will inform management recommendations provided lime growers. General tasks to be performed include (1.) monitor and document scion-rootstock growth and development to assess tree performance, including citrus greening tolerance, fruit yields and quality, (2.) monitoring and documenting insect pest pressure and citrus greening status of the twenty scion-rootstock combinations, including replicates, (3.) continue the collection of financial cost, potential returns and economic feasibility of lime or lime-like citrus production, and (4.) offer seminars, workshops, and field days to inform current and potential lime producers of the results of the project and recommendations on crop management.	$234,436.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Managing emerging threat by three whitefly-transmitted viruses (CuLCrV| CYSDV| and SqVYV) in commercial vegetable production	The vegetable industry in Florida is currently under threat by damaging outbreaks of three whitefly transmitted viruses affecting watermelon, snap bean, and squash (Cucurbit leaf crumple virus (CuLCrV), Cucurbit yellow stunting disorder virus (CYSDV) and Squash vein yellowing virus (SqVYV).) To develop an integrated management program, we propose to identify alternative weed hosts for the viruses, determine the distribution/ hotspots of the three viruses across major vegetable-growing regions in Florida through field surveys, identify vegetable germplasm/ cultivars resistant or tolerant to the viruses, and evaluate novel integrated management strategies. The outcomes of the project include new disease/ whitefly management strategies, identification of epidemic hotspots where these strategies can be aggressive deployed, and identification of resistant germplasm/ cultivars tolerant for adoption by growers. These outcomes will benefit watermelon, snap bean and squash growers through not only reduced crop losses, but also decreased use of chemical pesticides in commercial specialty crop production.	$270,220.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Optimizing Nitrogen Rates and Postharvest Quality for Luffa and Yardlong Bean Production in NE Florida	Production of more than 40 Asian vegetable crops is rapidly expanding in Florida. Optimal nitrogen (N) fertilization is imperative for the economic and environmental sustainability of Asian vegetable production; however, there are no UF/IFAS recommendations for N fertilization available. This project will enable us to establish nitrogen fertigation recommendations for luffa and yardlong bean and test hydrocooling to extend shelf life of both crops. Four N fertigation rates will be compared using luffa and yardlong bean for the experiment. Number of luffa fruits and luffa yield, yardlong bean yield, will be measured for two growing seasons. The petiole sap nitrate levels will be determined at three growth stages. Also, plant greenness will be measured at the growth stages. Leaf tissue will be analyzed for total N concentration; and soil will be sensor-monitored continuously for temperature, moisture content, and electrical conductivity. Vegetable yields response to the N rates, along with leaf nitrate levels and greenness will result in N fertigation recommendations for the vegetables. Field packing with and without washing and use of hydrocooling with sanitized water will be studied to reduce postharvest loss. Growers will enhance income via optimizing plant productivity and extending shelf life of these crops.	$148,730.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Non-Fumigant Nematicide Cocktails	Soil fumigation is the backbone of Florida's plasticulture cropping systems which are used to produce most vegetables and fruits in the state. Plasticulture has undergone significant optimization since its inception in the 1970s in Florida, including use of new plant varieties and improved methods for applying water and chemicals (e.g. drip irrigation, fertigation and chemigation). However, soil fumigation is still the cornerstone of soilborne pest and disease management in Florida, especially when nematodes are a concern. One of the main reasons for this is that until recently no non-fumigant nematicide alternatives were available to Florida growers, except for Vydate, an old carbamate insecticide/nematicide, which is only registered in vegetables and has been in short supply for the past years. Fortunately, more recently several new nematicides have become available in Florida, and for the first time non-fumigant nematode management has now become a possible alternative to soil fumigants. Our hypothesis is that we can increase the efficacy of these new nematicides by combining and/or mixing them. Combinations or cocktails of chemicals have often shown to be more effective at killing pests/diseases than each of the chemicals used separately.	$139,289.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Novel weed control for leafy vegetable production	We propose to initiate development of lettuce varieties with herbicide resistance using chemical mutagenesis and conventional breeding by screening advanced breeding lines of lettuce against broad-spectrum herbicides for growers in the Everglades Agricultural Area (EAA) of South Florida. Additionally, we will determine persistence of selected herbicides in organic soils used for production in the EAA to help determine residual weed control and rotational crop choices. Successful production of leafy vegetables in the EAA is hampered by lack of effective chemical weed control attributed to limited number of herbicides available for selective control of problematic weeds. As a result, growers rely on costly hand labor provided by seasonal migrant workforce to supplement herbicide weed control. Because discovery and development of new herbicides for small acreage crops such as leafy vegetables are limited, utility of existing herbicides with broad-spectrum weed control to develop varieties through enhanced non-transgenic genetic resistance is important. Non-transgenic inherent resistance of leafy vegetables to broad-spectrum herbicides will provide growers with new options for efficacious weed control, allowing for sustenance and expansion of production to meet growing demand while also lessening dependence on seasonal migrant workers.	$132,003.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Optimizing Nitrogen Fertigation in Blueberry	Optimal nitrogen (N) fertilization is critical for successful blueberry production. However, in Florida, there are no research-based recommendations for N fertilization of mature blueberry plants. We will develop nitrogen fertigation recommendations for mature blueberry plants grown in pine bark amended soil in Florida using an established blueberry field at the Plant Science Research and Education Unit, Citra, FL. Five N fertigation rates will be compared using 'Farthing' and 'Emerald' blueberry plants. The planting will be 4-5 years old during the experiment, which is an ideal age for a mature blueberry planting. Plant canopy size, yield, berry size and internal fruit quality will be measured for two seasons. Additionally, leaf tissue will be analyzed for total N concentration, and the soil will be measured periodically for nitrate concentration and pH; and measured continuously for temperature, moisture content, and electrical conductivity. Seasonal patterns of root growth will be determined throughout the 2-year period using mini-rhizotrons. Plant growth, yield, and fruit quality responses to the N fertigation rates, along with the identification of seasonal root growth patterns will result in N fertigation rate and timing recommendations for blueberry that optimize plant health and productivity and minimize leaching and ground water contamination.	$157,227.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Advancing Integrated Weed Management Strategies for Container-grown Specialty Crop Producers	Ornamentals are one of the most important specialty crops in Florida with an annual sales value of $2.8 billion for nursery crops alone in 2015, greater than many other specialty crops combined. Weed management is a continuing challenge for producers with an annual cost estimated at $11,000 per acre. Unlike other cropping systems, nursery production is unique due to high diversity in crop species and because production practices (substrate composition, fertilizer type and/or placement, irrigation regime, etc.) can be dramatically different based upon grower preference and nursery infrastructure. This diversity creates challenges in developing sound weed management protocols as there can be no “one-size-fits-all” approach, which can often be developed for monoculture systems. The desired outcome of this project to increase growers’ profits by developing new, proven weed management protocols based upon production practices that will reduce the number of herbicide applications needed, reduce labor costs, and save growers millions of dollars across the state. To achieve project objectives, multiple container and greenhouse experiments will be conducted to determine how herbicide efficacy is affected by various production practices (irrigation, substrates, and fertilizer) and how these practices impact weed growth in general.	$71,500.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Development of Viable Methods for Producing a New Crop: Yacon in Florida	Florida growers and nurserymen are searching for new, economically important crops for diversifying their crop production. Many growers have expressed keen interest in growing and producing yacon (Smallanthus sonchifolius) in Florida. Yacon produces underground tubers that can be consumed raw, like fruit, and can also be processed into other products. Most importantly, yacon tubers accumulate carbohydrates in the form of fructooligosaccharides (FOS), varying from 6.4 to 65% of dry weight depending on the variety. The tubers are also rich in polyphenols and chlorogenic acid. The high content of FOS is beneficial to individual health as it can reduce glycemic index, excess body weight, and the risk of colon cancer. With such a high nutraceutical and pharmaceutical value, yacon has garnered increased public interest and has great potential to become an important specialty crop for Florida growers. However, information regarding the characteristics of varieties, propagation and production techniques, disease and pest problems, and methods for storage and processing is largely unavailable to Floridians. This project is designed to address these issues at the Mid-Florida Research and Education Center in Apopka. Varieties that are particularly suitable for field and/or greenhouse production in Florida will be identified; viable methods for propagation, production, storage, and processing of yacon; and strategies for disease and pest management will be developed and disseminated	$115,007.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Silkfly resistance in sweetcorn	The goal of this project is to identify genes or defense compounds that can increase the resistance of sweetcorn to silk flies. This will be accomplished using the following two complementary approaches: 1) Genome wide association studies (GWAS) and quantitative trait loci (QTL) mapping analyses will be performed on corn mapping populations in Belle Glade, FL, a site with heavy natural silk fly infestation. The lines will be scored for silk fly damage and used to identify important resistance genes that can be used for marker assisted breeding. 2) Sweetcorn inbred lines with enhanced resistance to silk flies will be analyzed for their defense chemistry to identify compounds that contribute to silk fly resistance. Metabolic profiling will then be used to assist in the selection of sweetcorn varieties with elevated levels of these compounds. The product of this research will be the identification of genes and compounds that can be used to assist in the development or transfer of increased silk fly resistance into market ready sweetcorn varieties.	$149,241.00
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Modeling tools for design of science-based Listeria environmental monitoring programs and corrective action strategies	The Center for Produce Safety will partner with Cornell University to develop modeling tools for Listeria environmental monitoring programs and corrective action strategies. As it is not practical to test different corrective actions and sampling strategies in each facility, the objective of this project is to use computer modeling to identify the optimal approaches for a particular setting. Specifically, the research team will adapt a previously developed model to fresh produce processing facilities and validate the model with sampling data collected through an on-going project. Simulations with validated models will characterize various corrective action and monitoring schemes for their ability to detect and control Listeria in the unique settings of different facilities. These models will have a direct impact on participating facilities, by providing customized tools for evaluating risk and making decisions, while the simulation results are expected to provide the broader produce industry with data and solutions to justify their Listeria control programs. At the end of the project the team will offer a day-long workshop for up to 30 food safety managers and other interested individuals (e.g., risk assessors and government officials).	$203,988.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Florida Department of Agriculture and Consumer Services	$4,336,299.97	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$60,630.97
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Nambeesan): Using Plant Growth Regulators to Optimize Fruit Ripening and Postharvest Shelf-	UGA will develop methods using plant growth regulators to accelerate and/or synchronize ripening and maintain fruit quality characteristics after harvest in blueberries by generating new knowledge of ripening and postharvest processes. This information and tools will be presented to stakeholders at grower meetings and can be used by growers to improve the sustainability and profitability of blueberry production in Georgia (GA).	$70,000.00
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Srinivasan): Management of Whitefly-Transmitted Viruses in Cucurbits in Georgia	UGA will genotype whitefly populations and examine insecticide resistance, for long-term sustainability. In 2016 and 2017, hundreds of cucurbit fields (> 5,000 acres) were affected by two whitefly-transmitted viruses, namely Cucurbit leaf crumple virus (CuLCrV) and Cucurbit yellow stunting disorder virus (CYSDV). No commercial squash, pumpkin, cucumber, or cantaloupe variety is resistant to CuLCrV and CYSDV. UGA will develop a management package with multiple synergistic tactics providing incremental benefits. We intend to screen germplasm accessions for virus resistance and/or tolerance, and evaluate cultural (greenhouse-protected seedlings versus direct seeding, planting date, and fertilizers) and chemical tactics In addition, identify the host range of CuLCrV and CYSDV and examine its impact in virus epidemics.	$100,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Kong): Predictive Modeling of Pecan Quality during Commercial Storage and Distribution	UGA will study pecan quality changes during storage and develop predictive modeling that can be used to estimate shelf life of pecans at different storage and packaging conditions. This information will allow pecan growers and processor to select best storage conditions and packaging methods for improved quality and extended shelf life of pecan products. Information developed from this project will be disseminated via publications in "The Georgia Pecan Grower" magazine, the website of Georgia Pecan Growers Association (GPGA), and presentations in GPGA fall field days and spring conferences, grower workshops, and Institute of Food Technologist (IFT) annual meetings. The results from this project will contribute to a more consistent and sustainable supply of pecan and ensure that US pecan industry remains competitive in the international marketplace.	$100,000.00
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Mihm): Lost and Found: Resurrecting "Extinct" Apple Cultivars	UGA will conduct historical research and fieldwork in selected counties of the Piedmont region in order to resurrect a number of long-lost apple cultivars once grown throughout Georgia and much of the Deep South. These apples represent a unique cultural and genetic resource, as many had unusual resistance to diseases and pests, especially those associated with the warmer climate of the South. In addition, many of these apples also had unusual flavor profiles that, while promising for fresh eating, may have equal if not greater value for the nation's fast-growing cider industry. Upon the identification of each missing cultivar, this project will take scion cuttings to begin the process of reviving these cultivars for the purposes of further study and eventually, commercial propagation in Georgia. In the long term, this project aims to create a pool of low-chill apple cultivars that could be planted elsewhere in the nation – and abroad.	$25,802.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Chavez): Irrigation Scheduling for Peach Production in Georgia	UGA will provide the Georgia peach industry with information for management practices, specifically the effect of irrigation scheduling practices on the overall production efficiency of peach. The overall objective of this research is to identify the optimal management strategies for irrigation to produce an equilibrium between vegetative and reproductive plant development that maximizes production in the early years of an orchard, and increases yields and tree health throughout the orchard life A project deliverable is the development of a smartphone-based application for irrigation scheduling in peaches hereafter referred to as the SmartIrrigation Peach App. The success of this project will be measured by the completion of the SmartIrrigation Peach App and the amount of water savings, fruit yield, plant health, and overall grower adoption of the guidelines and tools developed from this research.	$73,000.00
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Dutta): Sustainable IPM Strategies to Enhance the Competitiveness of Vidalia Onions	UGA will develop a scientifically-based sustainable IPM measures against center rot (a bacterial disease caused by Pantoea ananatis) of onion in Georgia. The outcome of the project will include an effective weed management tactic that would reduce P. ananatis inoculum in the onion-growing fields, and subsequently reduce center rot incidence in the field as well as in storage. The outcome will also include a thoroughly evaluated combined bactericide and insecticide program that will effectively suppress thrips (insect vector for P. ananatis), and bacterial populations on onion foliage reducing center rot incidence. This project will enhance the competitiveness of specialty crops in Georgia by reducing losses due to center rot both in field and storage and thereby increasing the profitability of the crop.	$90,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Hajihassani): Pyramiding Cover Crops and Deep-Turning of Soil for Management of Soil-Borne	This project, which is a partnership between faculty at University of Georgia and vegetable growers, aims to identify pre-plant fumigation alternatives that can be used for effective and sustainable management of soil borne pests. Plant-parasitic nematodes, fungal diseases, and weeds are key pests of vegetable crops in southern Georgia. The abundance of nematodes and nutsedge will be monitored prior to, during, and after the seeding, growth, termination, and incorporation of cover crops, and in plots where no cover crops but vegetables (tomato and cabbage) will be planted. We will also determine the effect of cover cropping on soil chemical properties. This project will benefit the economic and environment through reduced use of chemical fumigants, and from improved rotations on vegetable farms. An outreach program will be established to target vegetable growers and agricultural professionals.	$60,000.00
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Hickey): Evaluation of Bud Break Delay through Advanced Pruning Techniques	UGA seeks to ensure sustainable production of Georgia-grown grapes and wines. One central objective to this goal is to implement refined and advanced pruning practices to avoid the pervasive perennial threat of bud kill due to frost across Georgia vineyards. Delayed pruning will be evaluated for its effect on bud break delay, frost injury, and crop yield in regionally-popular wine grape cultivars. Outcomes will result in improved understanding of the timing and extent with which delayed pruning should be implemented to effectively avoid frost risk and maintain economical grape crops. The proposed workplan will have ultimate economic impact through vineyard health and sustainability and consumer recognition and acceptance of regionally-produced Georgia wines.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Jagdale): Evaluation of New Biological Nematicides Against Plant-Parasitic Nematodes of Cuc	UGA will be involved in evaluating management options for plant parasitic nematodes (PPNs) in cucumbers by developing an environment friendly, biological control strategy to reduce nematode population densities below their economic threshold level. Cucumber growers often need to implement a series of costly corrective nematode management strategies, which often result in unsatisfactory control Environmental stewardship, overreliance on chemical control, and increasing concern on pesticide resistance has provided impetus for especially organic cucumber growers to examine alternative and long-term methods that are effective in management of PPNs and being environment friendly.	$20,000.00
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Jespersen): Unmanned Aerial Vehicles to Improve Sustainable Weed Control in Bermudagrass	The University of Georgia will improve weed management on Georgia sod farms by developing unmanned aerial systems for detection of contaminating weed species. Early detection will ultimately allow for the more efficient management of weed species, reducing inputs applied by growers. The project will identify features associated with weed species using multiple sensors, as well as optimize flight parameters for large scale data collection. These two aspects will then be integrated into a model system which will be used for on-farm trials for the detection of spurge, goosegrass, yellow nutsedge, and crabgrass. Finally, results from on-farm trials will be disseminated to end users providing information for detecting and mapping weeds using unmanned aerial systems.	$100,591.00
Georgia Department of Agriculture	$1,337,078.61	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$105,000.00
Georgia Department of Agriculture	$1,337,078.61	Georgia Agricultural Commodity Commission for Georgia Grown (GACC-GG): Be Local, Bee Safe Promotion	The Georgia Grown Be Local, Bee Safe promotion will increase the sale and marketability of local decorative plants in Georgia through the promotion and education of ornamental plants as safe habitats for pollinators. The program will also increase the sales of Georgia Grown honey products.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Georgia Department of Agriculture	$1,337,078.61	GACC-Georgia Grown Produce University	The Georgia Grown Produce University program is a coordinated effort to provide training and equipment to school cafeterias, so they can source, prepare, and offer more fresh-local produce. This program seeks to supply numerous school cafeterias that do not have the simple processing equipment and training necessary to prepare and present fresh-local produce. By providing the training and equipment in a focused verifiable effort, the Georgia Department hopes to create a replicable model to increase the provision of fresh-local produce in schools.	$65,000.00
Georgia Department of Agriculture	$1,337,078.61	Georgia Food Bank Association Inc.: Increasing consumption of Unmarketable Produce Through School Pantry Education Programs	The Georgia Food Bank Association food banks will increase the consumption of Specialty Crops by food-insecure children through school-based food pantries that combine nutrition education and/or healthy cooking recipes with access to unmarketable (#2 grade) nutritious produce donated by Georgia farmers. This education project enhances the competitiveness of Specialty Crops through increased access and understanding of these crops. It promotes the generosity of Georgia's farmers who will donate crops distributed throughout the school-based pantries.	$50,000.00
Georgia Department of Agriculture	$1,337,078.61	Georgia Fruit and Vegetable Growers Association (GFVGA): Increasing Specialty Crop Producers' Profitability through Education	This project addresses the need to increase profitability of specialty crops by meeting the educational needs of large and small growers. The production, management and marketing of specialty crops in Georgia is ever changing with new technologies, new practices, new regulations and new management opportunities. The Georgia Fruit and Vegetable Growers Association will plan and coordinate a four-day educational conference and trade show to provide the latest and most current research based educational information on pest management techniques, production practices, regulatory issues, sustainability needs, food safety guidelines.	$70,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Georgia Department of Agriculture	$1,337,078.61	Georgia Fruit and Vegetable Growers Association (GFVGA): Cost Sharing Food Safety Program Development and Certification in Georgia (FSMA)	The Georgia Fruit and Vegetable Growers Association (GFVGA) will provide 1) on farm food safety education, 2) develop full or partial food safety programs, 3) educate farm and packing facilities on Food Safety Modernization Act (FSMA) rule(s) that may apply, as well as 4) provide cost share for a market driven audit fee and the staff time to conduct the education and program development. This comprehensive approach to on farm food safety is intended to increase the competitiveness of Georgia's specialty crop industry by enhancing the marketability of produce through food safety programs and audits as well as assist in FSMA readiness.	$40,778.91
Georgia Department of Agriculture	$1,337,078.61	Georgia Fruit and Vegetable Growers Association (GFVGA): Marketing Georgia Grown Products to Increase Specialty Crop Producers Profitability (PMA)	This project broadens the reach of the Georgia Grown brand and Georgia's specialty crop producers. The Georgia Fruit and Vegetable Growers Association is working with Georgia growers, commodity organizations, and agribusiness companies to feature the state's produce industry in a GEORGIA GROWN pavilion at the 2018 PMA Fresh Summit in Orlando, FL This event offers Georgia growers and suppliers a great opportunity to have face time with potential customers. GFVGA will work with the GA Department of Agriculture and other commodity organizations to coordinate the development, production, installation and operation of the 7,000 square foot plus promotional display.	$75,000.00
Georgia Department of Agriculture	$1,337,078.61	Georgia Pecan Growers Association (GPGA): Georgia Pecans for Georgia's Children: Creating an interactive learning experience	GPGA will develop and launch an interactive learning experience and exhibit for school-aged children at the Georgia Museum of Agriculture and Historic Village that targets improving access to Georgia pecans, provides nutritional and pecan usage information, and presents the historical and economic influences of pecans in the state. The purpose of this project would be to promote Georgia pecans to children and their parents/guardians - particularly rural students - who have limited exposure to the tree nut and to fresh, unprocessed food.	$35,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Georgia Department of Agriculture	$1,337,078.61	Georgia Tech Research Institute (GTRI, Dr. Aidun): New Technology for Cost-Effective Automated Large Scale In-Vitro Plant Propagation	The Georgia Institute of Technology, will design, build and optimize a novel automated temporary immersion bioreactor system (GT-TIS) for production of micropropagated true-to-type plants. Such system will serve as a prototype to test and optimize in vitro micropropagation of specialty crops using blueberry and Stevia as demonstration plants. In vitro produced plants offer new opportunities to produce unlimited number of disease-free plants of superior cultivars. Access to better planting material will help Georgia growers to faster access of sufficient numbers of plants of new cultivars and cultivars that are hard to root. The bioreactor system requires new innovation and is expected to become the foundation for a new platform technology for plant production.	$100,000.00
Georgia Department of Agriculture	$1,337,078.61	The University of Georgia Research Foundation (UGA-RF, Dr. Campbell): Managing Boxwood Blight Through Cultivar Screening and Cultural Practices	Researchers in the College of Agricultural and Environmental Resources at the University of Georgia will evaluate boxwood cultivars for their susceptibility to boxwood blight. In addition, they will also provide a list of species that will provide similar growth characteristics to boxwood that can be planted as alternatives. They will further the understanding of boxwood blight disease prevention and spread by investigating sanitation practices and physical disease movement in a landscape.	$54,860.00
Guam Department of Agriculture	$242,726.03	Improvement of seed distribution system of heirloom eggplants and chili peppers for sustainable agriculture of Guam	The University of Guam (UOG) in collaboration with the Division of Agriculture Development Service (ADS), Guam Department of Agriculture will improve the distribution system for selected heirloom eggplant (Solanum melongena) and chili pepper (Capsicum spp.) selections to the community. The expected outcomes of the project will be (a) an increase in the number of heirloom eggplant and chili pepper selections in the collection at UOG and ADS; (b) an increase in knowledge of plant characteristics of heirloom eggplant and chili peppers in Guam; (c) an increase in the number of available seeds and seedlings of heirloom eggplants and chili peppers at the ADS nursery; (d) an increase in the number of farms who produce heirloom eggplants and chili peppers in Guam; and (e) an increase in awareness of the importance of local germline conservation of eggplants and chili pepper in Guam.	$262,138.57

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Hawaii Department of Agriculture	$501,925.57	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$22,359.49
Hawaii Department of Agriculture	$501,925.57	Creating Market Opportunities for Locally Adapted Seed to Improve Specialty Crop Performance in Hawaii	The Kohala Center (TKC) will collaborate with the Hawaii Seed Growers Network (HSGN), University of Hawaii Cooperative Extension Service, Hawaii Island Seed Bank, GoFarm Hawaii, and independent producers statewide to enhance the competitiveness of specialty crops through production and sale of locally adapted seed varieties. The project will market HSGN's existing online marketplace for seed sales, recruit and mentor three new seed growers, produce an additional 15 new seeds varieties, and complete a cooperative business development process to ensure long-term sustainability of this unique market opportunity for Hawaii producers.	$59,386.00
Hawaii Department of Agriculture	$501,925.57	Mamaki Tea Enterprise	Young Women's Christian Association of Oahu will develop Māmaki Tea Enterprise to grow, package and distribute the specialty crop, pipturus albidus (māmaki). The Enterprise will be an educational and training resource for women recently released from prison who are part of the YWCA re-entry/work furlough program. It will also be an educational resource for local farmers to develop their business and agricultural skills, with an emphasis on specialty crop production. Once Māmaki Tea Enterprise is operational, it will be integrated into a special agricultural Launch My Business (LMB) training program, providing local farmers the opportunity to observe all facets of the business.	$40,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Hawaii Department of Agriculture	$501,925.57	Low Cost Tissue Culture and Grow-out of Micropropagated Anthuriums	Hawaii Agriculture Research Center (HARC) will develop low cost methods to optimize and develop the innovated propagation systems using tissue culture and bioreactor methods and grow-out and acclimatize micropropagated anthuriums to improve survival and increase growth rate of plants to improve the product delivered to growers. If successful, this project will solely enhance the competitiveness of the anthurium industry with the following outputs 1) A micropropagation method for anthurium that will include information on cultivar proliferation rate to enable anthurium growers to calculate quantity and grow-out time, 2) a reliable source of certified clean (triple-indexed) micropropagated anthuriums of new and established cultivars for large scale production will be provided, 3) an innovative bioreactor micropropagation method, 4) a grow-out method that tissue culture businesses can adopt to provide growers with inexpensive and sturdy plants with high survival percentages and shorter time to first flowering, and 5) workshops designed to train tissue culture, nursery, and anthurium businesses to set up low cost tissue culture systems with grow-out capabilities.	$37,101.00
Hawaii Department of Agriculture	$501,925.57	Expanding the Market for Hawaiian Turmeric with High Yielding and High Curcumin Varieties	The University of Hawaii will, in collaboration with local growers and agencies, complete a series of activities that will result in: 1) improved yield and quality of Hawaii-grown turmeric, 2) increased demand of Hawaii-grown turmeric in local and out of state markets, and 3) greater profitability for Hawaii turmeric growers. This project will determine the curcumin content of a wide range of turmeric varieties, characterize the relationship between rhizome color and curcumin content, and identify optimum organic and conventional fertilizer recommendations, particularly for nitrogen. Most importantly, this project will make available to growers' elite turmeric varieties and disseminate recommendations to optimize yield and curcumin content.	$40,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Hawaii Department of Agriculture	$501,925.57	2019 Hawaii Potted Tropical Plants National Marketing and Educational Campaign	The Hawaii Export Nursery Association (HENA) will continue to establish the Hawaii Potted Tropical Plant Brand as a superior plant product through national marketing campaign activities. HENA's marketing campaign will strengthen the viability of the Hawaii potted tropical plant industry, increase access to and sales of Hawaiian product by: 1) hosting the 2019 Midpacific Horticultural Conference & Expo (MIDPAC) on the Big Island of Hawaii in July 2019; and 2) marketing Hawaii potted tropical foliage products to national industry platforms by maintaining a website and direct mailing material to educate the marketplace about Hawaiian product.	$30,000.00
Hawaii Department of Agriculture	$501,925.57	Increasing Macadamia Nut Yields in Hawaii with Integrated Pest Management	The Hawaii Macadamia Nut Association will partner with University of Hawaii and Hāmākua Agricultural Cooperative to increase macadamia nut production by providing integrated pest management tools and training to small-scale growers on Hawaii farms. The project will compile science-based training materials and coordinate four training sessions around Hawaii Island, the center of macadamia nut production in the state. This project is a necessary step towards equipping farmers with the tools they need to address present and future challenges. In order to keep up with Australia and other countries with improving technology, methods, and production, macadamia nut farmers in Hawaii need financial and educational support to promote adoption of long-term strategies for sustainable growth.	$33,538.00
Hawaii Department of Agriculture	$501,925.57	Farm Food Safety Training for Local and Immigrant Crop Producers	The University of Hawaii at Manoa (UHM) is member to a larger community of more than 100 land grant institutions and includes the Cooperative Extension Service (CES). The Cooperative Extension Service is the outreach component of UH Manoa's College of Tropical Agriculture and Human Resources. UHM-CES is committed to partnering with Hawaii growers, produce farm and food industry associations, food safety professional organizations, and other government agencies to provide access to farm food safety training in Hawaii. This project will conduct PSA Grower Trainings for Hawaii produce growers whom English may not be their primary language as a means to increase grower compliance with the FSMA-PRS. The greater number of produce growers in compliance with FSMA-PSR the greater the potential to keep Hawaii's fresh produce in the market.	$20,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Hawaii Department of Agriculture	$501,925.57	HFNA's Educational Program to Increase Awareness & Access of Hawaiian Floriculture to the Wedding Industry	The Hawaii Floriculture and Nursery Association will host the Hawaii Wedding Floral Design Workshops that will be held on each of the four main Hawaiian Islands during the summer months of 2019 when floral products are most abundant. These workshops will showcase floral varieties distinctive to each island and will be led by professional floral designers who will give demonstrations on how to create beautiful wedding flowers, bridal and attendant bouquets, table arrangements or floral décor for ceremony and reception venues. Hawaii growers will be invited to have displays of their floral and nursery products during the workshops, so the attendees can see for themselves the beauty, freshness, and quality of Hawaii floriculture. The growers will be able to talk one-on-one with the visitors about their products and the benefits of using Hawaiian flowers and plants in their wedding décor. The floral design workshops dedicated to weddings will enhance the competitiveness of Hawaii floriculture products by increasing awareness of our products to the wedding industry as well as how to access Hawaii-grown flowers and plants.	$40,000.00
Hawaii Department of Agriculture	$501,925.57	Planting Techniques for Increasing Locally Produced Corm and Bulb Species in the Pacific	The University of Hawaii College of Tropical Agriculture and Human Resources Cooperative Extension Services (CTAHR) will evaluate and demonstrate through applied field evaluations, workshops and field days, alternative planting material to increase the availability and quality of locally produced garlic and saffron for the State of Hawaii. The project looks to identify strategies that will make these crops more productive and economically viable for Hawaii's growers. The project will also work to develop new markets through collaboration with the Culinary Innovation Center at Kapiolani Community College. Access to tropically grown garlic and saffron varieties could increase production of these two spices as well as open new markets for sale with local market outlets.	$40,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Hawaii Department of Agriculture	$501,925.57	Selecting Pigeon Pea and Green Bean Varieties for Market Preference and Value-added Products	The University of Hawaii will conduct field trials to select varieties of green beans and pigeon pea for market preference, protein content and quality, suitability for Hawaii's growing conditions, food preparation, value-added products, and nitrogen fixation capability. Expected outcomes of the project include: 1) Improving decision making by growers about introducing new crops/varieties and developing value-added products; 2) Establishing a minimum of five new growers and areas planted with snap bean and pigeon pea ranging from 10 to 30 acres statewide by the end of first year of the project; 3) Increasing Hawaii's food and nutritional-security and self-sufficiency with increased production and awareness of specialty crops high with protein, fiber, and nutrient content; 4) Improving the economy with "Locally Grown" and "Locally Made" value-added products labeling from these beans; and 5) Enhancing the capacity of cooperative extension agents and other agricultural professionals to assist stakeholders with growing, processing, and marketing specialty crops.	$40,000.00
Hawaii Department of Agriculture	$501,925.57	Understanding Traditional Hawaiian Agricultural Knowledge to Improve Taro Production and Resilience in Crop Systems	Native Hawaiians used a sophisticated lunar/celestial calendar, in conjunction with other traditional practices, to sustainably produce an abundance of food that surpassed in both quantity and quality the staple starch foods currently grown, without outside inputs. Today, farmers who grow taro, a culturally significant and specialty crop for Hawaii, are more than two generations removed from this practice and its influence on crop yields. As production costs climb, growers are seeking more sustainable options to improve yields and reduce expensive inputs. This project seeks to better understand traditional Hawaiian lunar/celestial agricultural knowledge to improve taro crop production and resilience in crop systems and in taro farmers' economic competitiveness.	$39,382.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Hawaii Department of Agriculture	$501,925.57	Landscape Industry Council of Hawaii Foundation "Buy Native Plants, It Matters" Poster Campaign	The Landscape Industry Council of Hawaii Foundation (LICHF) is a 501(c)(3) nonprofit organization incorporated in 2006 to carry out the educational, public service, research, initiatives, training, partnering and public awareness functions formerly performed by the Landscape Industry Council of Hawaii, https://www.hawaiiscape.com/, which was founded in 1986. LICHF will increase the percentage of native plants in the built environment by increasing the demand of native plants through educational posters that will be relevant for many years because they will address selection and maintenance of native Hibiscus and native Ohia.	$30,000.00
Hawaii Department of Agriculture	$501,925.57	Hawaiian Specialty Cacao Fine Flavor Cultivar Development Project	The project will be carried out by the Hawaii Agriculture Research Center (HARC), a non-profit 501(c)(3) organization with suitable land area available for the proposed trials and experience in administrative and collaborative protocols. This proposed project will optimize the fermentation method for each selected fine flavored cultivar, continue to screen additional fine flavor candidates and start propagation of a Heritage cacao budwood garden to increase the availability of fine flavor cultivars thus addressing a critical need of the Hawaiian cacao and chocolate industry to identify, produce and distribute select fine flavor cacao cultivars.	$29,651.36
Idaho State Department of Agriculture	$2,070,141.39	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$234,326.15

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Idaho State Department of Agriculture	$2,070,141.39	Expanding Exports, Building Awareness, and Increasing Sales of Idaho-E. Oregon Onions in International Markets	The proposal outlines a project that will be conducted by the Idaho-Eastern Oregon Onion Export Committee (IEOOC). With the amount of onions grown in the Treasure Valley building and enhancing international markets is vital for continued success of the industry. Export opportunities give the industry additional opportunities as they prepare to market the onion crop. Mexico is the second largest export market for onions. Idaho and Eastern Oregon's crop is 90% yellow onions and it is important to stay in front of the Mexico retailers, foodservice professionals, importers, and consumers and let them know of the versatility, and the benefits of yellow onions, which prove that yellow onions work as well as white onions. The Yellow Onion Promotion in Mexico will focus on increasing awareness of IEOOC onions among key trade members in Mexico. The promotion will provide early information to these market segments making them aware of the availability of Idaho-E. Oregon Onions. The promotion will also provide enhanced Social Media, and web site communication with the Mexican consumer to continue to build awareness and encourage use of yellow onions.	$72,200.00
Idaho State Department of Agriculture	$2,070,141.39	Creation of a Statewide Wine-grape Vineyard Weather and Soil Monitoring Network and Digital Atlas	In this proposed project, Boise State University will expand a 10-station vineyard weather and soil monitoring network to create a network of 25 weather and soil monitoring stations covering all the wine regions in the state. The resulting data collected will be stored and made publicly available in user friendly formats through a Boise State University website in the form of a digital vineyard weather and soils atlas.	$96,809.50

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Idaho State Department of Agriculture	$2,070,141.39	Improving perception of wine produced in the Gem State	In an effort to enhance Idaho wine as a desirable commodity and to aid sales, the Idaho Grape Growers and Wine Producers Commission will conduct an integrated marketing communications campaign targeted at local consumers along with national wine media. Elements identified as beneficial to continuing to assist the industry's growth include visual and interactive components of digital content through the IWC website and events, media and key purchaser relationships via press visits and tours and visual promotions and enhanced marketing automation. Through these targeted efforts, the IWC hopes to increase exposure of high quality Idaho grapes and wine and expand sales and production within the region.	$246,726.77
Idaho State Department of Agriculture	$2,070,141.39	Improving Fruit Yield Estimates Using Artificial Intelligence Techniques	The Robotic Vision Researchers of Northwest Nazarene University (NNU) will develop a Deep Learning Algorithm to correctly identify and localize fruits on the tree between the blossom period and fruit maturity. The current practice for estimating fruit yield early in the season is to manually count fruits on select number of trees and then use the average number of fruits. This method is very time consuming, labor intensive, and limited sample size. Machine vision can be used to recognize fruits on the tree, however traditional image processing techniques have difficulty in recognizing immature fruit as their color tends to match the tree canopy. In recent years, artificial intelligence, specifically Deep Learning, has made considerable progress in the area of image recognition with some applications nearly matching human performance. This research proposal will improve the fruit yield estimate by enabling faster counting over a wider range of trees in an orchard and will provide the fruit grower with a reliable fruit yield estimate.	$65,368.80

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Idaho State Department of Agriculture	$2,070,141.39	Increasing Sales, Demand, and Building Awareness of Idaho Apples Through Retail Promotions and Local Media	The proposal "Increasing Sales, Demand, and Building Awareness of Idaho Apples through Retail Promotions and Local Media," outlines a project that will be conducted by the Idaho Apple Commission. The two-year project goal will be to work with local retailers to build demand for Idaho Apples, and build strong relationships with those retailers. The project will include an extensive marketing program necessary to help the Idaho retailers increase sales of Idaho Apples, and build the Idaho Apple industry's identity within the retailer's distribution chains. The Commission will set up a marketing program that will promote apples during the harvest period, usually September through January. The Idaho Apple Commission will utilize billboard signs, in-store advertising, radio advertising, print advertising, Social Media channels, and an Idaho Apple Industry Packaging (bag). The outcomes of this program would be increased sales, stronger demand for Idaho Apples, and a healthy positive working relationship with Idaho retailers. We will also use Social Media platforms which will help build consumer awareness.	$53,528.00
Idaho State Department of Agriculture	$2,070,141.39	Using Field Asymmetric ion mobile spectrometry for the detection of onion bulb rot in storage	The overall goal of this proposal is to evaluate the applicability of field asymmetric ion mobile spectrometry (FAIMS) for the detection of onion bulb rot in storage. Numerous pathogens cause onion bulb rot in storage, significantly reducing produce quality during bulk storage. Presently, managers' lack state-of-the-art sensing-based tools to detect and manage diseases at earlier stages. We propose to evaluate non-contact sensing technologies for onion bulb rot detection in early stages to prevent disease progression in storage and financial losses for the stakeholder. The specific objectives are to 1) investigate FAIMS as a volatile biomarker-based sensing technique for the detection of onion bulb rot caused by major fungal and bacterial bulb rot pathogens, 2) investigate the applicability of FAIMS sensing in early onion bulb rot detection, and 3) evaluate FAIMS for the ability to monitor onion storage facilities. Incorporation and application of this information by onion stakeholders will result in an increased efficiency of storage inputs resulting in an increased economic return for onion stakeholders.	$122,170.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Idaho State Department of Agriculture	$2,070,141.39	Advancing Research and Resources for the Idaho Grape and Wine Industry	The Idaho Grape Growers and Wine Producers Commission (IWC) is committed to helping wine grape growers and winemakers in the state of Idaho produce the best quality wine in the region. The IWC is facing two critical issues in the coming year as it relates to industry education. The first is the need for new data to assist in industry benchmarking. Economic impact studies provide invaluable information about the state of the wine industry that serves the IWC in its work to inform industry members as they look to stay informed about their business. The second issue the IWC would like to help members address is wine quality. Previous assessments have identified some flaws in winemaking practices and vineyard management. The IWC would like to assist members by providing opportunities and resources to learn from regional and national experts.	$52,132.00
Idaho State Department of Agriculture	$2,070,141.39	Domestication, Propagation, and commercialization of new-generation native plant products for the Idaho Nursery Industry	This project will provide two economically impactful outputs: 1) native plant products for the Idaho landscape nursery industry with water conserving attributes, and 2) plant propagation protocols for new native plant products to enhance success related to marketing and delivery. Acquisition procedures will include project-driven collections, purchases from native plant organizations, and purchases from seed suppliers and professional collectors. Evaluations will be completed on both new and established accessions collected over the past 11 years. Propagation research will consist of evaluating a range of germination and seedling production techniques to determine which protocols can be used to successfully propagate superior accessions that express nursery handling limitations. Experimentation to determine viable techniques will include the testing of efficacy of stratification, scarification, treating with growth hormones, treating with smoke water, and other techniques shown to have an impact on germination. Evaluation of protocols to minimize seedling losses due to damping off will also be conducted.	$86,821.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Idaho State Department of Agriculture	$2,070,141.39	Liquid Microbial Amendments: An ecofriendly method for improving growth of container greenhouse and nursery crops	Commercially available bacterial amendments claim to improve plant growth by stimulating root growth, improving soil biodiversity, nutrient uptake and enhanced mineralization; this project will evaluate the impact of four commercial microbial amendments on the growth and health of container greenhouse and nursery plants (bedding plants and shrubs) as well as characterize changes (nutrient content and microbial populations) in the growth substrate following application. Projected outcomes are 1) enhanced understanding of the usefulness of bacterial amendments for the Idaho container produced plants, and 2) publication of findings in a peer reviewed journal accessible to other specialty crop producers.	$70,658.38
Idaho State Department of Agriculture	$2,070,141.39	Controlling Nematodes in Potato Production by Identifying and Purifying Nematicidal Toxins Produced by Solanum Sisymbriifolium	Potato production in the U.S. and viability of international markets for U.S. potatoes are threatened by the presence and potential geographic spread of invasive nematodes, such as Globodera pallida, because effective nematicides have become expensive and restricted in their availability. Toxic compounds produced by plants have the potential to be used as nematicides to control nematode species deleterious to potato. Solanum sisymbriifolium reduces reproduction of G. pallida by 95-100%, is effective against root knot and lesions nematodes, and contains saponins and glycoalkaloids with invertebrate toxicity, but their identity and potential nematicidal activity are unknown. The Idaho Potato Commission through the University of Idaho will isolate the toxin to develop a natural nematicide for use in potato production.	$123,648.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Idaho State Department of Agriculture	$2,070,141.39	Developing and Deploying Advanced Detection Methods for Bacterial Ring Rot of Potatoes	The Idaho Potato Commission through the University of Idaho will develop new diagnostic methods for bacterial ring rot in potatoes and use them to study the epidemiology of the pathogen in Idaho and develop a proficiency testing scheme for diagnostic labs. Bacterial ring rot is caused by Clavibacter michiganensis subsp. sepedonicus (CMS) and is the most devastating bacterial disease of potatoes. It can cause direct yield losses of over 50%. However, its presence in seed tubers can lead to a complete rejection of the seed lot as all North American certification authorities have a zero tolerance for the bacterium. It is also considered an invasive species in Idaho and its presence must be reported. Present testing methods are expensive, unreliable and outdated. This project will develop a gold standard test and laboratory proficiency testing scheme for the detection of CMS in potato tubers which has potential for national or even international use.	$141,253.40
Idaho State Department of Agriculture	$2,070,141.39	Marketing Idaho Specialty Crops through Idaho Preferred Advertising, Social Media, Public Relations and Retail Promotions	Idaho Preferred®, a program within the Market Development Division of the Idaho State Department of Agriculture, will continue its successful promotion of specialty crops through digital advertising, social media, public relations and retail promotions. The digital advertising campaign will air in conjunction with an on-the-road retail tour that will include stops at retailers across the state to promote seasonal specialty crops with radio remotes, on-site demos, sampling and events. Social media will help promote the tour and events as well as increase consumer awareness of seasonal specialty crops. A second roadshow will occur in Spring 2019 promoting locally-grown nursery plants and will be supported by digital and radio advertising.	$188,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Idaho State Department of Agriculture	$2,070,141.39	Reducing Current Season Spread of PVY, and Mitigating Tuber Quality Loss in Tuber-borne Infections	In order to control Potato virus Y (PVY) during seed potato production in the State of Idaho, University of Idaho proposes to investigate early flights of aphids carrying PVY into emerging seed potato and develop recommendations on timely use of mineral oil and insecticide treatments. To control PVY seed-borne infections, University of Idaho also proposes to determine the effect of infection on tuber yield and quality at harvest. Potato seed lots with high percentage of infected tubers will be identified and planted at experimental fields for monitoring through the season and subsequent harvesting of tubers, to address the yield and quality issues. Tubers from infected and non-infected plants will be separately collected and analyzed for specific gravity, and fry color and quality. The proposed project will lead to a comprehensive strategy to control PVY in seed, process and fresh potato production.	$113,914.00
Idaho State Department of Agriculture	$2,070,141.39	Performance, Adaptability, Yield and Quality of Almonds and Walnuts, as New Fruit Crops in Idaho	The University of Idaho Pomology Program will study performance, adaptability, bloom and harvest dates, leaf mineral nutrients, yield, and quality attributes of almonds and walnuts, to establish these fruits as new commercial fruit crops for Idaho. This program will also disseminate the results to stakeholders through presentation of several educational tours, classes, and field days and will educate the public about the benefits and methods of producing these cultivars of almonds and walnuts. It will also establish pilot plans of selected varieties with cooperators in Idaho.	$135,914.00
Idaho State Department of Agriculture	$2,070,141.39	Evaluating the web of Pea seed-borne mosaic virus pathotypes and host resistance alleles	PSbMV infected plants will be collected from pea growing regions in Idaho, North Dakota, and Washington and strains will be characterized under greenhouse conditions by inoculating plants carrying different resistance genes. Evaluating strains from across growing regions is important as PSbMV can move with seed. New strains/variants will be compared to previously characterized strains. Virus strains producing unique symptoms on greenhouse plants will be further characterized via sequencing. Sequence data from all viral strains will be utilized to develop antibody- or molecular-based diagnostic assays. Cultivars and breeding germplasm will be inoculated under greenhouse conditions with all unique PSbMV strains. Finally, host genotypes with resistance to these viral strains will undergo sequencing to determine genomic regions controlling resistance to all viral strains.	$149,453.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Idaho State Department of Agriculture	$2,070,141.39	Creating Awareness and Increasing Sales of Idaho Cherries through In-Store Promotions and Social Media	The proposal "Creating Awareness and Increasing Sales of Idaho Cherries through In-store Promotions and Social Media" outlines a project that will be conducted by the Idaho Cherry Commission. The two-year project goal will be to work with local retailers to build demand for Idaho Cherries, and to build strong relationships with those retailers. The project will include an extensive Social Media program and in-store tasting demos. Both mentioned activities are to help increase sales of Idaho Cherries, and build Idaho Cherry identity within the local retailers, and within the distribution chains.	$41,184.00
Idaho State Department of Agriculture	$2,070,141.39	Soil-borne diseases of beans: determining the primary causal agents and developing disease management practices	The Idaho Bean Commission through the University of Idaho seeks to identify the main soil-borne disease-causing agents in Idaho bean production, develop rapid diagnostic tools, develop best disease management practices and establish the framework for future resistance breeding efforts. This project will seek to identify the main disease-causing agents in beans in Idaho. It will develop rapid diagnostic tools, best management practices for disease control and establish the framework for future disease breeding efforts. This will be investigated using a combination of survey work using new diagnostic tools developed within this project, fungicide sensitivity testing and a range of field and glasshouse trials to investigate the effect of cultural, pathogen strain, effect of environment and the efficacy of chemical and cultural control methods.	$72,013.77
Illinois Department of Agriculture	$691,673.37	Building an online resource portal to increase sales and consumer knowledge of Illinois Specialty Crops	The Land Connection (TLC) will address the continued need for greater knowledge about, and access to, Illinois specialty crops to increase the competitiveness and boost sales of specialty crops. First, we will develop 15 specialty crop nutrition, preparation, storage, and use cards to be distributed for free at the Champaign Farmers Market and on the TLC website. Second, we will develop and write a weekly blog series as a companion to the specialty crop cards, providing more in-depth knowledge about each featured Illinois specialty crop. Finally, we will build and launch a specialty crop online resource portal to act as a centralized digital library of free information, research, and programming deliverables from The Land Connection and other organizations.	$32,465.36

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Illinois Department of Agriculture	$691,673.37	Grafting to Increase Yield, Fruit Quality, and Antioxidant Capacity of Heirloom Tomatoes in Hydroponic Culture	Western Illinois University will conduct research to determine the effect of grafting on yield, fruit and antioxidant capacity of heirloom tomatoes grown hydroponically. The Illinois market for hydroponic production is growing, as there is a large consumer demand for fresh and local tomatoes year-round. Similarly, heirloom tomatoes have gained popularity in recent years, due to a consumer demand for authentic food experiences, and the associated health benefits. The objectives are to determine 1) the effect of grafting on the yield and fruit quality of heirloom tomatoes grown hydroponically and 2) the effect of grafting on fruit chemistry (pH, brix, antioxidant capacity and content) in heirloom tomato varieties. Illinois growers will benefit by being able to make educated decisions regarding profitability from production of heirloom tomatoes. This research may lead to increased profitability via improving production through grafting and hydroponic culture, and the opportunity to market heirloom tomatoes for their health benefits.	$31,883.45
Illinois Department of Agriculture	$691,673.37	Variety selection and Integrated Pest Management for Production of High-Value Crops in High-Tunnels in Illinois	Western Illinois University will conduct research and deliver educational programs on variety selection and best management practices for tomato and pepper production in high tunnels for IL growers. High tunnels are steadily gaining popularity for enhanced crop production throughout Illinois. Most high tunnel growers focus on production of high value crops such as tomatoes and bell peppers to quickly recoup the cost of erecting a high-tunnel. Producers have many options in choosing varieties to grow, but uncertainty remains in which varieties perform best for high tunnel production in Illinois. Proper variety choice is critical to growers for financial success of their operation. Currently, data is lacking on what varieties of tomatoes and peppers maximize return on investment for IL high tunnel growers. This research will determine which tomato and bell pepper varieties are best suited for high tunnel production in Illinois.	$45,990.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Illinois Department of Agriculture	$691,673.37	Improving food safety and shelf-life of strawberries using a mobile UV cooling technology	The Southern Illinois University will help strawberry growers of Illinois to comply with the produce safety rules of the Food Safety Modernization Act by improving food safety, quality and shelf life of fresh strawberries by developing a sanitizing technology and safe handling practices employing a mobile UV cooler. The results will be disseminated to strawberry growers through in-campus workshops and field visits with hands-on trainings to growers. In addition, presentations will be made at the Specialty Crops and Gateway Small Fruits conferences. Fact sheets will be published on SIU and Illinois Extension websites and social media for safe use of mobile UV cooler by strawberry growers.	$107,197.00
Illinois Department of Agriculture	$691,673.37	Demonstration of apprentice farmer program viability and working model of farm diversification through organic permaculture	The Liberty Prairie Foundation will pilot an apprenticeship farmer training approach to evolve an existing model for beginning farmer education. This pilot project also provides farm diversification that enhances the competitiveness of these specialty permaculture crops through increased market awareness, greater ecological sustainability through the conservation and improvement of soil health and creates a more diverse and resilient specialty crop system on the Prairie Crossing Farm. This grant request would allow for the development of an “Apprenticeship Program” in partnership with our resident farm, Prairie Wind Family Farm. The program would be piloted through the development of existing farm managers growing into apprentice farmers to establish a new permaculture segment of the farm business. Together, the farmer and apprentices would plan, procure, plant, tend and eventually harvest to sell products for an established 200+ member CSA program, small-scale wholesale, and farmers markets. After establishing this pilot, the program will be evaluated to determine the additional apprenticeship opportunities that exist.	$33,012.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Illinois Department of Agriculture	$691,673.37	Expanding Small-scale Hops Farming in IL	Partnering with N&F Farms, Wertheim Enterprises is looking to expand hops farming in the state of IL by providing the background, opportunity, and feasibility of hops farming for other small-scale farmers to learn from and for large scale farmers looking to diversify. This will be accomplished by 1) expanding the current hops test plot to showcase the varieties best suited for IL soils, 2) provide on-site training through spring installation, summer maintenance and fall harvesting via hand-on learning, 3) provide education to the local consumer via invitational seminars throughout the state at Specialty Crop Conference(s); farmer's markets, local extension offices, microbreweries & FFA chapters throughout IL, and 4) partnering with the other three hops farms in IL to form the IL Hops Association & Cooperative.	$22,714.00
Illinois Department of Agriculture	$691,673.37	Evaluation of Cover Crops & No-till Production Practices for Fresh Market Tomatoes & Peppers	The University of Illinois will investigate the use of cover crops and no-till production for fresh market tomatoes and peppers compared with traditional production systems through field research and on-farm grower trials. They will use this research to determine best management practices to share with growers through field days, webinars, and grower production meetings.	$93,755.00
Illinois Department of Agriculture	$691,673.37	Utilizing High Tunnels to Maximize Winter Vegetable Production	The University of Illinois will utilize a high tunnel at the Dixon Springs Agricultural Center, Simpson, IL, to determine optimum production system parameters to maximize yield and quality during the winter production of carrots, lettuce, spinach, and kale. Replicated research trials will be conducted over two growing seasons to determine optimal planting dates and production practices to maximize yield. Results will be shared with stakeholders during on-site grower field days, newsletter articles, and state and regional conferences.	$80,888.00
Illinois Department of Agriculture	$691,673.37	Pest Degree-Day Tools for Specialty Crop Producers	The University of Illinois' Prairie Research Institute will create pest degree-day tools such as crop specific calculators, maps, and graphs that focus on specialty crops to help producers detect pest presence, predict pest development and make improved pest management decisions. The new tools will include historical and forecast degree-day information, along with pest development information in formats that are mobile friendly. The success of the project will be determined by monitoring the use of the new tools on the website and in the media.	$40,563.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Illinois Department of Agriculture	$691,673.37	Social Computing for Enhancing Food Safety and Quality of Fresh Produce in Illinois Farmers' Markets	The University of Illinois at Urbana-Champaign will develop a new social computing method to analyze consumers' postings on social media regarding their experiences visiting (shopping at) local farmers' markets (FMs). Comments and reviews about FM specialty crops from Yelp and Twitter will be analyzed using state-of-the art information technologies including text mining, machine learning, and network analysis. The findings will be used to enhance the food safety and quality of locally grown produce at Illinois FMs through prompting communication between farmers and consumers, and through educational and outreach activities.	$59,529.00
Illinois Department of Agriculture	$691,673.37	Development of butterfly milkweed varieties with low seed dormancy and high seed yield	The University of Illinois will address consumer/producer challenges of establishing pollinator habitats with limited seed supply by developing local Illinois butterfly milkweed (Asclepias tuberosa) varieties, which will have low seed dormancy for easy establishment and high seed yield for economic benefits for seed producers. Results will be disseminatedto local farmers/seed producers through specialty crop conferences and field days.	$66,476.00
Illinois Department of Agriculture	$691,673.37	Educational Support, Outreach, and Marketing for Illinois Specialty Crops	The Illinois Specialty Growers Association (ISGA) will offer educational opportunities for specialty crop farmers at four regional programs and at the annual Illinois Specialty Crop, Agritourism, and Organic Conference. This project will provide specialty crop growers the opportunity to become informed on production and marketing topics pertaining to their industry, including keeping up-to-date on some of the newest methods and techniques to ensure top grower performance.	$59,150.00
Illinois Department of Agriculture	$691,673.37	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$400.50

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Indiana State Department of Agriculture	$495,628.26	Value-adding Educational Program Enhancing Food Safety for Fruit and Vegetable Specialty Crop Growers	Purdue University will work in partnership with Indiana fruit and vegetable specialty crop farmer groups to develop a science-based value-adding educational program for fruit and vegetable specialty crop growers, addressing the stakeholders' unique barriers to entry for value-added businesses and enhancing food safety and food regulation education. To increase profits and utilize the abundant produce, there is a trend for fruit and vegetable specialty crop growers to process and turn the produce into value-added food products. This project will utilize qualitative and quantitative research approaches (including surveys, focus groups, and curriculum) to develop and evaluate a value adding educational program enhancing food safety for fruit and vegetable specialty crop growers addressing their unique barriers.	$55,554.00
Indiana State Department of Agriculture	$495,628.26	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$11,615.40
Indiana State Department of Agriculture	$495,628.26	Indiana Grown Specialty Crop Member Representative and Produce Marketing Association Show	Indiana Grown will connect with specialty crop growers, gather information about who is growing what products throughout the state, and connect them with resources specific to their production needs. Indiana Grown will also aid specialty crop producers who plan to attend the Produce Marketing Association show in 2019, which is a valuable sales opportunity for many farmers through the state. Lastly, we will be developing several Indiana Grown "trails" to Indiana U-Pick destinations, pumpkin patches, etc. to encourage visits to specialty crop producers.	$97,971.75

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Indiana State Department of Agriculture	$495,628.26	Increasing the productivity, profitability, and sustainability of high tunnel production systems for Indiana specialty crops	Researchers at Indiana University Bloomington (IUB) will investigate the use of moveable high tunnels as an improvement on stationary high tunnels and open field production practices for specialty crops in Indiana. This project will establish a long-term field trial on the new IUB campus farm to assess each of these three production environments under winter fallow and winter cover crop rotational practices. Climatic conditions, soil fertility levels, pest and disease occurrence, productivity, profitability, and other variables will be assessed at this trial and at nearby commercial operations relying on similar management strategies. This assessment will allow IUB researchers to identify limiting factors of stationary high tunnel systems and develop both mitigation practices and alternative systems based on moveable high tunnels. Additionally, the project will create a series of farm tours and hands-on educational workshops for high school agriculture students, and 4H/FFA Junior leaders, providing experiential learning opportunities for the next generation of specialty crop farmers in Indiana.	$121,899.00
Indiana State Department of Agriculture	$495,628.26	Diversification of the Indiana Melon Industry	Purdue University will address the demand for high quality specialty melons by evaluating a selection of melon types currently not commercially grown in Indiana. Additionally, we will test production technologies that have not been used before for melon production in Indiana and are expected to increase yield and enhance product quality. The project will identify superior melon varieties and production technologies that are suitable for open field and high tunnel production. Researchers will select several types of specialty melons to evaluate production feasibility under conventional and high tunnel systems at research sites in west central and southwest Indiana. We will develop crop budgets that address risk and feasibility analysis, as well as evaluate consumer preferences and market demand. As a result of this work, the need for increasing specialty crop productivity and profitability in Indiana will be addressed. Research focused on specialty melons is essential for continued growth and sustainability of this important industry.	$126,071.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Indiana State Department of Agriculture	$495,628.26	A Training Model for Maximally Efficient Production and Diverse Distribution for Specialty Crop Growers	Growing Places Indy (GPI), a 501c3 non-profit urban farm, was established in 2009 and farms nearly two acres of land in Indianapolis on five different sites. This project will focus on two intended outcomes. The first outcome is for GPI to solidify the organization of a model for maximally efficient production of specialty crops by utilizing robust planning, targeted and timely plantings and stacked agricultural systems. Furthermore, we will solidify the organization of a system for diverse distribution of specialty crops through at least 15 unique outlets including multiple restaurant sales, a CSA program, grocery sales, wholesaling, farmers markets, on-site farm stand and food focused classes/training programs.	$35,227.50
Indiana State Department of Agriculture	$495,628.26	Good Neighbors Program	The Indiana Winery and Vineyard Association (IWVA) is a statewide association of wineries and vineyards that was established in 1975. Since then, IWVA has grown into a strong advocacy organization, representing Indiana winemakers and grape growers on legislative and regulatory issues. Over the past two years, the membership has reported significant damage in their vineyards due to the growing problem of pesticide volatility and drift. As new seed modifications emerge, agricultural chemicals and application practices evolve as well, creating unintended consequences when pesticides leave the intended target and move into neighboring fields. Because drift incidents are nearly always accidental, preventive education should be an important tool in addressing the problem. IWVA is proposing to launch a Good Neighbors Program to foster increased communication and cooperation among farmers to reduce the growing problem of drift damage among specialty crops, thus protecting yields and increasing economic returns.	$35,227.50

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Indiana State Department of Agriculture	$495,628.26	Fruitful Future for Students: Munster Fruit Gardening	Purdue Extension-Lake County will partner with Munster High School to create a school orchard. This project will increase student involvement in growing and the harvesting of produce and increase the consumption of fruits in the diets of students and their families. Munster High School was recently STEM certified by the AdvancedEd accreditation organization. The accreditation process requires a school wide interdisciplinary project. The Munster Fruit Garden will be an integral component of that project. The 21st Century Garden will be using technology to assist with growing plants and rain water collection systems the students will develop that will link to the irrigation system to water the plants. Along with that, there will be sensors to determine if the soil is properly moistened so that plants are not over or under watered. Students will also design and build garden beds, plan and host a community dinner, and work to develop a business plan that would allow them to sell their produce at the Munster Farmer's Market. Students from all areas of the school will participate in the project.	$11,647.00
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Evaluating Biodegradable Mulches as a Sustainable Weed Management Tool for Iowa Vegetable Growers	Vegetable growers in Iowa face several production challenges including erratic weather, insect and disease pressure, weeds, and short growing seasons. This directly affects crop development, yield, fruit quality, and ultimately grower profitability. The goal of this two-year study is to help vegetable growers sustainably manage weeds using biodegradable mulches. Iowa State University will conduct research on evaluating several biodegradable mulch materials available in the market to learn how well biodegradable mulches perform compared to conventional mulches, the duration and effectiveness of application, and the economic feasibility of using biodegradable mulches. Pepper plants will be used as the test crop at the Horticulture Research Station in Ames, Iowa. Research findings will be highlighted through field days, workshops, and research tours.	$23,969.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Evaluation of Commercially Available Disease Models and Raw Data Input Models for Predicting Fire Blight in Iowa	Iowa State University will collaborate with Deal's Orchard to provide a climate system capable of predicting fire blight. Using commercially available disease forecasting software, project leaders will compare weather data with disease presence via plant diagnostic testing. With the overall goal to monitor climate over two growing seasons to determine strategies to suppress disease and reduce pesticide use. Research findings will be disseminated at grower meetings, at climate system open houses, newsletters and extension publications to help develop a weather-based spray program.	$23,208.00
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Preparing Direct-to-Consumer Growers for the Wholesale Market: MarketReady as a Tool to Diversify Farm Operations	Iowa State University's Extension and Outreach Local Foods Program will provide training for farmers interested in expanding their production and marketing systems to include wholesale and intermediate markets. Profitability is critical to the success of local food systems and many small to mid-size farmers are looking to diversify their operations to sustain a profitable farm business model.	$23,618.00
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Farmer-to-Farmer Knowledge Sharing to Improve Specialty Crop Quality and Profitability	Since 1985, Practical Farmers of Iowa and our members have specialized in farmer-to-farmer knowledge sharing. Members of Practical Farmers of Iowa who are beginning and advanced specialty crop farmers are always looking to improve their product quality and profitability and have identified that working crop-by-crop and learning production, harvest and packing systems from other farmers is an invaluable learning process that provides actionable ideas for their own farm. The goal of this project is to improve the competitiveness of specialty crops in Iowa through in-depth, crop-specific knowledge sharing among farmers at conferences, field days, and through on-farm research.	$24,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Building on Lessons Learned: Increasing Refugee Producers' Capacity to Teach and Train Each Other	Many of the refugee groups settling in Iowa have spent most of their lives farming and have expressed a strong desire to farm in Iowa as well. Since 2011, Lutheran Services in Iowa (LSI) has been working with members of the various cultural groups to create the Global Greens program, which provides opportunities for growers to be re-connected to the land. Through this project, LSI will provide classroom, in-field and experiential trainings for farmers to improve their skills and knowledge in the areas of specialty crop production. Technical assistance in the areas of purchasing equipment, crop planning, accessing insurance and accounting services, loan applications and various certifications will be provided.	$24,000.00
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Are High Tunnel-Grown Peaches Profitable for Iowa?	Two faculty members at Iowa State University will lead research efforts to provide information to prospective growers interested in peach production in Iowa. High tunnel-grown peaches and field-grown peaches will be compared. Peach trees in both systems were established in May 2016 using identical planting methods with the same tree spacing and row orientation. Through this project, we will determine whether growing peaches in a high tunnel is both practical and economical for Iowa farmers wishing to diversify their crops.	$23,149.60
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Increasing Yield and Reducing Heating Costs for Food Crops by Revising Greenhouse Temperature Management	Iowa State University will increase the productivity and yield of food crops grown in greenhouses and reduce the amount of energy required to heat greenhouses by developing new guidelines for managing air temperature. This will be accomplished through scientifically based quantification of plant responses to reduced night temperatures and increased day temperatures along with computer modeling of the energy requirements of these temperature regimes. Results will be distributed through grower meetings as well as industry and Extension publications.	$23,919.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Cultivating Opportunity for Iowa Farmers in the Woody Ornamental Industry	Throughout this two-year project, the Iowa Valley Resource Conservation and Development (IVRCD) will work with producers to incorporate woody ornamentals into their farm operation, conduct outreach to the floral industry, bring together floral product buyers and producers, and inform the agricultural community on these crops to benefit farmers and the markets alike. IVRCD will partner with two farms to establish woody ornamentals in their operations. These farms will participate in discussions with IVRCD staff to monitor progress and present the findings of the field trials to the agriculture community at area conferences. IVRCD will concurrently partner with florists to assess demand, price, product quality and quantity and relationships with area growers. Outreach with florists will help inform the on-farm production system, as well as handling, distribution, and marketing.	$12,000.00
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Reducing Phosphorous Applications to Ornamental Greenhouse Crops	Iowa State University will reduce the amount of phosphorous applied to potted flowering plants and containerized annuals and perennials grown in greenhouses by developing new guidelines for applying fertilizers with reduced phosphorous concentrations. The scientific-based quantification of minimum phosphorous requirements will be determined to grow aesthetically appealing and marketable plants. Results will be distributed through grower meetings as well as industry and Extension publications.	$22,959.00
Iowa Department of Agriculture and Land Stewardship	$334,269.77	My Family's Apple Farm	The Iowa Agriculture Literacy Foundation will increase the educational material available to teach about fruit tree production in Iowa by developing the next book in a series entitled My Family's Apple Farm. The book will be accompanied by lesson plans and instructional materials to assist teachers with linking apple production to science, social studies, and language arts curriculums. The book will target 3rd grade learners and highlight apple production in Iowa, local marketing and sales channels, and practices to ensure food safety from microbial and chemical sources. Books will be distributed to schools, libraries, apple growers, and others interested in teaching about apple production.	$13,175.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Iowa Department of Agriculture and Land Stewardship	$334,269.77	The Iowa Department of Agriculture and Land Stewardships' Iowa Specialty Crop Awareness Social Media Marketing Campaign	The Iowa Department of Agriculture and Land Stewardship will conduct a social media marketing campaign for Iowa specialty crops with an outcome to increase awareness about specialty crops grown in Iowa, as well as an increase consumption of specialty crops. The campaign will target social media users by showcasing specialty crops in Iowa and educating when and where to find these specialty crops.	$96,002.00
Iowa Department of Agriculture and Land Stewardship	$334,269.77	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$24,185.72
Kansas Department of Agriculture	$349,025.48	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$16,914.00
Kansas Department of Agriculture	$349,025.48	Fresh Food Matters	Because Fresh Food Matters, a Children First (non-profit and lead organization) will partner with Legacy Ministries (non-profit organization) and Victory Gardens (for-profit company) to educate 540 individuals (many living in poverty) about increasing specialty crops consumption, 2) increase access points with a new farmers' market located in a low-income neighborhood, and 3) create jobs to produce more specialty crops.	$61,512.00
Kansas Department of Agriculture	$349,025.48	Taking the Next Steps in Pulse Crop Development for Kansas	Pulse crops offers an opportunity to diversify Kansas crop production systems with a high value specialty crop for human consumption. Field peas are being adopted as an alternative crop in the state with an estimated 15,000 acres planted in 2018. Kansas State University will lead an effort to evaluate and characterize over 300 potential genetic sources of heat tolerance that could lead to the development of field pea varieties that are better adapted to Kansas. In addition to peas, lentil and chickpea are other potentially suitable pulse crops. We will evaluate the potential for lentil and chickpea production in Kansas and develop research-based management recommendations for all three crops.	$74,866.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Kansas Department of Agriculture	$349,025.48	Expanding Production and Markets of Fruit and Vegetables in North Central Kansas	The North Central Regional Planning Commission (NCRPC) will partner with local producers, grocers and Advancing Rural Prosperity, Inc. (ARPI) to expand vegetable and fruit production and markets in the North Central Kansas (NCKS) region and facilitate market linkage to the larger food shed through the High Plains Food Coop. The outcomes this project is striving to achieve are to: • Increase supply of specialty crops from NCKS producers. • Increase markets for specialty crops through local grocers. • Expand markets of local food products from NCKS through High Plains Food Coop (HPFC) market system. • Improve the local economy as a result of specialty crop development.	$39,750.00
Kansas Department of Agriculture	$349,025.48	Growing Specialty Crop Producers in South Central Kansas	The Extension Education Foundation, Inc. will increase the number of successful specialty crop producers growing fruits and vegetables for direct market sales in south central Kansas. This will be done through collaboration with county Extension agents, K-State Research & Extension specialists, local non-profits, and other area partners to develop and implement a regionally appropriate Growing Growers program. The program will combine apprenticeship opportunities with workshops designed to educate new, beginning, and socially disadvantaged producers about recommended production practices, efficient use of pesticides, fertilizer, and water, and best food safety practices.	$50,413.50
Kansas Department of Agriculture	$349,025.48	Expansion of Blueberry Production in Kansas with Greenhouse and High Tunnel Growing Methods	Kansas State University will develop alternative production methods to grow blueberries in Midwest greenhouses and high tunnels that support water savings and year-round production. A market analysis and marketing plan will be developed to aid growers in selling their locally produced berries. Project outcomes include development of hydroponic (water culture) and container blueberry production methods with enterprise budgets, market analysis, and outline of a marketing program that may include opportunities for Agri-tourism. Novel production methods will be evaluated in greenhouses in Manhattan, Kansas, and high tunnels in Haysville, Kansas.	$33,707.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Kansas Department of Agriculture	$349,025.48	KDA Education Program: Great Lakes Expo Fruit, Vegetable & Farm Market	Specialty crops are a growing industry in Kansas. The Kansas Department of Agriculture recognizes there are insufficient learning opportunities available to Kansas growers. The Great Lakes Expo, held each December in Michigan, will provide Kansas specialty crop growers an opportunity to learn and discover valuable tools and resources that will help them be more competitive and discover new opportunities. The beneficiaries of this project will learn more about topics such as: fruit crops, vegetable crops, other specialty crops, greenhouse crop production and marketing, farm marketing ideas and operations, farmers' markets and organic production and marketing.	$35,527.62
Kansas Department of Agriculture	$349,025.48	Growing the Vegetable Producers Community with a Specialty Crop Growers Association	The goal of this project is to develop a statewide Specialty Crop Growers Association that will further communication, education, organization, and action amongst the industry.	$36,158.00
Kentucky Department of Agriculture	$340,770.96	Production & Marketing Resources for Kentucky Specialty Crop Growers	The University of Kentucky Center for Crop Diversification will create and update science-based specialty crop production and marketing resources with relevant information on crop varieties, production practices, crop budgets, and Kentucky prices for specialty crops in multiple marketing channels, and disseminate these resources to stakeholders online and at grower conferences, meetings and field days.	$49,999.00
Kentucky Department of Agriculture	$340,770.96	Developing Sustainable Protection Systems for Flea Beetle Control	A multi-disciplinary team of researchers at the University of Kentucky will evaluate several control strategies to develop a research-based production system for controlling flea beetles in a range of crops for organic growers in Kentucky and the southeast. The project will compare current standard but ineffective systems for flea beetle control with a recently developed nylon mesh material called ProtekNet that excludes flea beetles and has numerous advantages over traditional exclusion materials, such as heat dissipation, high strength, and water permeability. This system will also be applicable to conventional growers interested in reducing pesticide usage and will therefore help increase the overall sustainability of specialty crop production in Kentucky.	$74,705.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Kentucky Department of Agriculture	$340,770.96	Seeds for Change	The Housing Authority of Bowling Green Seeds for Change program will promote healthy eating among Housing Authority residents and in the community. Residents will continue to develop community gardens, swales for vegetable growing, as well as low tunnels for planting. Educational materials will be distributed about specialty crops to adults and youth. The project will help develop food production/preparation/preservation training for a diverse cultural population. The project helps to benefit Kentucky's specialty crop industry as it can open new markets and knowledge of production for newer residents and cultural populations, many of whom bring produce species from their own native countries to introduce to the traditional farmer's market crop.	$32,000.00
Kentucky Department of Agriculture	$340,770.96	Cooperative Sharing of Hop-Specific Machinery and the Continued Dissemination of Best Practices for New and Experienced Hop Growers	The Kentucky Hop Growers Alliance (KHGA) will cooperatively share hop specific machinery, will disseminate hop production specific knowledge, and will enhance the competitiveness of Kentucky grown hops through the application of quality standards and practices. Outcomes from the project and tasks to be completed during the project lifecycle include the purchase of and cooperative sharing of processing equipment in the form of a hop harvester. Additional outcomes and tasks include the dissemination of hop specific knowledge through meetings, field days, and media outlets.	$30,500.00
Kentucky Department of Agriculture	$340,770.96	Plate It Up! Kentucky Proud Mobile Kitchen Project	The University of Kentucky will partner with the Kentucky Department of Agriculture to increase demand for Kentucky specialty crops by linking the expertise of faculty and staff in Dietetics and Human Nutrition with extension agents, community partners, and producers. The Plate It Up! Kentucky Proud (PIUKP) project will design and utilize a mobile PIUKP cooking, teaching, and sampling "kitchen" that will be utilized throughout the state as a tool to provide innovative and impactful programming to increase child and adult nutrition knowledge and consumption of specialty crops. The PIUKP Mobile Kitchen will garner attention and provide an avenue to promote consumer purchase and preparation of locally grown fruits, vegetables, nuts, and herbs, thus improving health and supporting local specialty crop producers.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Kentucky Department of Agriculture	$340,770.96	Enhancing adoption of biological control for arthropod pests in high tunnels and greenhouses in Kentucky	The University of Kentucky will demonstrate to producers and county extension agents that biological control is a reliable, economical, and sustainable pest management technology for high tunnel and greenhouse vegetable systems and will educate these two groups on the best practices for biological control in these production systems. The steps to achieve this goal, include (1.) grower and county extension agent needs assessments, (2.) creating education materials and programs focused on best practices and procedures for biological control in high tunnels, and (3.) on-farm demonstrations of biological control as a reliable and economical pest management technology for these systems.	$19,798.00
Kentucky Department of Agriculture	$340,770.96	Specialty Crop Community Outreach	Eastern Kentucky University's Red Barn Garden will collaborate with the Madison County Extension office and other youth gardening experts to organize field days at the garden to present educational talks and activities for elementary and high school youth as well as adults in the community and local farmers. The field day activities will be designed to increase awareness and consumption of specialty crops and to demonstrate technologies available to improve food safety. Land in this service region is available and could be farmed to reduce the number of food deserts in the area. By providing education and practical experience to potential farmers and community members, landowners could be better prepared to use their land to grow fruits and vegetables to offer their community.	$27,884.00
Kentucky Department of Agriculture	$340,770.96	The Development of the Hops Industry in Western Kentucky through increased Access to Processing and Marketing	The Murray State University Hutson School of Agriculture will enhance the competitiveness of the hops industry resulting in increased yield, efficiency, and economic return. Further, increased access and sales will be achieved for multiple growers through the outcomes of this project. These outcomes will be accomplished through growth and management studies of various hops varieties over the course of the project. This will include the planting of 10 different varieties of hops to determine the most beneficial varieties and cultivation methods. This project will allow growth tests that can be evaluated and shared with others in the region through Murray State sponsored field days and other educational events	$28,556.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Kentucky Department of Agriculture	$340,770.96	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$27,252.00
Louisiana Department of Agriculture and Forestry	$406,999.83	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$32,539.93
Louisiana Department of Agriculture and Forestry	$406,999.83	Growing Healthy Louisiana Kids	BREADA will increase awareness of Louisiana-grown specialty crops to children ages 2 to 12 by incorporating gardening activities, cooking demonstrations, and educational information sessions at both the Red Stick Farmers Market and with students at Ryan Elementary School located in an area with limited access to fresh produce.	$24,400.00
Louisiana Department of Agriculture and Forestry	$406,999.83	Louisiana Strawberry Industry Child and Adult Education Program	The Louisiana Strawberry Marketing Board will educate children and adults about Louisiana strawberries including the nutritional benefits, availability, storage and handling, and preparation by developing a short educational video and activity booklet for child education at schools, summer camps, aftercare, daycare and other school events. A brochure will also be created for adult education at farmers' markets, grocery store samplings and other events such as Ag Expo, increasing their knowledge about eating and encouraging them to eat more Louisiana strawberries, enhancing the competitiveness of this specialty crop through increased consumption.	$29,560.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Louisiana Department of Agriculture and Forestry	$406,999.83	Reducing Pathogen Loads on Produce with Water Soluble Bacteriocins of Lactic Acid Probiotic Bacteria	Water soluble bacteriocins from lactic acid bacteria (probiotics) (LAB) produced using a novel bioprocessing technology at LSU Agricultural Center may reduce pathogenic loads on produce surfaces. Bacteriocins produced by LAB are generally regarded as safe (GRAS). Pathogenic bacteria in irrigation water and from wildlife can contaminate produce. The proposed study is to determine the effectiveness of the bacteriocins in reducing Listeria and Escherichia coli levels on the surface of cantaloupe. Consumers are concerned about possible adverse health effects from the presence of chemical antimicrobial agents on produce. Consumers are drawn to natural and "fresher" foods with no chemical agents added. Application of food grade and environmentally friendly BC should be more attractive to consumers and is expected to be effective in reducing pathogen loads and to enhance both quality and safety.	$58,160.00
Louisiana Department of Agriculture and Forestry	$406,999.83	Louisiana Greauxing Gardens Programs	The competitiveness of Louisiana grown specialty crops will be enhanced through a partnership between the Louisiana Department of Agriculture and Forestry (LDAF) and the LSU Agricultural Center (LSU AgCenter) Cooperative Extension Service to provide schools and community groups the Louisiana's Greauxing Gardens Program (LGG). First, two gardening leaders from each of the 100 school and community group awardees selected to participate in the Louisiana's Greauxing Gardens Program will receive a gardening training and on-site consultation/visit by LSU AgCenter horticulture specialists and LDAF LGG Director. Additionally, the two gardening leaders will participate in an end-of-project celebration/project sustainability meeting. Third, each LGG award recipient group will be provided a Greauxing Garden Kit including the essential materials needed to successfully grow a garden. An estimated 2,000 children and adults will be exposed to and consume Louisiana specialty crops they have grown through their own efforts. Additionally, participants' will gain knowledge of healthy nutrition practices, gardening skills and food preparation techniques.	$127,280.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Louisiana Department of Agriculture and Forestry	$406,999.83	Develop Antimicrobial Packaging to Maintain the Quality & Safety of Fresh Produce	With the enactment of the Food Safety Modernization Act (FSMA) Produce Safety Rule it is critical to look at technologies that Louisiana producers can use to maintain a safe, unadulterated product as it enters the food chain. This project will be conducted at the LSU AgCenter and will evaluate the use of antimicrobial compounds coated inside the packaging materials for slow release to actively check the growth and cross-contamination of spoilage and pathogenic microorganisms. This advancement in antimicrobial packaging will help Louisiana produced specialty crops such as strawberries, blueberries, melons and leafy greens to maintain the quality, increase shelf life and reduce the food safety risk. This will increase the competitiveness and economic return of Louisiana produced specialty crops.	$48,900.00
Louisiana Department of Agriculture and Forestry	$406,999.83	Developing Awareness of Louisiana Specialty Crops at Indian Creek	The Louisiana Department of Agriculture and Forestry (LDAF) will develop awareness of, access to, and consumption of Louisiana's specialty crops by hosting four specialty crops festival events reaching 6,000 participants at Indian Creek Recreation Area (Indian Creek) in central Louisiana for the public. Specialty crop growers in the region and their crops and products will be featured to invited visitors/consumers. Specialty crops to be featured are Christmas trees and poinsettias, as well as locally grown fruits and vegetables. The festivals will build upon two established and successful events at Indian Creek that draw large crowds of participants.	$34,526.21

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Louisiana Department of Agriculture and Forestry	$406,999.83	Southeast Louisiana Specialty Crop Farmers Education & Technical Assistance for Control of Wild Hogs	This one-year project will solely enhance the competitiveness of southeast Louisiana produced specialty crops of fruits, nuts and vegetables by implementing an education and technical support program for specialty crop producers on abatement of a serious, invasive, agricultural pest - wild hogs. Louisiana Department of Agriculture and Forestry (LDAF) will educate and provide technical assistance to southeast Louisiana specialty crop producers of fruits, vegetables and pecans in mitigating the damage by wild hogs to specialty crops in eight parishes in southeast Louisiana. Specialty crop producers will receive information and training opportunities, as well as individualized technical assistance, on best pest management practices in wild hog trapping. Project activities include educational outreach including presentations, workshops, trainings and seminars to groups; on-farm technical assistance/consultations; on-farm trapping demonstrations; and trainings to groups of interested specialty crop farmers on forming a local, producers' wild hog cooperative to address the invasive species and pest across southeast Louisiana. LDAF will work with specialty crop serving groups and associations, individual specialty crop producers, local parish chapters of Farm Bureau, and parish and state Extension personnel to achieve the program outcome.	$51,386.00
Maine Department of Agriculture, Conservation, and Forestry	$585,268.02	Improving blueberry production with IPM for weeds and diseases.	This project would prevent $32.6 million in annual grower losses and sustain $128 million in value added economic activity per year to Maine. Over the past several years wild blueberry growers have consistently ranked controlling weeds and diseases as two of their top concerns for sustaining crop production and yield. This project will continue to: (1) evaluate herbicide efficacy and compare weed management costs for both conventional and organic systems, (2) evaluate the best timing of fungicides for control of mummy berry and leaf spots by determining when spore dispersal occurs and determine the cost effectiveness control of these diseases considering their impact on yield.	$99,880.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Maine Department of Agriculture, Conservation, and Forestry	$585,268.02	Developing sulfur recommendations for Maine potato growers	The University of Maine Cooperative Extension, a unit of the University of Maine System acting through the University of Maine, will develop sulfur (S) recommendation for Maine potato growers to improve Maine potato yield and quality. Objectives of this study are to create robust recommendations, with multiple sites that will include varied soil textures, soil moisture, and weather conditions. Yield, quality, soil moisture, weather data, uptake, tissue sampling, and soil physical, chemical, and biological data will be used for this study. This will help in managing variably, which will benefit in reducing its application rates. Since recommendations will be economical using potato size, and other quality parameters, growers will be able to decide whether additional S application will improve their revenue.	$58,664.00
Maine Department of Agriculture, Conservation, and Forestry	$585,268.02	Keeping up with the produce safety rule	AgMatters LLC's "Keeping Up with the Produce Safety Rule" three-year proposal, will offer all Maine Specialty Crop Growers opportunities to be made aware of the Produce Safety Rule of FSMA and the guidance needed to take steps to implement it. It will ensure that growers are updated as the law evolves; offer guidance to growers of options they may have and serve as an information funnel for those looking for solutions to issues they many need to solve to comply with current safety standards.	$42,963.00
Maine Department of Agriculture, Conservation, and Forestry	$585,268.02	Maine Potato Integrated Pest Management - 2019	To ensure an adequate response to the pest-related hazards confronting potato growers, the University of Maine System acting through the University of Maine Cooperative Extension Potato Integrated Pest Management (IPM) Program will provide support through field monitoring, disease forecasting, and distribution of educational materials. The program will employ 10 seasonal aides, maintain 200 specialized insect traps, coordinate a Maine-specific network of satellite weather information (Skybit) sites to aid in disease forecasting, and survey 75 potato fields on a weekly basis.	$99,571.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Maine Department of Agriculture, Conservation, and Forestry	$585,268.02	Plant Something at School" a Two Year, Coordinated Outreach Program to Maine's PK-12 Students in Support of Maine's Nursery and Landscape Specialty Cr	The Maine School Garden Collaborative (MSGC), a group of four partners, consists of Maine Agriculture in the Classroom (MAITC), ReTreeUS, Maine School Garden Network (MSGN) and MELNA. This program has developed as an offshoot of MELNA's successful Plant Something! Plant ME! (PSPM!) marketing effort supported by SCBGP in the last three years. This coordinated outreach will include new resources for school gardens, newly planted school orchards, and the publishing of a new children's book in the "Agriculture for ME" series promoted with the "Plant Something at School!" marketing vehicle.	$52,070.00
Maine Department of Agriculture, Conservation, and Forestry	$585,268.02	Effects of Phenology and Fertilizer Applications on Wild Blueberry Production and Pests	This project will: (1) evaluate new fertilizer products and their impacts on weed and disease pests. (2) Study the effects of temperature changes and fertilizer applications on wild blueberry productivity, weed pressure, and disease incidence. The results of this project will provide guidelines on fertilizer applications and revised weed and disease control recommendations thereby increasing wild blueberry farm efficiency and profitability.	$43,887.00
Maine Department of Agriculture, Conservation, and Forestry	$585,268.02	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$42,095.84
Maine Department of Agriculture, Conservation, and Forestry	$585,268.02	Scaling Up Alternative Crop Production in Maine Potato Cropping Systems	The objective for this project is to work with collaborating growers and provide them with agronomic and crop production resources so they can begin to or expand their production of alternative crops to continue to add to the diversity of potato cropping systems.	$100,000.00
Maine Department of Agriculture, Conservation, and Forestry	$585,268.02	Food Safety Planning	AgMatters LLC's "Food Safety Planning" is a three-year proposal that will provide growers the training and understanding needed to streamline recordkeeping processes that comply with third-party audit standards as well as the Produce Safety Rule.	$29,163.00
Maryland Department of Agriculture	$497,987.44	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$59,807.93

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Maryland Department of Agriculture	$497,987.44	Mitigating Salmonella risk on Maryland farms through knowledge-based practices and farmer education	This project will bring together a food safety microbiologist (Dr. Shirley Micallef, Associate Professor), a food safety educator (Ms. Justine Beaulieu, Agent Associate) and an agricultural and Extension education expert, (Dr. Melissa Leiden Welsh, Assistant Clinical Professor of Agricultural Education). All personnel are affiliated with the University of Maryland's Department of Plant Science and Landscape Architecture (PSLA), in College Park, MD. Dr. Micallef will supervise a Faculty Research Assistant (Mary Theresa Callahan) in PSLA to conduct field and laboratory work associated with the project.	$143,202.00
Maryland Department of Agriculture	$497,987.44	GIS analysis of Maryland to identify regions suitable for the cultivation of truffles	Chesapeake Truffle will research the GIS data available from the state of Maryland, along with its supporters, to determine if highly valuable specialty crops such as Black or Burgundy truffles may be cultivated at new or existing sites. The existing GIS data will be analyzed by experts in the truffle trade from Europe and by the team from Chesapeake Truffle, who will then visit the most opportune locations in Maryland to retrieve soil samples for further analysis and validation of the proposed sites. The data will be provided in its entirety to the Maryland Department of Agriculture and be available to the public to promote value-added and specialty crop development. This analysis will indicate which existing sites may be of interest to new business entities and which may be beneficial for their owners to lease to external investors. This research will also include which unoccupied real estate may hold further value for investment beyond traditional residential, commercial or agricultural use.	$17,500.00
Maryland Department of Agriculture	$497,987.44	Maryland's Best: Increasing Market Share & Consumer Demand for Maryland Specialty Crops	This project aims to increase sales and consumer demand for Maryland grown specialty crops through targeted advertising, strategic consumer and wholesale promotions, networking events, and direct partnerships with Maryland specialty crop producer associations. Maryland's Best assets such as the web site www.marylandsbest.net, Maryland's Best brand awareness and preference, producer and buyers contacts, the Maryland Department of Agriculture's Communications Office and established events will be leveraged to ensure that the proposed funds will achieve a maximum return on investment.	$121,382.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Maryland Department of Agriculture	$497,987.44	Assist specialty crop growers in buyer and FSMA Produce Safety Rule requirements through continuation of the Maryland Good Agricultural Practices program	The Maryland Department of Agriculture Food Quality Assurance Program, the University of Maryland Plant Sciences Department and University of Maryland Extension will partner to provide formal training for producers; a consumer education on program for produce safety; food safety technical assistance; certification of compliance with food safety practices; and cost share funds to assist with implementation and compliance certification of food safety practices by continuing the Maryland GAP program and fully developing a consumer education program. The project will also assist farmers in verifying their implemented sanitation practices are effective.	$117,867.00
Maryland Department of Agriculture	$497,987.44	The invasive spotted lanternfly, Lycorma delicatula, and its specialty crop host plants: insect host usage at each developmental stage	The University of Maryland will investigate host plant usage of the spotted lanternfly, Lycorma delicatula (Hemiptera: Fulgoridae), through assessing insect arolia morphology (adhesive pads which allow insects to climb and grasp host plants) and detecting plant DNA in their gut contents. Findings will be disseminated to MD growers and other stakeholders through field day events, commodity and in-service meetings, local conferences, and extension publications. This information will help growers and other stakeholders monitor and accurately predict lanternfly dispersal from non-crop host plants to specialty crop plants, especially grapes and apples.	$37,831.00
Massachusetts Department of Agricultural Resources	$435,586.18	Increasing Awareness and Competitiveness of Massachusetts-grown Specialty Mushrooms	Fungi Ally will enhance the competitiveness of specialty mushrooms by increasing Massachusetts-grown specialty mushroom sales by 15% and increasing awareness through marketing and educational events targeted to reach 50,000 individuals and 300 business establishments.	$38,500.00
Massachusetts Department of Agricultural Resources	$435,586.18	Choosing Local: Educating and Connecting School Administrators to Expand Local Foods Purchasing & Education	Massachusetts Farm to School will increase the preference for and purchasing of local specialty crops in school meals by educating high level school administrators about the value of featuring local foods in school cafeterias and classrooms, facilitating direct relationships with specialty crop producers through farm tours and networking events, and providing an improved online platform for identifying sources of local specialty crops available for purchase by schools and other institutions.	$37,200.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Massachusetts Department of Agricultural Resources	$435,586.18	Marketing Plant Something MA (PSMA) Message Directly to Consumers	The PSMA campaign will focus on building the state's green infrastructure through consumer outreach by publishing newspaper advertisements and producing a guide. The 25-page Gardening Resource Guide for consumers will include a years' worth of gardening and landscaping tips and how-tos for the Massachusetts based gardener. The guide can be used as a directory of local nurseries, garden centers and landscapers. The guide will also feature roughly six articles, such as talking about the benefits of gardening. It will be printed to distribute at events as well as posted on the PSMA website.	$10,000.00
Massachusetts Department of Agricultural Resources	$435,586.18	A Multi-faceted proposal to celebrate and raise awareness of Massachusetts Cranberries	The cranberry industry remains mired in one of the most significant economic crises it has faced in its 200-year history, and this crisis threatens the viability and survival of many growers in Massachusetts. Between drastically lower prices and significant cranberry production elsewhere, there has been an increase in cranberry inventories in recent years. There remains tremendous opportunity to educate local consumers about the Massachusetts cranberry industry, the health benefits of the cranberry and more. By telling the story of Massachusetts cranberries, this grant project will reach more consumers, increase awareness of the industry and provide a solid education on the history, heritage, environmental stewardship and more of a 200-year plus industry.	$38,806.00
Massachusetts Department of Agricultural Resources	$435,586.18	Public Marketing for local specialty crops: Increasing Consumer Awareness, sales, and consumption of local fruits and vegetables in Western Mass	Community Involved in Sustaining Agriculture (CISA) will increase awareness, sales, and consumption of local specialty crops through a robust public marketing and education effort targeting new and infrequent local foods shoppers. Agriculture in the Connecticut River Valley of Massachusetts is a $129 million enterprise and the state ranks third in the US for average value of direct sales per farm (NASS 2012 Census). Seventy-nine percent of Massachusetts farms are family owned, and 94% of them fit into the category of "small farm" according to the USDA definition of sales below $250,000 (NASS 2012 Census). Farmers in our region grow a wide variety of specialty crops, especially fruits and vegetables. Many specialty crop farmers have a similarly wide array of market outlets, including community supported agriculture (CSA) offerings, farmers' markets, farm stands, and direct wholesale accounts.	$20,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Massachusetts Department of Agricultural Resources	$435,586.18	Specialty Crops Digital and Print Marketing Campaign on the MBTA Rapid transit and Bus System	The Massachusetts Department of Agricultural Resources will increase awareness and sales of specialty crops in the Commonwealth through a targeted seasonal marketing campaign utilizing print and digital media at high trafficked MBTA station stops as well as interior print cards on board subway trolleys and buses. The campaign will highlight various local specialty crops during their relevant in-season availability and instructions to visit MDAR's MassGrown Website to find their nearest farm that carries and sells these crops. On the website, there will be an incentivized feature to have visitors take a brief survey to indicate if their journey to the website was in reaction to seeing the advertising campaign and if they have in the past and also plan to purchase specialty crops as a result.	$21,930.00
Massachusetts Department of Agricultural Resources	$435,586.18	Local Food, greener Meals: Specialty Crop Access and Education in Lowell	Mill City Grows will conduct the Local Food, Greener Meals program to increase access to and education about specialty crops, with an emphasis on dark, leafy greens (including collards, kale, spinach, and mustard and other culturally relevant greens) to low-income families and seniors in Lowell, Massachusetts. This will be done through growing and aggregating locally produced specialty crops, selling these crops via a Mobile Market deployed in Lowell, and providing education through point of sale information as well as a family cooking class offered to low-income Lowell families. This program will enhance the competitiveness of specialty crop through increased consumption and through improving the economy as a result of specialty crop development.	$40,800.00
Massachusetts Department of Agricultural Resources	$435,586.18	Correlating Healthy Soil Practices with Nutrient Quality in Carrots & Spinach	The Northeast Organic Farming Association, Massachusetts Chapter (NOFA Mass) will partner with farmOS software and the Real Food Campaign to conduct on-farm data collection on two crops, carrots and spinach, on a variety of farming practices, including: · Soil type from NRCS · Weather data from National Weather Service · Soil sample results from Logan Labs · Management practices broadly defined · Cover crop usage · Tillage practices · Past crops for two years back · Planting time · Weeding times/techniques · Mulching quantity type/times · Cultivars · If transplants, time in potting soil, potting soil type, and tray type. · In season fertility applications time and type. · Other sensor data - conductivity, penetrometer, refractometer etc.	$41,700.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Massachusetts Department of Agricultural Resources	$435,586.18	Overcoming barriers to Specialty Crop Integration in Massachusetts and the New England Region	Specialty Crop Integration and Advancement Program aims to overcome barriers to specialty crop integration by improving the variability, sustainability, and profitability of the Massachusetts and New England specialty crop food industry. This year-long program includes a Specialty Crop Trade Show, presentations with institutional buyers, a workshop series consisting of 5 workshops, 3 of which will be a part of our Growing for Growth Training Workshops, targeted to growing local specialty crop businesses, and 1 of which will be focused on food safety, one 1:1 expert consultation event, a panel discussion with institutional food buyers, a matchmaking event, and buyer roadshow presentations.	$28,800.00
Massachusetts Department of Agricultural Resources	$435,586.18	Increasing Specialty Crop Access and Consumption in Mason square, Springfield	Gardening the Community, a project of TSNE MissionWorks, will work with local partners to increase access to healthy, affordable produce for families living in the Mason Square area of Springfield, a nutritionally underserved community. We will enhance the competitiveness of locally sourced, Massachusetts grown specialty crops through increasing the knowledge and consumption of specialty crops by youth and adults in the Mason Square area and by promoting Gardening the Community's Walnut Street Community Farm Stand, a new access point for healthy, affordable, Mass. grown produce in Springfield. This project will increase the overall number of specialty crop consumers as well as market sales through innovative promotions and market-based education and cooking demonstrations. The project will also improve the local economy through job maintenance and revenue generation.	$45,000.00
Massachusetts Department of Agricultural Resources	$435,586.18	Equitable Access to Market for Beginning and Underserved Farmers Qualified Exempt and Exempt FSMA Producers	Third Sector New England as fiscal sponsor for New Entry Sustainable Farming Project will lead this FSMA compliance project which proposes to positively impact at least 150 Massachusetts farmers through FSMA compliance education, training and direct technical assistance activities that will facilitate producer knowledge, behavior change, and understanding of how the FSMA Produce Safety Rule impacts business planning decisions. This proposal will build Massachusetts producer capacity to achieve equitable access to knowledge and training to scale up an agricultural business to increase access to market opportunities that require FSMA compliance.	$37,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Massachusetts Department of Agricultural Resources	$435,586.18	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$34,820.59
Massachusetts Department of Agricultural Resources	$435,586.18	Invasive Insect Pests Threatening Specialty Crops in Massachusetts: Research, Monitoring Stakeholder Engagement and Education	In Massachusetts, several invasive insect species are either already affecting or pose a serious threat to the specialty crop industry. Stakeholders have voiced the need to address the most destructive invasive insects threatening their crops. UMass researchers will develop a grower-friendly attract-and-kill system for the invasive spotted wing Drosophila (SWD), Drosophila suzukii. The stakeholder engagement and education component includes (1) planning and implementation of 'Preparing for the Spotted Lanternfly' conference, (2) production of fact sheets and pest alerts, (3) coordination of targeted workshops, on-farm demonstrations, and twilight meetings, and (4) dissemination of results from monitoring and research using UMass Extension websites and other media. The grower-friendly attract-and-kill system for SWD management is expected to aid in the reduction of SWD populations before harvest, potentially making insecticide applications more effective. The student will learn Integrated Pest Management techniques as they relate to invasive pests and will present the information collected to stakeholders and the campus community to spread awareness of the challenges invasive pests pose to food security. Measurable outputs, outcomes, and impacts are centered on improving stakeholders' knowledge and awareness of the importance of invasive insects, effective monitoring systems and pest management options.	$40,700.74
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Investigation into the Effects of Montmorency Cherry Juice on Human Health	The Michigan Cherry Committee (MCC) in collaboration with lead researchers at Northumbria University, U.K. will establish a contractual relationship with MDARD to examine the efficacy of U.S. Montmorency tart cherries on various aspects of human health. The funding will support research in an effort to further understand the role tart cherries have in improving important health indices associated with chronic disease.	$77,400.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Fruit Acreage Inventory and Labor Survey	Michigan Farm Bureau, the state's largest general farm organization, representing over 42,000 regular members, will be the primary organization carrying out the reporting requirements of this project. Our goal is to conduct a fruit acreage inventory survey of sweet cherry, tart cherry, apple, peach, and blueberry grower acreage in Michigan. We then will disseminate data received from the survey in a manner that will allow the fruit industry and policy makers to make sound business, marketing, and policy decisions that will position Michigan's fruit industry by improving their competitiveness in both national and global markets.	$100,000.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Leveraging Farmer-to-Farmer Educational Events for Specialty Crop Producers to Create Consumer-Facing Profiles	This project will be led and executed by the Michigan Farmers Market Association (MIFMA) and will concentrate on workforce/labor training and education for direct-to-consumer specialty crop producers and generating increased consumer awareness of Michigan's specialty crops. Supporting Michigan specialty crop producers through increased educational opportunities will allow for growth of specialty crop sales at Michigan farmers markets.	$81,310.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	The Michigan Flower Growers' Cooperative: Cultivating Beauty in Southeast Michigan	The purpose of the cooperative is twofold: To bring Michigan-grown flowers and foliage to a central location where they can be purchased by licensed wholesale buyers, as well as the general public through our day pass program; and to educate growers about how to boost the success of their operations through improved quality, increased sustainability, expanded varieties, and best business management practices.	$64,359.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Closing the Loop: Models for Leveraging GroupGAP Certification	Michigan Food and Farming Systems' project, Closing the Loop: Models for Leveraging GroupGAP Certification, will improve economic viability for USDA GroupGAP (Good Agriculture Practices) certified specialty crop producers.	$99,998.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Increasing Consumer Awareness and Consumption of Michigan Potatoes	The Michigan Potato Industry Commission (MPIC) is seeking to assist growers of table stock potatoes (red-flesh, yellow-flesh, russet, round white potatoes, and other novelty varieties) with specific consumer-based marketing trends and messaging for Michigan potatoes. This project will focus on the development of consumer-focused messaging and branding materials to assist Michigan based growers of fresh potatoes in marketing their potatoes to consumers in the Great Lake's region, specifically targeting Michigan.	$99,096.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Establishing the Michigan Pumpkin Association	The aim is to address the current large number of growers who lack the organization and marketing skills necessary to distribute information about Michigan's pumpkin production. Organizing pumpkin growers in a fashion that will coordinate communication, promotion and marketing of the industry will strengthen the industry, increase profitability to growers, educate the public on the health benefits and availability of Michigan grown pumpkins and potentially increase the Michigan pumpkin production. The ultimate goal is to increase the number of consumers purchasing Michigan grown pumpkins.	$15,500.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Development of Chef-Inspired, Dietician Approved, Healthy Recipes to Increase Michigan Specialty Crops Market Share.	The Michigan Restaurant Association Educational Support Foundation (MRAESF) proposes to increase the demand for Michigan specialty crops through a comprehensive approach of education and the development and dissemination of chef-inspired and dietician approved recipes. To accomplish this goal, the MRAESF will leverage strong existing partnerships with several commodity groups, GreenStone Farm Credit, Michigan Association of Broadcasters, chefs and dieticians. This project will expose 5,000 high school ProStart students to information about Michigan specialty crops with a focus on the development of heathy recipes utilizing these crops.	$69,251.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Identification of Superior Apple Cultivars for Novel Applications in Michigan	The Michigan State Horticultural Society would partner with Michigan State University to identify existing apple cultivars that are optimal to produce quality hard ciders, and that could be grown profitably in Michigan. In addition, the team would continue development of improved red-juiced cultivars designed for Michigan production conditions.	$82,813.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Development of Precision Decision Support Systems to Protect and Optimize Michigan Tree Fruit Production	The Michigan Tree Fruit Commission, in partnership with Michigan State University's AgBioResearch horticultural scientists and Extension educators, will establish a network of season-long assessments for winter cold hardiness and spring crop loads across the state's major tree fruit production regions. Data from these networks will be used to develop and refine precision decision support systems for growers to better implement orchard measures.	$99,950.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Developing Integrated Crop Management and Extension Programming for Michigan Table Beet and Turnip Production	The Michigan Vegetable Council will be responsible for this project. The overarching goal of this project is the development of integrated crop management and extension programming for Michigan table beet and turnip production. The general tasks to be completed during the project period are: (1) Determine cause and distribution of scab on table beet and turnip; (2) Develop integrated disease management tools for scab in table beet and turnip; (3) Limit rhizomania in table beet production area; (4) Determine the best rate and timing of application of insecticides for cabbage maggot control.	$65,914.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Optimizing Production of Processing Squash with Increased Quality and Disease Resistance	The Michigan Vegetable Council along with MSU researchers Drs. Hausbeck and Hayden will optimize hard squash production for the fresh market and processing industries. Guidelines to maximize yield and quality will be developed and communicated to growers. Cooperation among processors, growers, researchers, and extension educators will ensure sustainability and profitability. Activities include: (1) Replicated and controlled laboratory and field tests for fruit quality and rot resistance among cultivars, (2) Comparing strategies for foliar blight and impact on fruit quality, and (3) Grower demonstration plots and outreach meetings.	$93,837.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	"A Pickle's Purpose" via Pickleball – Aa Marketing Program to Increase Pickle and Pickled Vegetable Consumption in a Mature Market.	Pickle Packers International, Inc. (PPI) proposes to develop a marketing program to increase consumption of pickles and pickled vegetables in a mature market by leveraging one of America's fastest growing sports with a similar name, Pickleball.	$100,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Michigan Department of Agriculture and Rural Development	$2,152,904.64	International & Domestic Promotion of Michigan Specialty Crops	The outlined project will allow Michigan specialty crop companies and commodity groups the ability to exhibit at major domestic and international trade shows with the goal of finding new markets and meeting with potential buyers. Connecting the Michigan specialty crop industry with potential buyers is critical for the expansion of sales both domestically and internationally.	$141,796.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$148,221.46
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Enhancing Competitiveness of Michigan Apples through Consumer Awareness	MAC aims to enhance the competitiveness of Michigan Apples through consumer awareness efforts. MAC proposes to spend $100,000 on a campaign using online and print tactics to educate consumers and increase demand for Michigan Apples. The project will build engagement with consumers to drive a deeper connection and awareness that will translate to increased apple movement in the retail marketplace.	$100,000.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Strengthening the Market for Michigan Tart Cherry Farmers	The Cherry Marketing Institute (CMI) will enhance the market of Michigan-grown Montmorency tart cherries through print advertising, as part of a strategy to curb the trend of imported tart cherry products stealing the market share, both here in Michigan and throughout the U.S. Advertising will appear in trade publications with readership comprised of food and beverage industry professionals, including product developers, manufacturers, retailers, and restaurateurs. These professionals make ingredient decisions for major food manufacturers nationwide.	$35,954.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Developing Processed Frozen Vegetables for Wholesale to Independent Groceries	The Flint Fresh Food Hub will build upon Flint's already active local food movement, one that has been building momentum, despite limited resources to address the income and health disparities present in Flint and Genesee County's residents. Flint's recent and ongoing water crisis has caused an even more pressing need for healthy foods to help mitigate the effects of lead exposure, especially for children. With this funding support, Flint Fresh can improve access to healthy food, support local farmers and producers, increase the number of local food-related businesses, process produce for institutional sales and create jobs.	$82,408.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Enhancing the Competitiveness of Michigan's Newest American Viticulture Area by Increasing Awareness, Sales and Sustainability	This project will develop branding messages for industry and consumer audiences; develop and distribute media packets focused on cold climate grapes within our AVA; sponsor advertising/media campaigns and host an onsite education event for national and Midwest wine industry influencers in spring 2020.	$100,000.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Integrated Crop Management and Biorational Strategies for Sustainable Asparagus Production	The Michigan Asparagus Advisory Board, working with Michigan State University, is seeking funding to support research to help growers improve productivity and manage key risks that threaten the long-term sustainability of the MI asparagus industry.	$99,970.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Integration of Sustainable Management Practices Essential for the Advancement of Michigan Dry Bean Production	The Michigan Bean Commission will oversee this multifaceted project designed to find resistance to a new race of anthracnose and to validate the proper use of harvest aids for drying down weeds and dry bean vines before harvest. Further, variable rates and timing of nitrogen application and the use of cover crop residues will be investigated for their interactions with white mold (Sclerotinia) disease to mitigate yield reductions in dry beans.	$99,982.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Developing Tactics for Stem Gall Wasp Control in Michigan Blueberries	This project by the Michigan Blueberry Commission will address the top priority insect pest concern of the Michigan blueberry industry, the stem gall wasp. This insect has become much worse in recent years and it is having significant economic impact.	$99,303.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Strategies to Protect Carrot Root Quality and Maximize Marketable Yields	The Michigan Carrot Committee, in cooperation with Michigan State University, is seeking funding to develop strategies to address critical challenges facing Carrot Root Quality. These efforts will also explore the potential for emerging technologies to further promote the productivity, profitability, and sustainability of carrot production in Michigan and beyond. This project addresses key threats to carrot root quality and marketable yield.	$99,423.00
Michigan Department of Agriculture and Rural Development	$2,152,904.64	Integrating Insect and Disease Strategies to Advance Celery Field Management	This proposal is submitted by the Michigan Celery Research Inc. and seeks to improve field management of insects and diseases that reduce celery yield and quality. Celery production fields are established with greenhouse-grown plants. Few fungicides are available and registered to protect celery seedlings while in the greenhouse when management should be initiated. By developing effective management programs that begin in the greenhouse and continue to the field, losses due to Cercospora Early Blight will be reduced.	$92,440.00
Minnesota Department of Agriculture	$1,397,427.21	Produce Safety and Preparation for the FSMA Produce Safety Rule: GAPs Online Training and Workshops	This project provides food safety education and technical assistance to Minnesota specialty crop growers, helping them prepare for FSMA Produce Safety Rule implementation through creation of an online GAP training program and in-person workshops. University of Minnesota Extension will improve Minnesota specialty crop growers' knowledge of Good Agricultural Practices (GAP) and the Food Safety Modernization Act (FSMA) Produce Safety Rule (PSR) by developing a new, seven-module online GAP training course for Minnesota specialty crop growers. Modules will include: 1) FSMA overview and the GAP audit process, 2) information about threats to food safety from microbial pathogens, 3) practical on-farm GAP implementation practices to reduce foodborne illness, and 4) guidance for creating an on-farm food safety plan. Each module will include on-farm footage at various farm locations, bringing these topics to life. In addition, Extension will deliver eight in-person GAP training workshops to Minnesota growers of all sizes, including immigrant and minority growers, and will focus on developing farm food safety plans.	$91,258.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Minnesota Department of Agriculture	$1,397,427.21	Expanding Produce Sales through Farmers' Market Aggregation - Phase 2	This project builds upon and enhances the Farmers' Market Aggregation project that develops new sales for specialty crop farmers to wholesale buyers. In addition, we will conduct a financial analysis to evaluate the sustainability of this system. In 2018, Renewing the Countryside launched the Farmers' Market Aggregation project with eight markets across the state to assist them in developing new markets for their vendors by facilitating sales to a broader pool of buyers including institutions, restaurants, groceries, and other retailers in their communities. Because of the momentum and excitement, we are already seeing in these eight communities, and because a significant part of the effort this first year has been in developing and testing systems, we are seeking a second phase of funding for this project.	$99,607.83
Minnesota Department of Agriculture	$1,397,427.21	Efficient Statewide Marketing of Minnesota Grown Specialty Crops	This project increases sales of MN specialty crops through statewide marketing including sponsored search advertising (pay-per-click), promoted social media posts, and promotion of specific specialty crops in the printed Minnesota Grown Directory. The Minnesota Grown Promotion Group, Inc. (MGPG) is a private, non-profit 501(c) (6) organization whose membership includes the MN Apple Growers Association, MN Christmas Tree Association, MN Farmers Market Association, MN Fruit and Vegetable Growers Association, MN Grape Growers Association, MN Honey Producers Association, MN Nursery and Landscape Association, Central MN Vegetable Growers Association and the St. Paul Growers Association. The MGPG works closely with the MDA's Minnesota Grown Program, which has more than 1,300 producer members.	$94,800.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Minnesota Department of Agriculture	$1,397,427.21	Optimizing Deep Winter Greenhouse Production and Profitability for Specialty Crop Farmers	University of Minnesota researchers will improve Deep Winter Greenhouse designs, create business planning and financing tools, and conduct workshops in winter production. Passive solar Deep Winter Greenhouses increases the capacity for small- and medium-scale farmers to grow specialty crops in the winter. This project by the University of Minnesota addresses barriers to access by: (1) Modifying DWG designs to reduce construction costs per square foot; (2) Developing designs for optimal planter and workspace configurations to maximize production efficiency; (3) Creating enterprise budgets and narratives so producers and financiers understand production and profitability expectations; and (4) Conducting production workshops.	$100,000.00
Minnesota Department of Agriculture	$1,397,427.21	Improvement of a Cellphone App to Help Growers Comply with FSMA Recordkeeping Requirements	This proposed project by the Department of Horticulture, University of Minnesota, will test cellphone record keeping app designs and improve a Beta version that can be released to farmers to help them comply with requirements of the Food Safety Modernization Act (FSMA). The FSMA Produce Safety Rule requires that farmers keep records to allow traceback of products; support a farm's coverage or exemption status; and document employee training, water testing results, any biological soil amendment process, and cleaning and sanitization of equipment and tools. Many growers use paper records, but some growers have stated that a cellphone app would make it easier for them to keep records as they walk around their farms. These records also help farmers pass Good Agricultural Practices (GAP) audits. The proposed project will test designs of cellphone apps, including one developed by Kansas State University and Missouri State University Extension, by obtaining input from growers about how they would use the app, and what features should be included. The goal of the project is to create an improved app that will be released to all specialty crop growers.	$36,886.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Minnesota Department of Agriculture	$1,397,427.21	Increasing Production, Markets and Supply Chain Networks for Asparagus using Soil Health Practices	The Sustainable Farming Association of Minnesota (SFA) proposes a pilot project to increase production of asparagus in Minnesota through improved soil health practices, expanding supply chain networks and markets and working with beginning and operating farmers. SFA proposes to scale up asparagus production by recruiting, educating, and coaching 10 farmers to produce and sell asparagus commercially over the project, using soil health practices. At least 10 farmers will be from underserved communities. SFA will prepare a workshop curriculum and educational materials, hold 3 workshops/field days per year over 2 years, recruit from SFA's chapters, the Hmong American Farmers Association, the Minnesota Food Association, and Deep Roots beginning farmer cohort, and work with UM Extension on curriculum and materials development.	$50,000.00
Minnesota Department of Agriculture	$1,397,427.21	Early Warning Forecast Models for the Invasive Japanese Beetle in Minnesota Specialty Crops	The Department of Entomology, University of Minnesota, will develop new early warning forecast tools for specialty crop (raspberry, grape) growers in Minnesota to aid in managing the invasive Japanese Beetle (JB) that has recently been defoliating these crops. In this project, we propose 4 specific research objectives that will allow us to develop a new forecast model for JB adult emergence, or "early warning system" for growers. This goal, coupled with improvements in trap efficiency, and a detailed insecticide trial, will provide new tools growers can use for managing JB more effectively; raspberry and grapes are two important “model specialty crops” that will be the focus of the project. However, the early warning system can also be applied to other crops. New research results will be disseminated to growers in a timely manner.	$98,501.00
Minnesota Department of Agriculture	$1,397,427.21	Nursery Tree Lives Matter: Drift from Spraying Stacked Herbicide Resistant Crops	Minnesota Nursery and Landscape Association (MNLA) will study the effects of herbicide drift and carry-over injury on “non-target” nursery trees that escalated severely in 2017. Minnesota ranks 4th in state investigations with 171 official complaints from use of stacked glyphosate and dicamba resistant genes. Our overall goal is to reduce the incidence of drift and carryover injury in MN nurseries by finding the levels and times of applications that are least problematic to nursery stock. Also, by ranking susceptibility of three very commonly grown species in the state, field placement and other cautionary activities to protect the most susceptible species can be found.	$100,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Minnesota Department of Agriculture	$1,397,427.21	Drones based Scouting Potato of Virus Y in Seed Potato	The University of Minnesota Northwest Research & Outreach Center (UMN-NWROC) in collaboration with the Minnesota Department of Agriculture (MDA) proposes to develop techniques to remotely identify Potato Virus Y (PVY), a severely economically limiting disease, in seed potatoes using drone based sensors. This will improve the efficiency and accuracy of within season management and improve certification of seed potatoes by rapidly identifying infected plants for removal. Post-season seed certification efforts assessing infection in submitted seed lots will be faster and more accurate using these techniques. This tool will improve the success rate of seed lot certification, thereby improving economic sustainability of seed potato production in MN. It will provide additional security in marketing MN seed potatoes nationally and internationally.	$99,934.00
Minnesota Department of Agriculture	$1,397,427.21	Strengthening the Regional Seed System through Pepper Improvement for Minnesota Organic Agriculture	Organic Seed Alliance, a national organization with Midwest-based programs, engaged in education, research, and advocacy to advance organic seed, will lead this project in partnership with local organizations Farm Table Foundation, Seed Sages, Riverbend Farm, and the Seed to Kitchen Collaborative at University of Wisconsin. The proposed project improves the quality and availability of open-pollinated sweet pepper varieties adapted to organic production in Minnesota, while increasing the capacity of Minnesota vegetable farmers to save seed, improve varieties on-farm, and engage with growing grassroots efforts to strengthen the regional seed system of the upper Midwest. The project's outcomes include: 1) improving productivity and economic return for growers using improved crop varieties, 2) increasing resilience in organic vegetable systems by building farmer capacity, and 3) increasing awareness within the twin cities culinary community.	$60,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Minnesota Department of Agriculture	$1,397,427.21	Terroir: How Soils Impact Cold Hardy Grapes and Wine Quality	This University of Minnesota-Twin Cities Grape Breeding and Enology project will conduct the proposed research in collaboration with North Dakota State University (Subcontract). This project aims to understand the role of soil conditions and harvest date on the quality attributes of two commonly grown white and red wine grape varieties. 'Brianna' is a cold-hardy hybrid grape developed by Elmer Swenson, with a Vitis labrusca background, but is a preferred wine grape across the cold climate region. 'Marquette' is a Vitis riparia and Vitis vinifera based red wine variety developed by the University of Minnesota. These varieties have supposedly produced very different wines even though harvest parameters and vinification procedures were similar. We will investigate differences in soil, climate, and harvest timing as it relates to fruit and wine quality for 'Brianna' and 'Marquette' grapes grown in both Minnesota and North Dakota for two years. Research wines will be produced at a central location (UMN) and will be evaluated for chemical and sensory data. The results will be analyzed and interpreted and shared with industry stakeholders.	$93,478.00
Minnesota Department of Agriculture	$1,397,427.21	A Convergence of Multiple Independent Specialty Crop Organizations' Annual Conferences	This project, led by the Minnesota Farmers' Market Association, establishes a platform where several independent specialty crop organizations can successfully hold their annual conferences together at the same place, same time. This benefits specialty crop growers, many who belong to several of these organizations, to meet at one time, minimizing their expenses and maximizing their educational and networking opportunities. The collaborating specialty crop organizations will also be able to minimize expenses, while being able to offer more in-depth education to their growers than they could individually, including increased programming for socially disadvantaged and beginning farmers. Additionally, more trade show exhibitors and sponsors will be able to reach more growers, since the convergence also saves them resources.	$55,069.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Minnesota Department of Agriculture	$1,397,427.21	Developing Goji Berry as a Viable New Perennial Fruit Crop for Minnesota Growers	This project will investigate a number of aspects of goji berry as a new crop to Minnesota farmers, which include to select elite traits, develop techniques for clonal propagation, establish a long-term trial location(s), and breed for new cultivars. University of Minnesota researchers will develop superior cultivars and growing methods for goji berry, which will result in its adoption as a new specialty crop for Minnesota growers. To advance goji berry as a specialty crop for Minnesota growers, this project will initiate the following tasks: 1) acquire a diverse seed and cultivar collection of red and black goji, 2) develop methods for clonal propagation, 3) establish long-term trial location(s) for plant selection, and 4) improve germplasm through hybridization and polyploidization.	$100,000.00
Minnesota Department of Agriculture	$1,397,427.21	Market Opportunities for New Early Season Apple Varieties	This project is being carried out internally by Minnesota Department of Agriculture (MDA) staff and directly addresses the MDA funding priority of "improving operational efficiency, reducing costs or other barriers, or increasing access to distribution systems and new markets for specialty crops". Minnesota apple growers are rapidly planting apple varieties that ripen between mid-August and early September. In addition to an earlier harvest date, these new varieties provide a vastly superior eating experience to traditional early season varieties suitable for Minnesota's climate. This project will accelerate market development for these locally grown apples through a multi-pronged approach including point-of-sale materials, social media and other digital marketing efforts, and a targeted public relations campaign to secure positive media attention via statewide mainstream media as well as non-traditional media such as bloggers.	$45,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Minnesota Department of Agriculture	$1,397,427.21	Specialty Crop Farmers' & Marketers' Guide to the Food Safety Modernization Act	Farmers' Legal Action Group (FLAG) will author, publish, and conduct 10 workshops with 6 partners over 2 years on a "Specialty Crop Farmers' & Marketers' Guide to the Food Safety Modernization Act," targeting socially disadvantaged and beginning farmers. FLAG will author and publish the FSMA guide. FLAG will also present legal, technical, and educational information at 10 farmer/marketer training workshops. Five workshops will be held per year, one each by FLAG's 5 workshop partners. Outcomes include increased farmer/marketer, satisfaction of/exemptions from FSMA, knowledge of FMSA requirements, understanding of labeling and recordkeeping requirements, and safer direct-marketed foods.	$75,000.00
Minnesota Department of Agriculture	$1,397,427.21	Sweet Potato as Value Added Specialty Crop for IndigiBaby Food Initiative of Minnesota	Indigenous People Task Force in collaboration with the Global Institute for Food Security and International Agriculture (GIFSIA) at North Dakota State University will advance organic, sustainable production of health targeted specialty sweet potato and to design culturally relevant baby food with superior nutritional profiles for indigenous Native American communities of Minnesota. Such health targeted ethnic food models are essential to address health disparities in Native American communities of MN and the Northern Plains as they experience the worst rate of diet -related non-communicable chronic diseases (NCDs) such as maternal gestational diabetes impacting children health. To counter these health disparities new innovation based on health targeted ethnic plant-food model is essential. Diverse Sweet potato cultivars will be screened for their nutritional profile. Innovations in management soil biology and organic matter will be developed for improving sustainable production. Native American consumers and growers will be engaged through outreach and test marketing of value added sweet potato baby food at local farmers markets and health-related conference across MN to raise awareness of health benefits of sweet potato value added products.	$75,000.00
Minnesota Department of Agriculture	$1,397,427.21	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$120,576.44

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Mississippi Department of Agriculture and Commerce	$441,411.23	Growing Lunch School Garden Grant	The Mississippi Department of Agriculture and Commerce is seeking to enhance the Farm to School program in the State of Mississippi. The state's first Farm to School week was held in 2012 as a celebration in conjunction with the Mississippi Department of Education. MDAC has designated the first week of October as Farm to School week in Mississippi, as October is part of National Farm to School Month. The two participating agencies continue to see a need to increase agriculture awareness in the classroom and lunchroom. The purpose of the Farm to School program is to support local state farmers while serving healthy foods in school cafeterias. In addition, this program is an educational tool used to enhance the knowledge of our school-aged children on agriculture and healthy eating.	$10,000.00
Mississippi Department of Agriculture and Commerce	$441,411.23	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$32,670.00
Mississippi Department of Agriculture and Commerce	$441,411.23	Good Agricultural Practices education - Identifying the barriers and challenges faced by producers	Mississippi State University will conduct a study that seeks to identify the barriers and cost of implementing Good Agricultural Practices (GAP) and the challenges faced by producers of various operation sizes in the south. We will identify the characteristics of producers who are GAP certified or have adopted food safety practices in their operations, the market outlets for their products, and whether the adoption of food safety practices is driven by market requirements. This project will help identify how small specialty crop producers are due to market requirements that are, indirectly, affected by the implementation of any other food safety regulation. An analysis of the information collected will be disseminated in academic and extension outlets to inform policy makers, producers, and to guide extension efforts. Workshop/trainings will be conducted around Mississippi to educate producers about GAP and the development and implementation of food safety plans.	$9,786.50

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Mississippi Department of Agriculture and Commerce	$441,411.23	Using Research And Extension Programming To Remedy White Drupelet Disorder In Blackberries	Mississippi State University and the Mississippi Agriculture and Forestry Experiment Station, in collaboration with USDA-ARS, will use cutting edge genetic techniques as well as cultivation practices to establish the cause of white drupelet disorder in blackberries and create a baseline for new research and outreach programming. Results of the study will be disseminated to growers and other researchers via field days, short courses, and conferences such that the new information can be used to reduce or eliminate the problem thus increasing blackberry planting viability and economic sustainability in Mississippi and other southern states.	$12,622.00
Mississippi Department of Agriculture and Commerce	$441,411.23	Sustainable Systems To Mitigate Injury To Sweet potato From Use Of Auxin Technologies In Adjacent Row-Crops	Mississippi State University will conduct research to 1) determine the influence of dicamba and 2,4-D on sweet potato plant/propagation beds and downstream impacts on plant/propagule production and subsequent crop yield and 2) determine the influence of dicamba and 2,4-D rate and application timing on sweet potato crop tolerance, yield, and quality. Research-based findings will be shared with stakeholders and the greater scientific community via field days, production meetings, expos, conferences, Extension publications/fact sheets/bulletins, and electronic newsletters, webpages, and social media.	$50,756.40
Mississippi Department of Agriculture and Commerce	$441,411.23	Using Weed-Suppressive Sweet potato And Cover-Crops For Weed Management And Increased Profitability Of Organic	The Mississippi State University will provide effective control of problematic weeds in organic sweet potato production systems by selecting allelopathic sweet potato varieties and integrating them with cover crops and OMRI-approved herbicides. The main goal of this project is to select sweet potato varieties with weed-suppressive traits that can help control major weeds in organically grown sweet potato, including yellow and purple nutsedge, annual grasses, common cocklebur, and pigweed species. These sweet potato varieties will be tested in field to evaluate the level of weed suppression and integrate it with weed-suppressive cover crop and OMRI-approved herbicides.	$37,560.15

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Mississippi Department of Agriculture and Commerce	$441,411.23	High Tunnel Production Of Grafted Tomato For Improved Productivity And Disease Resistance	Mississippi State University will conduct research to: 1) Compare crop yield and quality of grafted tomato cultivars with ungrafted plants; 2) Investigate the benefit of high tunnel on cultivar performance and early fruiting; 3) Investigate the feasibility of organic tomato production with grafted tomato plant in a high tunnel system; and 4) Investigate nutritional values and health beneficial compounds of high-tunnel produced tomatoes from different treatments. This project seeks to mitigate the challenge of high disease pressure created by Mississippi's humid climate and low yield of some popular heirloom tomato cultivars with superior flavor, which largely limits productivity and competitiveness of tomato growers in tomato production. The result will be the ability to provide local markets with quality tomatoes during a relatively early-season where other sources are not available is key to high market price.	$28,027.80
Mississippi Department of Agriculture and Commerce	$441,411.23	Improving Wildflower Production In Mississippi Through Planting Densities Studies And Plant Growth Regulator Applications	Mississippi State University will improve wildflower production of four native species (Coeropsis lanciolata, Rubeckia hirta, Echinacea purpurea, and Ratibita columnifera) by determining appropriate planting densities and utilizing plant growth regulators to increase flowering and seed yields. Wildflowers are important for sustaining pollinator populations, soil retention, and restoration efforts. The overall goal is to reduce the production time of perennial wildflowers while decreasing weed contamination and maximizing seed quality.	$20,136.00
Mississippi Department of Agriculture and Commerce	$441,411.23	Public Relations Campaign To Promote Buying Mississippi Honey	Farm Families of Mississippi will develop and implement a promotional campaign that educates the public about the benefits of buying and consuming Mississippi-grown honey. A baseline sales figure for the 2018 crop year will be established, a TV spot will be produced and aired statewide, a billboard that promotes buying Mississippi honey will be secured, and sales figures for the 2019 crop year will be compiled and compared with the baseline sales figure.	$150,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Mississippi Department of Agriculture and Commerce	$441,411.23	Variety Evaluation Of Diverse Leafy Vegetables And Microgreens As Salad Greens	Mississippi State University will conduct variety trials on leafy green vegetables including mustard greens, spinach, Asian greens, kale, and arugula to fulfill the need of diversifying the consumption of leafy green vegetables. We will also evaluate crop performance of microgreens crops. Plant growth, yield, mineral nutrients, and health beneficial compounds of different crops and varieties will be investigated. Cultural practices regarding planting density and season, harvest size, and fertilization management will be recommended. This proposed study will generate information to promote production of diverse leafy greens and microgreens in Mississippi, increase grower income and competitiveness, and promote a healthy local food system.	$27,427.50
Mississippi Department of Agriculture and Commerce	$441,411.23	Designing A High Tunnel Training Program Based On Current Use, Successes, And Pitfalls Among Specialty Crop Producers In Mississippi	Mississippi State University, Coastal Research and Extension Center will quantify and evaluate the success of the NRCS EQIP cost-share program for high tunnels and design and implement a training program for increased success among specialty crop producers.	$4,180.00
Mississippi Department of Agriculture and Commerce	$441,411.23	Extending Blueberry Market Season Into Fall With Late Fruiting Cultivars And High Tunnel Systems	Mississippi State University will collaborate with blueberry breeders and growers to investigate the potential of using late fruiting cultivars and high tunnel systems to extend blueberry harvest season into late fall. Results will be used to help growers identify suitable cultivars and season-extension technologies to successfully produce late-season blueberries and provide consumers with locally produced off-season high-quality fresh blueberries.	$36,905.80
Mississippi Department of Agriculture and Commerce	$441,411.23	The Piney Woods School Specialty Crops Education Project	The Piney Woods School will work with students in the Piney Woods area and surrounding school districts to enhance the competitiveness of specialty crops by increasing consumption of, and access to, local vegetables through expanding the existing farm, increasing student participation in growing and harvesting, and providing education and access to local farmers.	$5,641.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Mississippi Department of Agriculture and Commerce	$441,411.23	Developing Highly Efficient Tea Propagation Systems Using Sexual and Asexual Methods	Mississippi State University will collaborate with tea growers to develop efficient tea propagation systems using sexual and asexual methods. Results will be used to help growers produce high quality tea nursery plants to meet the increasing demand from current and prospective tea growers. Results will be disseminated to stakeholders through direct grower contacts, meetings, field days, and publications.	$8,693.83
Mississippi Department of Agriculture and Commerce	$441,411.23	Mississippi Specialty Winter Crop Garden	The Mississippi Agriculture and Forestry Museum plants, maintains, and harvests specialty crops as a means of educating the public. This project would provide an increase in understanding with regards to our Mississippi Specialty Winter Crops, as we have been able to establish for our summer crops. This project will not only educate students on the winter crops, but it will communicate the value of past and present Mississippi agricultural lifestyles and the practices which we believe are essential in promoting future careers in agriculture to a new generation.	$1,700.00
Mississippi Department of Agriculture and Commerce	$441,411.23	Let's Have a Festival	South Mississippi Farmers Market Association will, through a series of Specialty Crop Festivals such as the Ocean Springs Red, White and Blueberry Festival and the Long Beach Radish Festival, held in conjunction with its five farmers markets along the Mississippi Gulf Coast, increase consumption and awareness of Mississippi Specialty Crops within a Festival Atmosphere. All five markets (Ocean Springs Fresh Market, Gulfport Harbor Market, Beach Blvd. Market, Gulfport, Florence Gardens Farmers Market, Gulfport and Long Beach Farmers Market) have good relationships with local government, Chambers of Commerce, Main Street Associations and the Gulf Coast Restaurant Association all of whom will be invaluable in helping organize and run the Festivals.	$5,000.00
Missouri Department of Agriculture	$441,617.31	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$35,306.87

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Missouri Department of Agriculture	$441,617.31	Using Specialty Crops in Community Gardens	Kansas City Community Gardens (KCCG) will use Specialty Crop Block Grant funds to support existing and new Community Partner Gardens by providing garden tools, soil amendments, construction materials, specialty seeds and plants, and ongoing technical assistance. Community Partner Gardens expose Missourians to specialty crops, enhancing their willingness to cultivate and consume new fruits and vegetables. By growing specialty crops in their KCCG-supported Community Partner Gardens, adults and youth will learn about food production and the diverse variety of fruits, vegetables, and herbs that can grow in Northwest Missouri's climate. Community gardens also encourage neighboring residents to start gardens at their homes and in their neighborhoods, thereby expanding Missouri's specialty crop growers and increasing access to specialty crops.	$20,444.01
Missouri Department of Agriculture	$441,617.31	Building on Success – Statewide Training for Specialty Crop Farmers	Through “Building on Success – Statewide Training for Specialty Crop Farmers”, the Webb City Farmers Market and its partners, MU Extension and LU Co-Operative Extension, will provide training for specialty crop farmers on winter production and year-round tomato production. The project, if funded, would provide three two-day conferences on winter production featuring national, regional, and local presenters, two in 2019 and one in 2020. It would also provide a one-and-a-half-day conference on tomato production featuring national, regional, and local presenters in 2019 and 2020. Both the Conference and the School will use a combination of academic presenters and farmer presenters. Each Conference and each School will be held in a different region of the state to provide easier access to farmers across the state.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Missouri Department of Agriculture	$441,617.31	Fostering Missouri Specialty Crop Competitiveness through Industry Collaboration	The University of Missouri requests funding to identify the potential to foster industry-wide collaboration that strengthens Missouri's specialty crop industry, enhances its competitiveness, and enables it to grow its contribution to Missouri's economy. The state's specialty crop industry has great opportunities for growth as consumer demand is strong for local foods and individuals can choose specialty crops as a strategy to enter the agriculture industry. Despite the opportunities, Missouri's specialty crop industry is fragmented. Multiple state organizations have formed to serve specialty crop growers, but the leadership, resources, and member engagement available to each one independently hasn't had the strength to enable those groups to make the most of the opportunities available. Existing specialty crop industry associations in Missouri have an opportunity to collaborate and form a single "umbrella" organization that would enable these associations to operate more efficiently, offer needed resources and services to their members, and benefit the state's entire specialty crop industry.	$39,556.00
Missouri Department of Agriculture	$441,617.31	Expanding the Novelty Melon Market in Missouri	University of Missouri Extension will initiate a yield and quality trial for novelty melons in Missouri. Since 2015, new releases in most categories have been grown and taste tested. During this time, four melons were identified for semi-commercial evaluation, to gather yield, quality and storage information. These are Brilliant (Canary), Honey Orange (crispy flesh Honeydew), Lambkin (Piel De Sapo), and Lily (small & early Crenshaw). Each has an appearance and taste profile distinctly different from cantaloupe. In this project, these four novelty melons, and 'Sugar Cube' (as a control), will be grown in a replicated yield and quality trial. Melon farmers in southeast and southwest Missouri will also grow and evaluate them. Taste testing will occur at five or more venues. Field worthiness and consumer interest will be documented. Results will be given in January 2020 at the Great Plains Growers Conference, during the annual melon meeting in Southeast Missouri, and in extension publications and newsletters.	$7,973.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Missouri Department of Agriculture	$441,617.31	Investigating the Impacts of Molybdenum Deficiency on Grapevine Productivity	Researchers at the University of Missouri will study the effects of molybdenum applications on grapevine fruit development, phytohormones, and wine quality. Molybdenum deficiency in grapevines is poorly understood, yet potentially widespread, and preliminary results have shown that treating the deficiency may benefit the quality of the grapes and wine produced from them. Data collected in a severely molybdenum-deficient vineyard of Vitis interspecific hybrid cv. Vignoles in 2017 shows that after only a single 5 percent molybdenum spray application to the vines before Veraison, the amount of molybdenum in the grape leaves rose from less than 1 mg/g of leaf tissue to 6.5 mg/g in the treated leaves, while wine produced from the two treatments showed higher concentrations of linalool and beta-damascenone, two key aroma compounds. Our research seeks to both understand the molybdenum requirements of grapevines and develop management strategies that enable grape growers to improve fruit and wine quality.	$36,181.00
Missouri Department of Agriculture	$441,617.31	Increasing Market Access for West Central Region Specialty Crop Farmers	The Osage Farmer Alliance will work together with the KC Food Hub to support other small to mid-sized farms in the West Central (WC) Region as they distribute more specialty crops to a growing audience of buyers seeking local food. This project will enhance the wholesale market for locally grown Specialty Crops in WC Missouri with a focus on Institutional buyers (especially schools); demonstrate two examples of Food Safety Modernization Act (FSMA) compliant and Good Agricultural Practices (GAP) certified specialty crop farms that currently sell to the wholesale market; and encourage other specialty crop farmers to expand their growing operations and enter the wholesale market. These objectives will be accomplished through crop planning meetings with farmers and buyers, marketing to attract both farmers and buyers to work together in a distribution system, providing wholesale post-harvest crop storage and packing materials for beginning farmers, and offering two on-farm food safety and wholesale production field days. Expected outcomes include an increase in the number of farms in the WC region who are FSMA compliant, an increase in the volume of wholesale specialty crops being sold in the region, and an increase in the number of wholesale buyers purchasing local specialty crops.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Missouri Department of Agriculture	$441,617.31	Irrigation Systems Design and Management	The University of Missouri extension proposes to secure the rights to use and develop and distribute low-cost irrigation system designs for vegetable, berry, fruit, and nut production. A set of pre-designed irrigation systems will be developed and compiled for distribution to Missouri's small commercial horticultural producers. A series of "irrigation workshops" (a minimum of six) will be held throughout the state, targeting those areas with the highest concentrations of horticultural producers. These workshops will include modules on: overall farm water management, water demand by specialty crop, source water options, and types of systems, scaling systems to match need, system operation and maintenance, and other related topics by producer request. The irrigation workshops will be held throughout the year. The workshops held in the summer months will likely include irrigated farm tours and will be conducted by a team of instructors including the project PI, Agricultural Engineers, Agronomist, and Farmers.	$40,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Missouri Department of Agriculture	$441,617.31	Explore the Economic Opportunities and Health Benefits of the Elderberry in Missouri	The University of Missouri Center for Agroforestry (UMCA) will explore the novel uses of the elderberry (Sambucus canadensis) and its byproducts in cosmetic, personal care products, nutraceutical, and pharmaceutical industries by systematically examining their health-promoting compounds. Tasks to be completed to address this research aim include: 1) conduct scientific research in characterizing the health-promoting compounds in the elderberry and its byproducts (juices, stem barks, leaves, fruits, and root extracts) through modern mass spectrometry, global metabolomics analysis, and high-throughput screening bioassay protocol; 2) conduct a market research to identify potential uses and formulation of the identified health-promoting compounds from elderberry and byproducts for cosmetic, personal care products, and pharmaceutical industries; 3) conduct a national consumer survey to examine the niche market of the identified value-added products; and 4) perform outreach activities to transfer the knowledge about new uses, and market potentials to local producers, harvesters, and industries. A market guide will be compiled to provide information on health-promoting compounds from elderberry and byproducts, their potential uses in producing value-added products in the industries; market price ranges for the identified value-added products; strategies in pricing elderberry byproducts; and a database of potential byproducts buyers.	$29,500.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Missouri Department of Agriculture	$441,617.31	Specialty Crop Education for Missouri Producers	The University of Missouri will conduct this project to educate Missouri agricultural producers about opportunities to adopt specialty crops and enhance their farms' diversification. In Missouri, commodity cash crops dominate; however, specialty crops create opportunities for beginning and established producers to diversify their farms, pursue new markets, improve food access in their communities and earn premiums. Despite the potential, one factor has limited specialty crop adoption: a lack of good agronomic and decision-support information about these crops. For this project, the University of Missouri will develop and deliver specialty crop information to producers through Agriculture Opportunities in Missouri, an online educational platform that provides a suite of decision tools that producers can use to evaluate specialty crops. The platform helps Missouri producers assess alternative agriculture opportunities given a producer's local market opportunities, level of expertise, financial position, and available agronomic and machinery resources. The project has three objectives. First, the project team will assess five specialty crops – asparagus, honeydew, onion, raspberry and strawberry – for Missouri production. Second, it will add educational materials for the five specialty crops to Agriculture Opportunities in Missouri. Third, it will enable the University of Missouri to conduct outreach-oriented educational programs to share the Agriculture Opportunities in Missouri platform with prospective users.	$27,624.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Missouri Department of Agriculture	$441,617.31	Establishing Missouri's Pawpaw Industry: Horticulture, Market Research, and Outreach	The University of Missouri, Center for Agroforestry (UMCA) is pleased to submit a multi-faceted proposal to conduct research on the North American pawpaw (Asimina triloba). Pawpaw is a high-value native specialty fruit crop with multiple avenues for commercialization of value-added products. This project will analyze the production and marketing of pawpaw by conducting four research components: production analysis, market research, consumer research, and financial analysis. Project findings will be disseminated to Missouri farmers through outreach activities including workshops, field days, and webinars. Integrating project results will result in the development of an in-depth Missouri Pawpaw Production and Marketing Guide and Financial Decision Support Tool. This guide will support the adoption of pawpaw as a viable specialty crop while increasing market competitiveness.	$29,751.00
Missouri Department of Agriculture	$441,617.31	Increasing Specialty Crop Sales and Education at Columbia's Agriculture Park	Columbia Farmers Market (CFM) will develop a marketing campaign to promote locally grown specialty crops (SC) at the Farmers' Market within Columbia's new Agriculture Park. The CFM will coordinate with the Columbia Center for Urban Agriculture (CCUA) to deliver experiential education (fruit and vegetable tastings, cooking demonstrations, activities, and farm tours) to further residents' knowledge of nutrition, cooking, availability, and purchase of SCs. Educating consumers on health benefits for themselves and their families is central to this program.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Missouri Department of Agriculture	$441,617.31	The Green Tomato Project	Community Action Agency of St. Louis County's (CAASTLC) Seeds of Hope Farm works to expand the market for fresh produce to low-income St. Louisans through a Community Supported Agriculture (CSA) program, which creates a long-term relationship between consumer and grower and creates new market expectations and demand in low-income food desert areas, to the benefit of the specialty crops market. The Green Tomato Project will promote the viability of the green tomato as a specialty crop in urban markets by increasing supplies to better meet a demand commonly voiced by our farm customers. In order to capture and develop this demand, we will disseminate recipes to customers and partner with University of Missouri-Extension staff to conduct food preservation classes for adults and a "Grow It, Try It, Like It" curriculum for kindergarteners. Green tomato recipes will be produced with contributions from nationally-renowned innovator in school nutrition Chef Robert Rusan, University of Missouri-Extension, CAASTLC staff, and CSA members. The Green Tomato Project will make the green tomato more versatile for the home cook, enhance the appeal and relevance of our CSA and partnering area food outlets, and further increase local consumption of fresh produce.	$25,000.00
Montana Department of Agriculture	$1,582,408.13	Expanding Montana's Emerging Hops Industry	"Growing Montana's Emerging Hops Industry" is a project that Headwaters RC&D and Crooked Yard Hops has developed to successfully expand the opportunities for hops growers throughout the state of Montana. The project is looking to build off of the successful market-based research on hops conducted by the Montana Dept. of Ag in 2017/18 and expand the reach of their effort to on-the-ground producers throughout the state. This producer-driven project is designed to achieve several outcomes; increase production and sales of hops in Montana, increase grower knowledge of best practices of growing hops develop a brand for Montana hops so that they can reach new and expanding markets, and create marketing materials exclusively for Montana hops growers as well as develop an online presence. We will also continue working with the Dept. of Ag to host the statewide Montana Hops Summit, which will feature producers, soil-scientists and industry experts coming to Montana to share their knowledge. All these tasks will be solely-focused around achieving our outcomes and growing hops as an industry in the state of Montana.	$74,068.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Montana Department of Agriculture	$1,582,408.13	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$99,337.72
Montana Department of Agriculture	$1,582,408.13	Addressing Weed Management Challenges in Pea, Lentil, and Chickpea Production in Montana	This project is focused on diversifying weed control tools for sustainable and economic production of pea, lentil, and chickpea (specialty crops) in MT. This project will directly address those grower challenges by investigating new/underutilized, cost-effective, and diversified (based on multiple modes of action) weed control programs in pulse crops. The specific objectives are to: 1) Investigate fall-applied soil-residual herbicide programs for improved pulse crop safety, yield, and weed control, and 2) Investigate potential/new herbicide options (multiple modes of action) applied preplant/preemergence in pulse crops for improved crop safety, yield, and weed control. Multi-location trials in the pulse producing regions of MT will be conducted, with the goal to reduce the production risk and enhance the adoption of diversified weed control programs by MT pulse producers.	$32,850.00
Montana Department of Agriculture	$1,582,408.13	Pulse Inbound from Europe	To build off the success of the 2018 inbound trade mission, the Montana Department of Agriculture (MDOA) proposes a three-year approach to build strong, lasting business relationships with European pulse buyers. In 2019, MDOA will work with a contractor to take Montana pulse companies to meet with buyers from Europe that have come to Montana previously and make connections with new buyers and government officials to help expand sales and markets for Montana Peas, Lentils and Chickpeas. MDOA will work with Montana Pulse growers and processors to increase sales of pulses. In 2020, MDOA will bring buyers back to the U.S. to show improvements to infrastructure and continue to build relationships. In 2021, the Department will finish the trade missions with a final trip to Europe for pulse producers.	$92,987.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Montana Department of Agriculture	$1,582,408.13	Developing Management Strategies for Pulse Insect Pest Complex in Montana	Montana growers' interest to cultivate pulse crops has increased immensely in the recent years because of less profitable farming from cereal crops globally. Due to emerging pest problems in pulses, this project aims to develop pulse insect pests management strategies relevant for Montana growers. This research proposal will address: 1) which Montana pea varieties are resistant against pea leaf weevil, 2) validate economic threshold levels for pea leaf weevil, pea aphid and lygus bug, and 3) evaluate commercially available synthetic insecticides in conjunction with biopesticides for their potential to control pulse insect pests and their impact on natural enemies such as predators and parasitoids of pulse insect pests. The knowledge can lead to novel management strategies for sustainable pest management programs. This project will support sustainable pulse production in Montana and educate pulse growers on overall integrated management of pulse insect pests.	$106,662.00
Montana Department of Agriculture	$1,582,408.13	Foundational research for Specialty Crop Pollination Security - the (Wild) Bees of Montana	Native bees provide billions of dollars of pollination services annually and are well known to be under threat from a variety of established and unknown factors that have resulted in declines throughout the nation and beyond. This project will be aimed at documenting up to 1,000 species of native bees that occur in the state, and providing taxonomic tools for their identification. This specific project will expand the collections of bees to areas of Montana under-represented in collections, resulting in resources for an MS thesis project and several publications by professional staff and collaborators that will produce taxonomic tools for several genera of Montana bees that are critical pollinators. In addition, local stakeholders will be trained in a taxonomic workshop, rural schools will be provided with the opportunity to participate in the discovery process and provided support for pollinator education.	$95,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Montana Department of Agriculture	$1,582,408.13	Establishing Extrusion Services to Produce Value-Added Specialty Crops	With consumers' growing demand for convenient, diverse, and nutritious foods, creating extruded foods with specialty crops such as whole-grain chickpea pasta and cherry puffs is a promising way to promote specialty crops. The goal of this project is to establish extrusion services for Montana farmers and food enterprises to develop and produce value-added specialty crop products. A research and production extruder will be acquired and made accessible to Montana specialty crop farmers and processors. The Food Product Development Lab at Montana State University will provide food science expertise to assist the users in developing and producing the extruded specialty crop products via a fee-for-service agreement. Acquiring the extruder will activate the first extrusion program of specialty crops in Montana, creating the opportunity to convert predominantly unprocessed specialty crops into high value and nutritious exports, and benefit Montana's value-added specialty crop industry.	$181,230.00
Montana Department of Agriculture	$1,582,408.13	Fruit Tree Research and Education	Across Montana, access to fresh fruit is very limited especially outside of the Bitterroot and Flathead Lake valleys. MSU Extension looks to continue the work we started in 2013 with tree fruits to help address this issue through research and education. We will continue to evaluate fruit tree cultivar performance at the 11 fruit tree research sites we established, and we will continue our work with Montana’s Heritage Orchards, identifying, preserving and propagating from 100 plus year old trees. We will update our publication “Growing Fruit Trees in Montana” and develop a new publication on Montana’s Heritage Orchards. We will also conduct state-wide workshops on grafting, pruning and growing fruit trees.	$71,612.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Montana Department of Agriculture	$1,582,408.13	Efficacy of AntiViral Agents in Honey bees	The long-term goal of this project is to reduce the number of virus-associated honey bee colony deaths by determining the efficacy and advancing the development, of promising antiviral treatments for honey bees. Honey bees are a specialty crop with a dual role in agriculture; they are producers of honey and essential pollinators of numerous crops. Montana is an important beekeeping state, which ranked 2nd in the US for honey production in 2013, valued at over $30 million, and provided over 150,000 colonies for pollination services. We will further develop laboratory-based honey bee virus infection assays and evaluate and quantify the ability of five promising antiviral agents to reduce virus replication and mitigate illness and/or death of honey bees in laboratory-based infection assays, using techniques and methods we have optimized for quantifying honey bee virus infections (live bee studies, survival curves, and qPCR). Outcome: This project will result in an objective and quantitative assessment of the efficacy of putative antiviral compounds for honey bees.	$176,685.00
Montana Department of Agriculture	$1,582,408.13	Growing for Success	Growing for Success is a project of the National Center for Appropriate Technology (NCAT) to increase the sale of specialty crops to Montana institutions. This project builds on the Montana Harvest of the Month program (HOM) which showcases a different Montana grown food each month, providing an easy-to-use framework to start or grow farm to institution programs and providing resources and video and print educational materials. Producers will have new sales opportunities to institutional markets across the state as well as a new market study and stakeholder events.	$121,304.00
Montana Department of Agriculture	$1,582,408.13	Impacts of Integrated Livestock on Soil, Weed, & Food Safety Management for Specialty Crop Production	Fruit and vegetable production is on the rise throughout Western Montana, with a large portion of new and expanding growers utilizing organic practices. Our research will assess the food safety impacts on apples, grapes, and vegetable of different livestock management practices and will test strategies including cover cropping, tilling, and various time intervals to safely mitigate risks. We will also measure the effects of livestock integration on weed presence, soil health, and crop vigor to assist producers in choosing effective management strategies. Using our data and research, we will provide education for growers through workshops, demonstrations, and publications.	$167,431.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Montana Department of Agriculture	$1,582,408.13	Root Rot Mitigation in Specialty Crops	This project by Montana State University focuses on dry pea production in Montana but will directly benefit lentil, chickpea and dry bean production since dry peas are often grown in rotation with these crops. Aphanomyces root rot is a major threat to the pulse crop industry and has driven dry pea acreage out of areas in Canada and North Dakota. Once Aphanomyces is established in a field, the rotation interval for dry pea is 8-20 years, which is not sustainable for the industry. This project will continue to validate soil bioassays and molecular methods of detection of the pathogen Aphanomyces eutiches causing root rot in specialty crops, continue validation of a soil bioassay for Aphanomyces, and develop information on rotational options for growers to mitigate the risk of Aphanomyces. With information generated from this project, farmers will be able to mitigate their risk of soilborne root rots through the adoption of cultural practices including crop rotation, sanitation of equipment, seed treatment fungicides, and variety selection.	$59,187.00
Montana Department of Agriculture	$1,582,408.13	Control of Root Rot of Field Pea Caused By Fusarium Avenaceum From diseased Grain	In 2016, Fusarium avenaceum, the primary species causing severe root rot on pea, was identified as a major component of the Fusarium head blight (FHB; also known as scab) disease complex on cereals in Montana. This finding suggests that lighter weight diseased kernels, blown from the combine during harvest, may substantially increase Fusarium root rot incidence in pulse fields following a FHB epidemic. The purpose of the proposed two year project, is to examine the potential of these cereal isolates to cause root rots of pulses and evaluate the efficacy of seed treatments. Isolates will be tested in the greenhouse, alongside F. avenaceum collected from diseased pea plants, to measure their effect on root rot severity. Field experiments will also be performed to determine the amount of pathogen infested grain required to impact yield and test various seed treatments for the ability to control F. avenaceum. Results from this work will help improve disease management recommendations for pulse crops and give farmers more options in controlling root rot diseases.	$49,654.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Montana Department of Agriculture	$1,582,408.13	Improving Cold Injury and Pest Management in Apple Production: Risk and Predictive Model Assessment	Montana State University's Western Agriculture Research Center (WARC) in Corvallis is proposing a project to reduce the impacts of fundamental threats to apple production in Montana, specifically frost damage to blooms, fire blight, and codling moth. Project objectives are two-fold: objective one will establish a framework to identify suitable production regions in Montana by integrating historical weather data with available apple cultivar-specific chilling and bud-break heat requirements; objective two will improve prediction and management of fire blight and codling moth, and frost risk during bloom time, by establishing collaborations and assessing methods for site-specific, real time risk, utilizing on-orchard weather stations and model-based monitoring.	$167,845.00
Montana Department of Agriculture	$1,582,408.13	Growing the Agritourism Business in Montana: Insight From Experts	"Growing the Agritourism Business in Montana: Insight from Experts" is a collaborative project by faculty and communications professionals at Montana State University (MSU). The investigators will develop an innovative educational campaign for prospective and emerging operators of specialty crops agritourism businesses in Montana, providing these farm businesses with critical information and lessons-learned perspectives for increasing their success in Montana's nascent but growing agritourism industry. The educational platform will consist of a series of podcasts, with each episode focusing on a different facet of agritourism—production, management, marketing, economics, legal aspects, among others. A complementary website to host the podcast series and informational resources will significantly aid in expediting the development of a successful agritourism industry in Montana. This project will use a portfolio of marketing strategies—ranging from traditional press releases to targeted social media strategies—to maximize reach across varying demographic and socioeconomic groups. By tracking analytics, the project will provide insights about which communications and marketing strategies are most effective.	$83,983.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Nebraska State Department of Agriculture	$696,677.63	Japanese Beetle Survey	The Nebraska Department of Agriculture (NDA) proposes a coordinated, comprehensive survey to document the presence or absence of Japanese Beetle in Nebraska and to provide certification to facilitate out-of-state shipments of Nebraska grown nursery stock. This survey will assist in keeping interstate and international markets open to Nebraska nursery stock. The monitoring will confirm the status of the pest in our state to determine what steps, if any, are necessary to certify nursery stock. Project activities include setting, monitoring and retrieving approximately 175 Japanese Beetle traps statewide, monitoring treatment of nursery stock for Japanese Beetle, and conducting inspections of facilities and product as part of the certification process.	$36,600.00
Nebraska State Department of Agriculture	$696,677.63	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$55,656.72
Nebraska State Department of Agriculture	$696,677.63	Potato Cyst Nematode Survey	This project is designed to maintain Nebraska's Potato Cyst Nematode (PCN) pest-free status by requiring official soil surveys of potato fields to confirm the presence or absence of PCN in Nebraska. Should PCN be found, survey data could be used to determine the extent of the infestation and potentially mitigate the impact on trade. The overall goal of the project is to facilitate trade of Nebraska grown potatoes on the international market, by documenting Nebraska's freedom from PCN. The goal will be met by conducting soil sample surveys of 20% of seed potato and 2% of commercial potato production fields (with the focus on known international shippers).	$41,615.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Nebraska State Department of Agriculture	$696,677.63	Columbia Root-Knott Nematode Survey	This project is designed to maintain Nebraska's Columbia Root Knot Nematode (CRKN) pest-free status by conducting comprehensive soil surveying throughout Nebraska to confirm the presence or absence of CRKN in Nebraska. In order to maintain the pest free status of Nebraska, it is necessary to conduct soil surveys throughout the state. The results of these surveys would be used to confirm the presence or absence of CRKN. This allows for certification of products, like potatoes and nursery stock, for international trade. Should CRKN be found during these surveys, the information could be used to determine the extent of the infestation, and potentially mitigate the impact on trade. Nebraska currently has a CRKN state exterior quarantine in place to protect the state from the introduction of this pest. Enforcement of the existing exterior quarantine on CRKN is vital to protecting the state from the introduction of this pest.	$24,300.00
Nebraska State Department of Agriculture	$696,677.63	Grafting to Delay Spring Bud Break for Nebraska Wine Grapes	The University of Nebraska Viticulture Program will use the technique of grafting of an early bud breaking grape cultivar (scion) onto a rootstock of a grape cultivar that breaks winter dormancy later in the spring season. Delaying bud break by as little as 3 to 4 days could mean the difference between a productive year and a nonproductive year. If successful, this grafting technique will have an immediate and positive impact on the grape and wine industry in not only Nebraska, but everywhere spring frost and freeze events are an issue.	$74,309.00
Nebraska State Department of Agriculture	$696,677.63	Development of Optimal Hop Drying Techniques for Nebraska	The University of Nebraska-Lincoln's (UNL) Industrial Agricultural Product Center in Biological System Engineering (IAPC) will conduct a series of experiments to determine the optimal drying conditions for hop producers in the state. The results will be communicated by Nebraska Extension to the state's hop growers through the development of a hop quality and safety manual, specialized trainings and workshops, related conferences, publications, and dissemination through related organizations such as the Nebraska Hop Growers Association.	$116,259.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Nebraska State Department of Agriculture	$696,677.63	Thousand Cankers Disease of Walnut Survey	The Nebraska Department of Agriculture (NDA) will conduct a survey for walnut twig beetle across the state and confirm compliance with the Nebraska Thousand Cankers Disease (TCD) of walnut quarantine through inspections. The results of this survey will be used to confirm the presence or absence of TCD in the state. This will allow for movement of products, like nursery stock and scion wood, out-of-state. Should TCD be found during this survey, the information could be used to determine the extent of the infestation, and potentially mitigate the impact on trade.	$26,450.00
Nebraska State Department of Agriculture	$696,677.63	Herbicide Drift in Specialty Crops: Injury Yield Loss, and Residue Persistence	This partnership with the University of Nebraska-Lincoln (UNL) will enhance the competitiveness of specialty crops in Nebraska through research on off-target crop injury from dicamba and 2,4-D choline + glyphosate drift. Project results will increase knowledge among farmers in Nebraska about the potential economic consequences of herbicide drift in specialty crops.	$79,854.00
Nebraska State Department of Agriculture	$696,677.63	Maximize Hop Yields by Modeling Plant Growth	University of Nebraska-Lincoln (UNL) researchers will implement Arable Mark P001 sensors at five distinct hop production sites in eastern Nebraska to collect environment and hop growth data over three growing seasons. Growth potential models will be developed from the data. The growth models will provide hop producers information on pruning, training, and harvest dates, as influenced by environmental factors, which are important factors for maximizing yields.	$45,900.00
Nebraska State Department of Agriculture	$696,677.63	Response of Chickpea and Dry Yellow Field Pea to Inoculum, Fungicide, and Endomycorrhizal Fungi	The University of Nebraska – Lincoln (UNL) will conduct an experiment with the primary objective to evaluate different types of inoculum from different origins to determine which inoculum is best suited for use in western Nebraska. The secondary objective is to evaluate other seed treatments, such as fungicides and endomycorrhizal fungi, to identify if yields can be further enhanced when used alone or when paired with an appropriate inoculum. These results will provide guidance to producers in selecting the best inoculum practices for their operation.	$25,281.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Nebraska State Department of Agriculture	$696,677.63	Slow Darkening Pinto Bean Winter Seed Increase in New Zealand	The U.S. dry bean industry is demanding slow darkening pinto cultivars. Therefore, the University of Nebraska – Lincoln's (UNL) Dry Bean Breeding Program is proposing to increase the seed of promising slow darkening pinto beans in winter nurseries in New Zealand. These bean lines have the potential to be released as cultivars for western Nebraska based on their performance in previous trials. Elite slow darkening pinto beans with high yield potential, multiple disease resistance, and broad adaptation will be multiplied in New Zealand during the U.S. winter. During the subsequent U.S. growing season, the increased seed will be tested in growers' fields using the "Mother and Baby" Trials scheme. The increased lines will be compared to standard pinto beans and commercial slow darkening beans. Our goal is to release at least one slow darkening pinto bean cultivar that is well adapted to western Nebraska growing conditions.	$60,050.00
Nebraska State Department of Agriculture	$696,677.63	Identifying Cowpea Variety with High Yield, Quality and Disease Resistance for Western Nebraska	The University of Nebraska Panhandle Research and Extension Center (PREC) will identify cowpea varieties adaptable to western Nebraska's production environment. Replicated yield trials will be conducted using approximately 10-20 varieties in three western Nebraska counties. PREC will collect data on flowering, foliar diseases, plant height, maturity and seed yield. Disease data will be collected in cowpea samples and production information from at least five cowpea producers in Nebraska. In collaboration with a local cowpea marketing company, cowpea seed from the variety trials and commercial production will be assessed for quality and compared with an industry standard. Research results and educational programming will provide valuable decision-making information for growers interested in this specialty crop.	$19,440.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Nebraska State Department of Agriculture	$696,677.63	Evaluation of Rows Spacing and Plant Population Impacts on Dry Bean Direct Harvest, and Weed Suppression	The University of Nebraska – Lincoln (UNL) will establish a series of field studies over three years to evaluate optimal row spacings and planting populations to maximize dry bean yield and quality, facilitate direct harvest, and improve weed suppression. A trial will be established over two years at PREC to determine optimal dry bean populations at a variety of row spaces. Ideal plant population has been well characterized for 30" and 22" row spacings. Therefore, we are proposing to use a 22" row spacing as the upper "control" spacing and compare the 22" spacing to 15" and 10". Within each of the three-row spacings, four plant populations will be used: 115,000, 100,000, 85,000, and 70,000 plants per acre.	$25,920.00
Nebraska State Department of Agriculture	$696,677.63	Snack Time with Specialty Crops: Increasing Specialty Crop Consumption Through Access and Tastings at Schools	The University of Nebraska – Lincoln's (UNL) Buy Fresh Buy Local (BFBL) Program proposes to utilize grant funds to increase consumption of specialty crops by distributing specialty crops at established mobile food pantries at Lincoln schools, provide educational materials to highlight specialty crops, and offer free food tastings for children to sample. In order to increase consumption of specialty crops and make a wider impact, this project combines access with education by providing healthy snack ideas, informational materials and tastings prepared by a local chef. The sampling of specialty crops provides a visceral experience that shows students new and exciting ways to consume these healthy snacks.	$39,363.00
Nebraska State Department of Agriculture	$696,677.63	Hop Cultivar Performance Evaluation Phase 2	The University of Nebraska – Lincoln's (UNL) Institute of Agriculture and Natural Resources will evaluate the quality of eight commercial hops cultivars at four regional locations across the state and measure cultivar productivity to determine the potential for commercial production of this specialty crop. Measurements will include growth rate, flower timing, harvest cone weight, and analytical analysis of alpha and beta acid content for each cultivar. Research results and educational programming will provide valuable decision-making information for growers interested in this specialty crop.	$24,703.00
Nevada Department of Agriculture	$294,861.17	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$23,589.17

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Nevada Department of Agriculture	$294,861.17	Fallon Food Hub Co-operative - Farm Fan Farmers Market Promotion Program	The purpose of the Fallon Food Hub's Farm Fan Farmers Market Promotion Program is to facilitate a direct connection between our partner farms and customers attending farmers markets throughout West Central Nevada. Through a subscription-based text message platform, subscribers will be sent timely messages reminding them of farmers markets in the area, the partner farms who will be in attendance, and the specialty crops that will be available for purchase.	$6,150.00
Nevada Department of Agriculture	$294,861.17	Fallon Food Hub Co-operative – Specialty Crop Promotional Videos	The purpose of the Fallon Food Hub Co-operative's Specialty Crop Promotional Video project is to produce a series of short informational videos about specialty crops raised by our partner farms in Churchill County. These videos will serve as both an avenue for education of consumers about local agriculture, and as a promotional tool for increasing specialty crop sales by area producers.	$10,195.00
Nevada Department of Agriculture	$294,861.17	GBC Specialty Crop Marketing Initiative	Great Basin College will enhance the competitiveness of specialty crops through increased sales by implementing the GBC Specialty Crop Marketing Initiative project. GBC's Management and Marketing instructor will oversee a structured student internship each summer term that will consist of creating and putting into action a comprehensive marketing plan for each growing season for 2019, 2020 and 2021 which will focus on all the specialty crops being grown and offered for sale in Elko County including the Elko, Spring Creek, Lamoille and Wells areas.	$24,000.00
Nevada Department of Agriculture	$294,861.17	Education, Marketing & Promotion of Lavender & Honey	This project of Western Nevada College will provide promotion and education for regional lavender and honey producers. The project includes support to produce the Sierra Nevada Lavender & Honey Festival, a regional agritourism event, and funding for a commercial lavender workshop to educate producers.	$14,271.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Nevada Department of Agriculture	$294,861.17	NevadaGrown Feasibility Study for Processing, Aggregation & Distribution of Specialty Crops	This project of Nevada Grown will be to conduct a feasibility study to be used as a guide to find solutions to the challenges of food processing, aggregation and distribution faced by Nevada's specialty crop producers. The completed study will be made available to industry stakeholders and to the public who can use this information to improve systems while managing financial risks. The project will include an observation period after the study to track its successes and to collaborate with interested stakeholders to develop improvements, projects and partnerships.	$20,900.00
Nevada Department of Agriculture	$294,861.17	Prevention Through Nutrition	Youth Outdoor Unity (YOU) will ignite a passion amongst children that fuels a new outlook on the endless possibilities of careers that lend to sustainable living through agriculture with the implementation of a Science, Technology, Reading, Engineering, Arts, Mathematics program geared at exposing youth to specialty crops. Prevention Through Nutrition will inspire our youth to focus on: 1) Learning to grow and consume healthy specialty crops; 2) Acquiring and maintaining healthy lifestyles that prevent youth obesity and chronic illness; 3) Using creative skills to express beauty and love of nature and specialty crops; and 4) Building leadership skills that will promote specialty crops.	$23,080.00
Nevada Department of Agriculture	$294,861.17	Reno Garlic Fest 2019	Reno Garlic Fest 2019 will be a collaborative effort between Be the Change Project, Local Food Network and Reno Food Systems (RFS). RFS has the primary leadership role for the 2018 (previously funded) event and will be leading the event for the 2019 and subsequent year events. All organizations have 501c3 nonprofit status and are passionately invested in Northern Nevada's local food efforts.	$11,500.00
Nevada Department of Agriculture	$294,861.17	Reno Food System 'Farm Parks' Program - Phase II	The 'Farm Park' project serves to grow the next generation of conscientious farmers, innovative educators, and sensible leaders who will collectively push the pendulum of Northern Nevada food production. Our farm and project managers will provide thorough and intensive hands-on training through collaborative internships as well as a continuing education program via our "Farm Parks" program based in Reno, Nevada. A farm park is simply a farm on public park property.	$38,500.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Nevada Department of Agriculture	$294,861.17	Garden Farms Foundation specialty crop curriculum fit to STEAM	Garden Farms Foundation will develop a STEAM based curriculum based on nation-wide garden education research, focusing on sustainable and regenerative practices suitable to our desert climate. This curriculum will be available to all schools with a Garden Farms outdoor garden classroom, accompanied by a curriculum textbook as well as teacher training provided by Garden Farms Foundation's monthly seminars.	$14,666.00
Nevada Department of Agriculture	$294,861.17	Growing NV - Reno, NV	The NEON agency is seeking to enhance the competitiveness of specialty crops by implementing Growing NV - a local food week celebration of specialty crops based in Reno, Nevada. The proposed events will be opportunities for NV residents to meet local specialty crop producers, eat locally grown specialty crops, enjoy locally grown flowers, and connect with local food enthusiasts all with the main goal of not only understanding and appreciating the value and benefits of buying our region's specialty crops, but by also experiencing them first hand.	$25,978.00
Nevada Department of Agriculture	$294,861.17	Encouraging Specialty Crop Expansion, Diversification, and New Production through Specialized Research, Education and Technical Assistance	The Nevada Department of Agriculture (NDA), Plant Industry Division will coordinate with growers to assess production limitations, ability to diversify, interest in expansion, and new farmer challenges. This project seeks to survey producers, wholesalers, and buyers to understand the current limitations (Phase 1) within the industry and provide education and tools (Phase 2) based on phase 1 findings to enhance specialty crop production throughout the state. The final phase of the project will be to assess the failures and successes of this project and publish a final report cataloging the duties performed and provide the resources necessary to further this industry. In addition, phase 3 will also provide education and technical assistance to growers to enhance production and Nevada specialty crop availability.	$82,031.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Hampshire Department of Agriculture, Markets and Food	$297,744.42	Project 6: Buy New Hampshire Specialty Crops Social Media Video Campaign in Partnership with NH Division of Travel & Tourism Development	The New Hampshire Department of Agriculture, Markets & Food (NHDAMF) will continue a successful partnership with the NH Division of Travel & Tourism Development to promote the purchase of local New Hampshire Specialty Crops by visitors to New Hampshire from neighboring states and regions. This project will focus on encouraging out of state visitors to purchase New Hampshire Specialty Crops and visit these farms. This will be accomplished through a social media campaign that will focus on the creation and airing of short format video/animation. The campaign will promote New Hampshire specialty crops including vegetables, fruits, flowers/plants, maple, honey, wine, and Christmas trees using the video format to inform viewers about these crops, how to use them and where to get them.	$90,201.72
New Hampshire Department of Agriculture, Markets and Food	$297,744.42	Project 3: BASES: Building Appropriately-Scaled Equipment Skills for New Hampshire Specialty Crop Growers	The National Center for Appropriate Technology (NCAT) will enhance specialty crop production in New Hampshire by educating growers about field equipment that is designed for small farms. Through hands-on trainings, field days, and video resources, we will provide specialty crop growers with a greater capacity to implement more sustainable farming practices and systems. Some of the knowledge growers will take away includes: financial considerations, access to appropriate equipment, proper use and safety, and routine maintenance of each piece of equipment.	$27,798.22
New Hampshire Department of Agriculture, Markets and Food	$297,744.42	Project 1: Expanding the Maple Experience Program	The New Hampshire Maple Museum, a not-for-profit subgroup of the New Hampshire Maple Producer's Association (NHMPA) in partnership with the Society for the Protection of New Hampshire Forests at the Rock's, will expand the New Hampshire Maple Experience program to broadly benefit the maple sugaring industry in the state. Growing the educational program will be accomplished by updating and improving marketing related to the New Hampshire Maple Experience, and by the addition of a new position (staffed by two individuals) to be present at the site seven days a week from July 1st through Columbus Day each year.	$35,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Hampshire Department of Agriculture, Markets and Food	$297,744.42	Project 2: Plant Something NH	Plant Something NH is a program of the New Hampshire Plant Growers Association (NHPGA), with a mission to promote public awareness of the health, environmental and economic benefits of plants to increase consumer support of local growers, nurseries, garden centers, landscapers, and affiliated trades. The work of public education and building public awareness will include a variety of promotions including public radio, social media, and public relations. In addition, a consumer focused seasonal eNewsletter was introduced, with the goals of: improved strategy, better understanding/serving our audiences, industry and consumer surveys are also currently in development.	$53,000.00
New Hampshire Department of Agriculture, Markets and Food	$297,744.42	Project 4: Harvesting A Profit	Small and Beginner Farmers of New Hampshire has put together several projects with top industry leaders to provide New Hampshire's specialty crop growers with the latest and most up to date information on crop management. Today, as well as tomorrow, the most important piece of farm equipment is knowledge. Understanding complex situations or production and marketing problems will be a key to staying in business year after year. In this grant we are offering the newest technology to our members and at the same time we are benefiting from the workshops and trainings as an organization. Farmers in general are busy people, and they are more likely to attend educational trainings from their homes. The technology is interactive just like in a classroom, and they can receive the same education for most trainings by participating in a webinar.	$24,963.28
New Hampshire Department of Agriculture, Markets and Food	$297,744.42	Project 5: Farm Energy Innovation Program for Enhanced Fruit and Vegetable Production in Merrimack County, NH	The Merrimack County Conservation District proposes to assist fruit and vegetable producers in Merrimack County, NH, in reducing energy use through practice changes, efficiency, and use of low-cost renewables to reduce costs, increase production, and improve profits to make Merrimack County's specialty crop producers more sustainable while increasing the availability of locally produced fruits and vegetables year-round. This project will use educational outreach programs, energy assessments, demonstration sites throughout the county, and written and video materials to showcase energy innovation.	$42,130.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Hampshire Department of Agriculture, Markets and Food	$297,744.42	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$23,814.00
New Jersey Department of Agriculture	$798,279.90	Evaluation of the Production Marketing and Storage of Yacon: a Potential Specialty Crop for New Jersey Farmers	Yacon (Smallanthus sonchifolius) is a crop grown in South America for its sweet tasting edible tuber. The health and nutritional benefits of yacon have received media attention creating interest in growing and marketing yacon as a specialty crop in New Jersey [Stabiner, K. (2017, July 27) "Forecasting the Next Food Fad: Are 'Kohlrabi' and 'Yacon' the Next Kale?" Wall Street Journal retrieved from https://www.wsj.com]. Until recently there was very little information on yacon's cultural requirements, yield, storage requirements and market potential in New Jersey. Field research trials will examine the growth, yield, tuber quality of six cultivars of yacon in southern and northern Jersey. Post-harvest trials will be conducted to determine the influence of semi-permeable membranes on the shelf-life and nutritional components of yacon tubers and specifically one of the main beneficial nutritional components of yacon are fructooligosaccharides (FOS). Yacon tubers will be shared with a Rutgers University chef for flavor evaluations and the development of recipes to assist with the marketing of yacon. Grower collaborators will be enlisted to conduct on farm trials of yacon and examine the market for yacon with their customers.	$39,813.00
New Jersey Department of Agriculture	$798,279.90	Identifying the Insect Vector for Grapevine Red Blotch in New Jersey	Winemaking and grape growing are a rapidly expanding industry in New Jersey valued at >$30 million annually. A 2015-2016 survey identified a critical emerging disease in NJ, grapevine red blotch virus, which decreases wine quality and yield. Grapevine red blotch virus (GRBaV) is present on all 8 vineyards surveyed and increased from an average of 6% incidence to 56%. Grapevine red blotch virus causes reddening of the leaves and significantly reduces the quality of the grapes and wine by reducing the amount of available sugars. The only current management is to rogue out infected vines and replant with clean material - a costly process that delay yields for approximately 3 years and does not guarantee the transmission cycle will stop. The objective of our work is to identify treehopper species associated with NJ vineyards, identify species infected with GRBaV, and determine vector competency in greenhouse studies.	$39,910.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Jersey Department of Agriculture	$798,279.90	Know Your Farmer, Know Your Food: Connecting Consumers with New Jersey Potato Growers	The Jersey Fresh program is one of the longest standing and best-known local produce marketing campaigns in the nation. The goal of this project is to increase in the volume of Jersey Fresh branded potatoes sold by embracing the slogans “Know Your Farmer, Know Your Food” and “Locally Grown.” Developing a connection between consumers and their local farmers will promote sales of local potatoes by helping people to feel safe and confident in the quality of the potatoes they are purchasing. Point of purchase materials that feature the eleven NJ potato farm families will be created to tell the story of the New Jersey potato farmer. These materials will be distributed to targeted stores over two years with the goal of significantly increasing “Jersey Fresh” potato sales. We will be designing a web site to allow consumers to further connect with the growers that are producing potatoes. The food service area has been previously untapped for locally grown Jersey Fresh potatoes. Continuing with our theme, we plan on targeting this group to further expand sales of Jersey Fresh potatoes.	$29,354.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Jersey Department of Agriculture	$798,279.90	Converting Fine Wine Drinkers into New Jersey Wine Drinkers	While New Jersey wines are being recognized nationally for their excellence in renowned wine competitions and the industry has seen tremendous growth with over 50 licensed wineries now operating in the state, drinkers of fine wine have not embraced the fruits of Garden State vineyards largely because they have not been exposed to these wines. Now, to reach the fine wine connoisseur, the GSWGA proposes a targeted marketing campaign to reach and convert these wine aficionados to try New Jersey wines. The GSWGA requests funding to create a marketing platform that will reach this targeted audience through video development, ad design and special online web and ad creative. A production crew will be retained to develop video programming specific to this audience. The GSWGA will also partner with media outlets like Wine Enthusiast to develop special co-branded promotional websites and digital marketing outreach to these fine wine consumers. We will also develop print ads promoting the fine wines of New Jersey that will appear in magazines such as Wine Enthusiast, Wine Spectator, Food & Wine Magazine, Bon Appetit Magazine, among others.	$40,000.00
New Jersey Department of Agriculture	$798,279.90	Bring Awareness to “Jersey Fruit” Family Farms and Local Specialty Crops Through Direct to Consumer and Industry Marketing and Advertising Initiatives	The purpose of this project is to enhance the visibility and image of our Jersey Fruit Cooperative family run farms through a multipronged advertising approach to reach consumers and retailers/suppliers. Marketing toward consumers will highlight our farms “local” and “sustainable” platforms while industry marketing will be directed toward product safety and quality. Consumers are consistently demanding local produce which is sustainably grown by small family farmers. Educating consumers and suppliers through marketing and advertising is the perfect way to get our story out and bring attention to specialty crops grown in New Jersey. Yearly sales records will be compared to verify if our marketing campaign is reaching our intended audience.	$40,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Jersey Department of Agriculture	$798,279.90	Marketing Specialty Crops Through Youth Nutrition Outreach	The New Jersey Agricultural Society (NJAS) will enhance the competitiveness of specialty crops by teaching preschool and elementary school students to eat more fruits and vegetables through school garden education. Research studies have shown that when students grow fruits and vegetables in a school garden and eat those fruits and vegetables at school, they are both more likely to try new types of fresh produce and to include more fresh produce regularly in their diets. Therefore, school gardening is an excellent way to expose children to specialty crops and to influence them to regularly eat more specialty crops. We propose to establish 15 new preschool and elementary school gardens over three years and educate teachers about the research connecting school gardens and children's increased consumption of fresh produce. We will also compile child-friendly recipes for the cool-season vegetables typically grown while school is in session. These recipes, printed on laminated cards, will be distributed to teachers at approximately 50 schools in the LTG program and will be posted on the NJAS website.	$36,489.00
New Jersey Department of Agriculture	$798,279.90	Advertising Jersey Fresh Blueberries Project - 2019	New Jersey remains in the nation's top 5 states for blueberry production. In 2016, New Jersey blueberry growers produced over 43 million pounds of blueberries at a total value of $59 million. Each year, acreage devoted to cultivated blueberries continues to increase, both domestically and internationally. This increase in competition has made it necessary for the New Jersey Blueberry Growers Association to find ways to maintain existing market share, as well as increase demand in new markets. We believe that given our resources, a radio campaign would maximize our assets most efficiently, and enable us in reaching consumers throughout our marketing area. The New Jersey Blueberry Growers Association plans to use their grant in a consumer-oriented radio campaign designed to promote New Jersey produced blueberries. The campaign would air during peak production weeks and will broadcast in markets throughout the Northeastern Seaboard. The purpose of these ads will be to differentiate New Jersey blueberries to the consumer as locally grown and promote them as a nutritious alternative in their diets.	$40,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Jersey Department of Agriculture	$798,279.90	Marketing Jersey Fresh and Local Peaches	For the past 68 years, the New Jersey Peach Promotion Council (NJPPC) has conducted successful and changing promotional programs for the orderly marketing of the New Jersey peach crop. The focus of this project is to have a media and promotional presence in the New Jersey metropolitan area including Philadelphia and New York/New England and possibly beyond this geographical territory. There are more than enough consumers in New Jersey to utilize the entire New Jersey peach crop but not enough informed buyers to know why they should buy and utilize New Jersey peaches over competing produce items, and peaches and nectarines from other production areas. Focus will be on social media, consumer and trade advertising, medial releases and relationships, retail promotions, and research.	$40,000.00
New Jersey Department of Agriculture	$798,279.90	Increasing Sales of Plants and Flowers in New Jersey through the 'Plant Something' Marketing Program	The New Jersey Nursery and Landscape Association seeks to further develop a Plant Something Campaign started using SCBG funds awarded in FY2015. We hope to utilize the Plant Something brand-awareness to help inform the public on not only the benefits of planting, but the need to plant the "right something" and not to consider planting invasive species. Additionally, this campaign can be used to inform and educate the public on the devastating issues that threaten our environment, such as spotted lanternfly and the emerald ash borer. We will be able to use the already-successful Plant Something Campaign to educate and inform the consumer on these, other emerging issues.	$30,000.00
New Jersey Department of Agriculture	$798,279.90	Project to maximize the effectiveness of the Jersey Fresh advertising program in 2019 and beyond	The New Jersey Department of Agriculture is seeking to continue to successfully add value to Specialty Crops produced in the State of New Jersey through the means of branding products as locally grown to increase their demand and value. The purpose of this project is to increase the overall effectiveness of the marketing of all specialty crops in New Jersey through the continuation of the proven successful efforts of the Jersey Fresh program. This will be accomplished using social media and other online promotion, print, radio, point of sale and outdoor advertising. Increased marketing effectiveness is intended to increase product demand, thereby increasing the income of specialty crop growers in New Jersey.	$368,168.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Jersey Department of Agriculture	$798,279.90	Summer and Fall Strawberry Production for NJ Using the Long-day Cultivar 'Albion	Local strawberries are available in New Jersey for a short time in late spring (early May through mid-June) from seasonal fruiting, short day (SD) cultivars. Interest in off-season strawberry production has increased, however success in New Jersey has been limited and inconsistent. The use of inappropriate cultivars and inadequate preparation of plant material before field planting have led to poor production. Off-season field production with long-day (LD) cultivars (August through November) without high tunnels or greenhouses is now possible using easily conditioned plants. Productivity of the long-day cultivar 'Albion' is possible from August through November in a plasticulture system utilizing plants conditioned with long days and elevated N. Productivity of this newly developed strawberry production system will be demonstrated on several NJ farms. Farmers and consumers will evaluate fruit quality. Project results will be publicized through extension bulletins, trade journals, and local and regional grower's meetings.	$38,515.00
New Jersey Department of Agriculture	$798,279.90	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$55,023.00
New Mexico Department of Agriculture	$611,638.15	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$48,876.65
New Mexico Department of Agriculture	$611,638.15	Developing The New Mexico Cider Industry	New Mexico Wine is seeking funding to coordinate activities among local growers, cider producers, winemakers and brewers to develop programs that will increase the volume and sale of New Mexico cider by 50%. Using our local wine and craft brewing industries as models for performance, New Mexico Cider will help build awareness and market share for the industry. The project will include a unique and compelling branding strategy, online and social media strategy, new consumer events, media outreach and education for New Mexico cider producers and growers.	$81,100.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Mexico Department of Agriculture	$611,638.15	Jujube Cultivar Trials and Marketing in New Mexico	The New Mexico State University Sustainable Agriculture Science Center will utilize the three established jujube cultivar trial sites and continue the cultivar evaluation at the NMSU Alcalde, Los Lunas and Leyendecker Centers, recommend cultivars to growers, and market and promote jujubes to the public. We will disseminate the results to stakeholders through workshops and Field Days.	$22,735.00
New Mexico Department of Agriculture	$611,638.15	Enhancing New Mexico specialty Crops Sales Through Value Chain Coordination	This three-year project of the New Mexico Farmers' Marketing Association will significantly increase specialty crop sales within New Mexico's wholesale supply chain—especially at retail grocery locations—by improving value chain coordination including producer/distributor relationships, price, transport of goods, communications, and retail engagement of consumers. A complementary outcome of the project involves increasing food safety knowledge among producers who are building their capacity to sell wholesale.	$166,566.00
New Mexico Department of Agriculture	$611,638.15	The Southwest New Mexico Food Hub Export Initiative	The National Center for Frontier Communities will increase market opportunities for remote southwest New Mexico specialty crop producers by launching a regional food hub to market and distributing their products to nearby metro areas, such as Albuquerque, Santa Fe, Las Cruces and Tucson. This service will reduce the burden of remoteness for local growers and help weave them into the larger fabric of the New Mexican food system. Additionally, this project will help bridge the knowledge gap between remote producers and urban markets and help level the playing field for producers of specialty crops in southwest New Mexico by providing access to the latest information on marketing, food safety, certifications and market trends that can be otherwise difficult to access outside metro areas.	$75,365.00
New Mexico Department of Agriculture	$611,638.15	Hard Apple Cider Production & Promotion in Central New Mexico	To help revitalize interest in apple orchards, Bluefly Farms will provide harvesting, storage, pressing, and transportation services to participating orchards in Central New Mexico. The project will help develop a new revenue outlet for previously non-marketable apples. The apples will be pressed into fresh cider that will be sold to New Mexico-based hard cider producers and the resulting hard cider products and story will be promoted in collaboration with New Mexico Wine.	$48,750.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Mexico Department of Agriculture	$611,638.15	Ensuring Safe and Sustainable Use of a New Soil-Applied Herbicide for Chile Pepper Production	New Mexico State University (NMSU) will expand weed control options available to Chile farmers by conducting studies and outreach activities that support a Special Local Need registration for post-direct applications (applied after crop emergence, directed to soil) of flumioxazin in Chile. Field studies will be conducted at two NMSU research farms during each of two years. At each site-year, Chile will be produced with flumioxazin applied in manners that were previously determined to minimize risk of visible crop injury and yield loss. Chile fruits will then be harvested and analyzed for flumioxazin residues. Conditions for improving the safety and efficacy of soil-applied herbicides will be presented to chile farmers at two NMSU farm field days and two grower association meetings. Each presentation will feature demonstrations specifically designed to address the challenges of using soil-applied herbicides in chile. Each presentation will utilize pre-then-post-tests that will determine changes in farmer knowledge and probabilities of implementing specific strategies. By developing and teaching effective weed control technologies that are less expensive than hand hoeing, this project will improve the economic sustainability of chile farms in New Mexico.	$36,177.20
New Mexico Department of Agriculture	$611,638.15	National Retail and Distributor Educational Workshops Featuring New Mexico Green Chile	New Mexico Department of Agriculture (NMDA) staff will coordinate with retailers, culinary professionals, growers, processors, and other professionals to plan and execute educational workshops on state, regional, and national levels. The venues will include retail supermarkets, distribution centers, and others. The workshops will include educational trainings, roasting and sampling segments, cross merchandising tips, preparation and access discussions. A social media component will be used to increase traction and awareness of New Mexico green chile including media (videos, graphics, etc.) that can act as teaching aids, event announcement platforms, and more. Workshops and discussions will focus on nutritional information, flavor profiles, preparation and handling, storage in commercial establishments, and traditional and non-traditional ways of cooking with green chile.	$71,088.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New Mexico Department of Agriculture	$611,638.15	Cooking with Kids Farm to School Project	The Cooking with Kids Farm to School Project will increase the purchase, consumption and promotion of New Mexico specialty crops. The project will 1) enhance the competitiveness of NM specialty crop producers and increase the use of locally grown food in the National School Lunch program through the development and implementation of school district procurement policies that support local purchasing; 2) provide training and technical assistance to NM farmers in the following areas: procurement, quality management and specialty crop marketing; 3) increase the frequency of sales and variety of NM grown specialty crops purchased for Cooking with Kids (CWK) classroom and cafeteria programing; 4) connect farmers who grow specialty crops with NM children through CWK classroom and cafeteria based Farm to School programming that bring growers into the classroom and cafeteria; and 5) partner with school districts to develop and institutionalize promotional campaigns that raise awareness of NM specialty crops and celebrate agricultural traditions.	$60,300.32
New York State Department of Agriculture and Markets	$1,364,209.32	Pathogenicity of Fire Blight Strains and a Differential Host Set for Fire Blight Monitoring/ Breeding	Cornell University will determine the pathogenicity of fire blight bacterial strains in New York State and develop a differential set of cultivars and cider apple varieties for fire blight resistance monitoring and breeding. Fire blight infection severity is largely due to interaction between a specific bacterial strain and specific apple cultivar, influenced by the environment. Knowing the response of a cultivar to the strains it might encounter will benefit fire blight management and resistance breeding, including more accurate disease forecasting, spray and pruning scheduling, seedling and elite breeding material screening, identification of new resistance sources, and development of improved resistance cultivars.	$82,059.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New York State Department of Agriculture and Markets	$1,364,209.32	Management of Wireworms in Organic and Conventional Production Systems	Wireworms are a continuing and increasing problem on organically managed farms. Cornell University – Shields' lab will mitigate the damage caused by wireworms by suppressing the population of wireworms in sweet potatoes with the use of biological control. Past success using a single bio-control nematode application shown some efficacy providing positive field data to continue field research and initiate the adoption by producers. The project will verify multi-year persistence of biocontrol nematodes while evaluating and quantifying wireworm populations within established biocontrol research plots at the Hudson Valley Farm Hub.	$83,613.00
New York State Department of Agriculture and Markets	$1,364,209.32	Sustainable Foliar Disease Control Using Decision Support Systems for the New York Table Beet Industry	Achieving healthy foliage for the entire season currently relies upon regular fungicide applications because of the high risk of crop loss and lack of decision support tools available to New York producers. These practices threaten durability of disease management as resistance to fungicides is prevalent within the fungal population causing Cercospora Leaf Spot. Judicious use of fungicides will preserve efficacy. This project will evaluate a forecasting system developed for this disease in sugar beet and benefits over the New York standard industry practices. Adoption by producers will be enhanced through on-farm trials, and outreach programs. Outcomes for the New York Table Beet industry will include reductions in unwarranted fungicide usage.	$99,551.00
New York State Department of Agriculture and Markets	$1,364,209.32	Improving the Durability of Disease Management of Onion in New York Through Monitoring of Fungicide Resistance	Cornell University will conduct research on a Stemphylium leaf blight caused by the fungus Stemphylium vesicarium, which has emerged as a common disease in New York onion fields. This disease causes a severe dieback of onion leaves later in the season and prevents bulbs from sizing up. A previous project has identified widespread resistance to fungicides in the pathogen population. This project will continue to monitor the extent of fungicide resistance, assess the effectiveness of new disease management strategies, and assess progress by the industry towards halting the development of fungicide resistance.	$97,567.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New York State Department of Agriculture and Markets	$1,364,209.32	Refining Reduced Tillage Systems for Vine Crops and Sweet Corn on Muck Soils	Cornell University will work with cooperating growers in Orange County, New York to improve and expand reduced tillage systems for vine crops and sweet corn production on muck soils in the county. The results will be disseminated through field days, winter meeting presentations, and farmer learning groups.	$68,491.00
New York State Department of Agriculture and Markets	$1,364,209.32	Harvesting and storage of New York's SnapDragon and RubyFrost – Getting it right!	Cornell University will investigate application of harvest date management and storage technologies that will maximize the quality of NY1 (SnapDragon®) and NY2 (RubyFrost®) apples available for consumers. These new varieties are products of the Cornell University apple breeding program, and are marketed by Crunch Time Apple Growers, an organization that is comprised of 145 grower members in New York, representing about 60% of the state's apple production. Estimates of plantings for NY1 and NY2 are 500 and 400 acres, respectively, and yields in 2017 were 110,000 and 150,000 bushels, respectively, and increasing rapidly. These varieties represent critical challenges for the industry, however, as continued expansion requires high quality apples in the marketplace over extended periods. Long term storage of apples is a critical balance between harvest date, storability, and is affected by growing region and management systems.	$68,598.00
New York State Department of Agriculture and Markets	$1,364,209.32	Diversifying New York's marine aquaculture industry: Integrating sugar kelp into oyster farms	The ultimate goal of this project is to diversify NY's marine aquaculture industry through the integration of sugar kelp cultivation into existing oyster farms, thereby providing increased revenues, improved financial stability, and more jobs for NY marine farmers.	$100,000.00
New York State Department of Agriculture and Markets	$1,364,209.32	Advertising and Promotion of NYS Specialty Crops	NYSDAM will launch a consumer-facing marketing campaign to increase the competitiveness of NY specialty crops by creating promotional materials for use at point-of-sale locations, trade shows, and special promotional events, and by purchasing strategic advertisements in digital and print media. NYSDAM will also incentivize producers and retailers to develop and use packaging and point-of-sale materials designed to highlight NYS/local specialty crops through a cooperative marketing program.	$315,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
New York State Department of Agriculture and Markets	$1,364,209.32	Improving Marketing Services to Specialty Crop Producers	Sales Force and NYS Information Technology Services will develop a sophisticated customer relationship management system (CRM) and website that will enable NY State to provide more efficient, timely, and well-integrated marketing services to specialty crop producers.	$45,000.00
New York State Department of Agriculture and Markets	$1,364,209.32	Expanding GAP Audits Reimbursement Program	This project will continue work that previous SCBG Good Agricultural Practices (GAP) projects successfully implemented. The proposed project will promote the GAP audit as the best way to prepare for new regulatory programs and standards to be implemented under the Food Safety Modernization Act (FSMA). We will continue to focus support for first time and potentially subsequent GAP audits as New York GAP program data indicates that a significant number of farms continue participation with GAP audits after having their initial audit.	$100,000.00
New York State Department of Agriculture and Markets	$1,364,209.32	Concord Grape Industry Promotion	New York State Department of Agriculture & Markets and the Cornell Food Venture Center at Cornell University will partner to develop new products and new markets for the Concord grape industry to increase grower profitability.	$150,000.00
New York State Department of Agriculture and Markets	$1,364,209.32	Increased New York Specialty Crop Presence at Trade Shows	In the competitive environment that exists in the produce industry, it is necessary for states to promote specialty crops grown and the availability of those products to the major buyers and to the major buying regions of the country. The New York State Specialty Crop Advisory Committee has recommended the Department receive $60,000 in funding for years 2019 and 2020, to exhibit at the New York Produce Show and Conference (an event sponsored by the Eastern Produce Council), and the Produce Marketing Association (PMA) Fresh Summit event in Orlando, FL., and the Americas Food and Beverage Show in Miami, FL.	$60,000.00
New York State Department of Agriculture and Markets	$1,364,209.32	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$92,088.44

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Evaluating the Efficacy of Organic Pesticides	The Carolina Farm Stewardship Association (CFSA) will conduct field trials at the Elma C. Lomax Farm, in Concord, NC, to evaluate the efficacy of commercially available biopesticides approved for use in certified organic specialty crop production and conduct outreach and education to organic farmers on best practices for pest management, including the use of biopesticides to control pests in organic specialty crop production systems. Field trials will include an evaluation of biofungicides to control powdery mildew on cucurbits, bioherbicides to control aphids, flea beetles, and Lepidoptera on brassicas, and bioherbicides to control weeds. Field trial results will be disseminated at field days and workshops, though electronic newsletters, and on CFSA's website.	$31,453.00
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Building Brand Awareness among Millennial Families	The North Carolina Christmas Tree Association will build on previous successful SCBG projects by expanding promotional content available for Social media, especially in the form of short videos, by expanding promotional offerings across a range of social media platforms, and by upgrading computer systems to make promotional content more accessible to mobile devices and more user-friendly to the next generation of consumers.	$73,272.50
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Enhancement of NC Potato Markets	The North Carolina Potato Association (NCPA) will build market opportunities for its members/growers in this project through potato marketing/promotions. Marketing funds are requested to promote NC potatoes at trade shows, annual meetings, through media, and website to corporate potato buyers/decision makers in the US and Canada and to consumers. By supporting our marketing efforts, we will enhance competitiveness of our potatoes with storage crop potatoes from other growing regions and enhance consumer education of potato nutrition. NCPA consists of NC potato growers that pay NC potato assessments. Only NC potato growers are members of NCPA.	$36,252.40
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Turfgrass Sod Social Media Promotional Campaign	The North Carolina Sod Producers Association will utilize the effectiveness and reach of various social media platforms such as Facebook, YouTube and Pinterest to promote the benefits and increase the competitiveness of North Carolina sod through the production of videos and photography to increase industry demand and industry sales.	$45,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Creating a North Carolina Ginseng Seed Source	PHARMN with Watauga County Cooperative Extension will work with local ginseng producers in the High Country of western North Carolina to establish a North Carolina source of American ginseng seed to expand production of this valuable, forest-grown specialty crop. Due to increased interest in producing ginseng in underutilized forestlands, demand for seed is high. However, there are currently no commercial sources for ginseng seed in North Carolina.	$62,864.00
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Automation in Container Nursery Weed Control	North Carolina State University will develop a prototype application system to safety and economically control weeds in container nursery crop production systems. The mechanized system will deliver targeted low-volume, herbicide applications to the substrate surface of individual pots. The successful deployment of this system will reduce labor costs by over 20% and allow growers to reallocate labor to more productive tasks. Additionally, utilization of the proposed application system would target herbicide applications where needed, reducing waste pesticide applicator exposure.	$80,000.00
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Biochar: Generating Profitability on Sandy Soils	The outcome and goal of this research is to determine if biochar use can increase the soil nutrient holding capacity and the moisture holding capacity and minimize the incidence of peach tree short life (PTSL). The benefits of this would be to maximize crop productivity, profitability and sustainability while potentially decreasing soil nutrient runoff and leaching and minimizing the use of valuable water resources. For this long-term study, peaches are the model crop to evaluate the impact on the nutritional status, soil moisture status, peach tree short life incidence as well as tree survival, growth and productivity.	$61,372.00
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Biosurveillance of cucurbit downy mildew	North Carolina State University will develop a bio-surveillance program for precision disease management of Cucurbit Downy Mildew through early detection of Pseudoperonospora Cubensis airborne sporangia, establishing crop risk and fungicide resistance, and disseminating results to stakeholders through grower meetings and field days.	$70,745.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Breeding Blueberry Cultivars for Mechanical Harvest	North Carolina State University is dedicated to improving blueberry cultivars to meet North Carolina growers' needs of yield, quality, and machine harvest-ability by evaluating and integrating Vaccinium sp. germplasm into NC adapted standards. NC State's release of new cultivars containing key traits for mechanical harvesting will allow NC growers to capitalize on this economical harvesting method.	$66,919.00
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Control of invasive nematodes in sweet potato	North Carolina State University will mitigate the spread of the invasive Nematode Meloidogyne enterolobii, currently affecting sweet-potato in North Carolina, by monitoring nematode occurrence, identifying effective control methods, and disseminating results to stakeholders through grower meetings and field days.	$75,505.00
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	CRISPR-Based Genome Editing in Christmas Trees	This project will be a collaboration between the Forest Biotech Group and the Christmas Tree Genetics Program in the Department of Forestry and Environmental Resources at North Carolina State University. The project aims to develop CRISPR-based genome editing using somatic embryogenesis (SE) to enable the strategic engineering of superior clonal Fraser fir Christmas trees. Fraser fir is one of North Carolina's most important specialty crops. Developing novel genomic tools and genome editing technologies for Fraser Fir will have a transformative impact on the North Carolina Christmas tree industry.	$129,558.41
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Improving NC Pumpkin Production and Marketing	Pumpkin is not well recognized as a cash crop in North Carolina (NC). Despite this, NC ranked fourth in U.S. pumpkin production in 2016, producing over 936,000 cwt on over 4,000 acres. Current value is $5,000-$9,000 per acre gross, although value could be increased 50% if high yielding cultivars are found, production practices optimized, and stem quality improved during curing. The industry has a strong interest in forming a NC Pumpkin Growers Association to better market their crop and support improved production. The NCSU horticultural science department and NC Extension will lead this project to improve commercial pumpkin production and storage life and create a NC pumpkin commodity association with the NCDA&CS.	$80,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Integrated Management of Rapid Apple Decline	The North Carolina State University Apple Entomology, Pathology, and Horticultural Research and Extension programs will conduct applied research to mitigate rapid apple decline in North Carolina high-density orchards. Applied research will be conducted to identify the casual biotic and abiotic agents of rapid apple decline in North Carolina and to develop and implement new apple stakeholder recommendations for the prevention and management of rapid apple decline.	$125,000.00
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	North Carolina Hop Breeding Phase II	North Carolina State University will breed new hop (Humulus lupulus) varieties for North Carolina growers. Existing commercial hop varieties produce low yields in NC resulting in a growing demand by NC growers for development of new varieties. Significant progress has been made in our hop breeding over the past year. In 2017, we obtained 939 seedlings from crosses made in 2016. From these, 6 female plants and 3 male plants were selected and propagated for in-field evaluation. In 2017, crosses were made between selected varieties [Canadian Red Vine (CRV), Cascade, Chinook, and Southern Brewer] and the NC adapted males.	$90,000.00
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Production of Landscape/Forest Hemlock Seedlings	The Forest Restoration Alliance of NC State University and its partners are beginning the process of reintroducing hemlocks to the landscape industry of western NC and restoring native hemlock stands lost to the hemlock woolly adelgid (HWA). The project will continue searching for surviving hemlocks by training field personnel, such as those with the NC Forest Service, and citizen scientists with the use of a new mobile app TreeSnap. Seed and cuttings will be collected from the suitable surviving hemlocks that are reported. A portion of the seed collected, or plants grown from it will be distributed to private nurseries for germination and seedling production for the ornamental industry. A portion of the seed will be provided to the NC Forest Service Linville nursery for germination and seedling production for reforestation in areas devastated by HWA.	$124,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Towards Adelgid Tolerant Christmas Trees	Fraser fir Christmas trees are one of North Carolina's most important specialty crops. The Camcore and Christmas Tree Genetics programs in the Department of Forestry and Environmental Resources at North Carolina State University will evaluate and select Fraser fir clones with increased tolerance to the balsam woolly adelgid to mitigate the impact of this pest and reduce overall pesticide usage for North Carolina's Christmas tree industry. The results will inform decisions on seed usage from existing Fraser fir seed orchards and breeding designs for developing additional sources of adelgid tolerance. Outcomes will be reported to stakeholders through presentations at the North Carolina Christmas Tree Association (NCCTA) and an article in Limbs and Needles, the official trade magazine of the NCCTA.	$75,000.00
North Carolina Department of Agriculture and Consumer Services	$1,293,496.80	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$64,575.86
North Dakota Department of Agriculture	$3,010,862.06	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$193,815.16
North Dakota Department of Agriculture	$3,010,862.06	Japanese Beetle/Emerald Ash Borer Survey	North Dakota Department of Agriculture (NDDA) will document the presence or absence of Emerald Ash Borer and Japanese Beetle through a comprehensive survey and provide outreach and education to the nursery industry, horticultural crop producers and the general public. This project will help to determine insect presence, spread, and if new to an area or overwintering to verify the status of the insects in North Dakota.	$50,690.60
North Dakota Department of Agriculture	$3,010,862.06	Increasing Access to Specialty Crop Production to Schools and Communities	The North Dakota Department of Agriculture (NDDA) will provide grants to schools and communities to establish orchards and gardens. This project will demonstrate to young adults interested in a career in agriculture how season extension tools can be used to increase production of specialty crops. NDDA will assist the schools and communities awarded these grants in hosting field days and sharing knowledge gained through print and online tools.	$176,371.30

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Dakota Department of Agriculture	$3,010,862.06	Growing Specialty Crops to Feed the Hungry and Increase Food Sovereignty on Standing Rock Reservation	Dakota Prairies Resource Conservation & Development (RC&D) Council will partner with Sioux County Extension Service to conduct a specialty crop food sovereignty project, gained by planting, harvesting, distributing and preserving specialty crops on the Standing Rock Reservation in North Dakota and South Dakota. The purpose of this project is to increase the nutrition knowledge of this underserved population as well as the consumption of culturally preferred and accepted specialty crops. The goal is to improve the diets and health of residents on the Standing Rock Reservation, a multi-state area that includes North Dakota and South Dakota. Up to 1,000 tribal members with will be reached including 500 children and 500 adults.	$156,268.12
North Dakota Department of Agriculture	$3,010,862.06	Applying Genomic Tools to Accelerate Breeding for Disease Resistance in Confection Sunflower	National Sunflower Association will integrate genetic and genomic approaches to determine the genetic basis of Downy Mildew (DM) resistance and identify candidate genes that can be used for sunflower improvement. DM is the most economically important disease of sunflowers worldwide. The project aims to apply genomic tools for efficient identification of DM resistance (R) genes to increase the efficiency of sunflower breeding, enhance yield and quality, and reduce chemical use. The DM resistant confection hybrids combined with superior agronomic characteristics will enhance the sustainability of sunflower production and profitability for the U.S. confection sunflower industry.	$120,309.00
North Dakota Department of Agriculture	$3,010,862.06	Expanding Exports through Focused Sales Trips PROJECT TITLE Expanding Exports through Focused Sales Trips	The North Dakota Trade Office (NDTO) will increase exports of specialty crops by offering competitive grants to exporters for international trips that promote the sale and consumption of Upper Midwest specialty crops. The competitive grants will have an application process, agreement to share results and successes because of the activity, and a reimbursement process. Consideration for approval will be based on the quality of the application, number of activities, and the long-term return on investment.	$48,995.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Dakota Department of Agriculture	$3,010,862.06	Effects of Pulse Flour on Sourdough Bread for Lowering FODMAPs and Enhance Overall Nutrition	The Northern Pulse Growers Association (NPGA) is a producer organization representing producers and processors in North Dakota and Montana. The mission of the NPGA is to provide leadership for a sustainable and profitable pulse industry through research, market development, and education. The ultimate goal of the project is to increase usage and consumption of northern grown pulses by providing evidence that pulse-fortified wheat bread has an increased nutritional content and lowers FODMAP content in the sourdough fermentation bread system. FODMAP has been identified as one of causes of irritable bowel syndrome (IBS), which is the most common functional gastrointestinal disorder. It addition the project will investigate the palatability and consumer acceptance of pulse fortified bread in the conventional bread market.	$108,000.00
North Dakota Department of Agriculture	$3,010,862.06	Adult Plant Resistance: The Next Frontier in Breeding for Rust Resistance in Dry Beans	North Dakota State University (NDSU) researchers will identify dry bean lines with Adult Plant Resistance (APR) to the rust pathogen Uromyces appendiculatus. Dry bean germplasm will be evaluated under greenhouse and field conditions for R-gene resistance and APR. Germplasm to be evaluated will include advanced lines in the NDSU breeding program and the Meso-American diversity panel. Evaluations also will be conducted to compare the efficacy of fungicide applications on germplasm displaying APR to currently grown fully susceptible cultivars. Research results will be disseminated to dry bean growers across North Dakota.	$226,299.80
North Dakota Department of Agriculture	$3,010,862.06	Optimizing Planting Date and Seed Treatment to Manage Fusarium and Aphanomyces Root Rots in Lentils	The North Dakota State University (NDSU) Carrington Research Extension Center, in conjunction with the NDSU Robert Titus Research Farm in Oakes and the NDSU Department of Plant Pathology, will conduct multi-location field trials and outreach to North Dakota and Montana lentil producers to optimize the use of planting dates and seed treatment fungicides for management of root rots in lentils. Fusarium and Aphanomyces root rots are serious constraints on field pea and lentil production that have caused many producers to abandon the crops. Rigorous, research-based disease management recommendations will be developed for dissemination.	$74,100.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Dakota Department of Agriculture	$3,010,862.06	Optimizing Agronomic Practices to Maximize Dry Bean Agronomic Performance and Profitability Under Sclerotinia Disease Pressure	The North Dakota State University (NDSU) Carrington Research Extension Center, in collaboration with the NDSU Robert Titus Research Farm in Oakes and the NDSU Williston Research Extension Center's Nesson Valley Irrigation Research Site, will conduct field trials and outreach to North Dakota and Minnesota dry bean producers to improve the management of white mold in dry beans. Seeding dry beans in narrow rows maximizes yields in the absence of white mold, but growers often utilize wide rows to reduce white mold.	$78,800.00
North Dakota Department of Agriculture	$3,010,862.06	Prevalence and Virulence of Soybean Cyst Nematode in Dry Bean Fields in North Dakota	The Department of Plant Pathology at North Dakota State University will coordinate a Soybean Cyst Nematode (SCN) soil testing program for dry bean growers throughout the dry bean production area of North Dakota to determine the prevalence of SCN in dry bean fields. A total of 500 SCN soil test bags will be sent out to growers to test dry bean fields of their choice. Samples from infested fields will be obtained to determine the virulence phenotype (HG type) of the SCN population. The egg levels and geospatial positions generated from the sampling data will be used to generate SCN distribution maps in dry bean fields in North Dakota. The virulence types of SCN and resistance sources will be identified, and this information disseminated to growers, farm managers, breeders and other scientists to help develop SCN management practices to minimize losses from SCN.	$148,715.00
North Dakota Department of Agriculture	$3,010,862.06	Evaluation and Enhancement of Dry Pea Protein Content	The North Dakota State University's North Central Research Extension Center and the Carrington Research Extension Center will facilitate a multi-faceted approach to identify and enhance protein content of dry pea. The project will identify and define protein content of commonly grown dry pea varieties, screen dry pea germplasm for protein content, and develop agronomic production practices to enhance protein content of dry peas.	$54,925.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Dakota Department of Agriculture	$3,010,862.06	Breeding Maple, Lilac and Elm for New Cultivar Development Suitable for North Dakota	The NDSU Woody Plant Research Program has a unique opportunity with respect to breeding ornamental plants. NDSU possesses a research arboretum that has the most extensive collection of woody ornamental plants in North Dakota and in the Northern Great Plains. The focus of this project is to develop new cultivars utilizing germplasm that has been rigorously evaluated to develop hybrid Freeman maples that are better suited for North Dakota environmental conditions, new compact dwarf shrub lilac cultivars and new hybrid elm cultivars. Increasing woody plant species bred, selected and evaluated for landscaping applications in the region would increase options for residents and have a positive financial impact on nurseries growing woody plants in North Dakota.	$47,215.00
North Dakota Department of Agriculture	$3,010,862.06	Evaluation of Host Resistance Responses for Control of Nematode Diseases in Field Pea	The Department of Plant Pathology at North Dakota State University will evaluate 30 field pea cultivars and germplasm used in the region to identify and select field peas with resistance to the pin nematode Paratylenchus nanus and to the root-lesion nematodes Pratylenchus neglectus and P. scribneri. Results will help researchers understand resistance or susceptibility of field pea cultivars and germplasm to the pin nematodes that is prevalent in North Dakota pea fields and the root-lesion nematodes that exists in one-third of counties.	$104,862.00
North Dakota Department of Agriculture	$3,010,862.06	Evaluating Ornamental Grasses for the Challenging Rain Garden Environment	North Dakota State University (NDSU) will study commonly available ornamental grass cultivars to evaluate their tolerance of challenging rain garden conditions such as cyclical flooding and drought, depth of water submergence, and exposure to salts and hydrocarbons. Results and recommendations will be distributed to stakeholders through the North Dakota Nursery, Greenhouse and Landscape Association, NDSU Extension, and horticultural workshops.	$113,345.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Dakota Department of Agriculture	$3,010,862.06	Combating Drought via Supplemental Irrigation in a Horticultural Setting	North Dakota State University will develop a thorough understanding of advantages stemming from supplemental irrigation in horticultural crops. Using grapevines and non-heading Chinese cabbage an extensive characterization of water dynamics in the horticultural setting of North Dakota will be studied. Integration of field and greenhouse experiments will produce an understanding of vegetable yield and quality impacted not only by increased rates of irrigation, but also by irrigation water quality issues representative of challenges faced by the state's producers.	$96,720.00
North Dakota Department of Agriculture	$3,010,862.06	Investigating the Polyphenol Content of North Dakota-Grown Aronia Berries	The Carrington Research Extension Center (CREC) will work with the aronia growers of the North Dakota Grape and Wine Association to assess the levels of polyphenolic compounds of aronia berries grown in North Dakota. Fruit collected from CREC and other cooperators will be used to: 1) show that the North Dakota developed variety 'McKenzie' is indistinguishable from any other commercial variety; 2) show that North Dakota-grown aronia has superior anthocyanin content due to the area's high elevation and high latitude growing conditions; and 3) determine the optimum harvest window based on polyphenolic content. This information will allow stakeholders to guarantee market share and increase income.	$71,588.00
North Dakota Department of Agriculture	$3,010,862.06	Beneficial Microbiome-Based Improvement of Production and Quality of Microgreens	North Dakota State University will advance beneficial microbiome-based innovation to improve the production, preservation and health relevant to the nutritional quality of microgreens. Microgreens are short duration food crops with diverse nutritional benefits. Producing microgreens that are healthier and have greater nutritional value has significant merit in North Dakota due to the prolonged winter and shorter growing season. In this proposed innovation beneficial seed-based interactions with targeted microbiome will be used to improve germination, emergence, and quality of microgreens.	$77,538.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Dakota Department of Agriculture	$3,010,862.06	Enhancement of Salinity Tolerance in North Dakota Pulse Crops	High soil salinity is a common problem in agricultural production in North Dakota, resulting in reduced yield and quality in many crops including pulse. North Dakota State University (NDSU) will conduct a study to evaluate a diverse group of pulse genotypes for salinity tolerance in greenhouse production as well as validating the tolerance levels of selected genotypes in field production. In addition, seed inoculants with high biological N-fixation activity under saline conditions will be determined under the greenhouse and field conditions. This project will help growers select the right pulse varieties and seed inoculants, and help breeders develop pulse crops with enhanced salinity tolerance.	$90,407.00
North Dakota Department of Agriculture	$3,010,862.06	Improving Productivity and Quality of Selected Raspberry Cultivars in North Dakota	North Dakota State University will develop suitable cultivation practices for raspberry production in North Dakota. The research will investigate the effects of pruning and fertilization on raspberry productivity and fruit quality under the environmental conditions in North Dakota. The research will also develop an integrated pest management protocol to control the spotted wing drosophila, the most detrimental insect in raspberry production. The project will provide growers promising field management strategies and make raspberry production economically feasible and sustainable; therefore, increasing small fruit production in North Dakota.	$67,240.00
North Dakota Department of Agriculture	$3,010,862.06	Enhancing Dry Bean Production with Adjacent Pollinator Habitats: Quantifying the Range and Extent of Benefits	North Dakota State University (NDSU) will work to enhance dry bean production by encouraging insect pollination in dry beans. Research will quantify the benefits of pollinators for dry bean yield and quality. Experiments will be conducted to learn how to attract pollinators to beans by establishing adjacent pollinator habitats. Results will be disseminated to stakeholders through NDSU Extension fact sheets and field days at participating field stations.	$127,085.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Dakota Department of Agriculture	$3,010,862.06	Automatic Sensor Controlled Drip Irrigation Under Mulches for Tomato and Watermelon Productions	The Department of Agricultural and Biosystems Engineering and the Department of Plant Sciences at North Dakota State University will work together to design, build and implement a drip irrigation system that can be automatically controlled by soil moisture sensors. The research will focus on using a soil moisture sensor to automatically control a drip irrigation under clear plastic, black plastic, and polyester fabrics mulches to determine optimum growing conditions for tomato and watermelon production in North Dakota. The degree to which mulches can help tomato and watermelon plants reach maximum production and quality potential in North Dakota's climate will be examined. The project objective is for the sensor-controlled drip-mulch systems to conserve water, improve soil temperature, control weeds, extend the growing season, and increase the competition of North Dakota specialty crops on market.	$81,753.00
North Dakota Department of Agriculture	$3,010,862.06	Development of Best Management Practices and Nutrient Needs for New Potato Cultivars	North Dakota State University will develop best management practices with determining the nutrient needs of newly developed potato cultivars by studying nitrogen rates, nitrogen timing, spacing and how these treatments effect post-harvest quality. The project's focus is to increase adoption of new superior cultivars to maximize sustainable production and value for potato growers in North Dakota and other potato growing states.	$93,490.00
North Dakota Department of Agriculture	$3,010,862.06	Evaluation, Development, and Postharvest Treatments for Improved Quality of Cold-Hardy Interspecific Grape Crosses	The North Dakota State University (NDSU) Grape Enhancement program will continue to evaluate the 10,000+ accessions located at NDSU's North Central Research Extension Center and the North Dakota Agricultural Experiment Station for the advancement of material into replicated studies. NDSU will also initiate breeding efforts to increase disease resistance into germplasm and to conduct research fundamental to the expansion of the Upper Midwest grape and wine industries. This research is pertinent to the further development of North Dakota's young grape industry through the progressive expansion of commercial growing options and the successful identification of ideal blending methods for commercially available cultivars.	$226,426.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
North Dakota Department of Agriculture	$3,010,862.06	Managing Sclerotinia Head Rot in Confection Sunflowers with Partially Resistant Hybrids	The North Dakota State University (NDSU) Carrington Research Extension Center, in collaboration with the NDSU Robert Titus Research Farm in Oakes, will conduct multi-location field trials and conduct outreach to North Dakota and Minnesota sunflower producers to improve the management of Sclerotinia head rot of confection sunflowers, a sporadic but serious disease of confection sunflowers for which no management tools are currently available. Replicated field trials quantifying the agronomic response to partial Sclerotinia head rot resistance in confection sunflower hybrids under low versus high disease pressure will be established in Carrington and Oakes, ND. The project will contribute to the development of rigorous recommendations for managing Sclerotinia head rot in confection sunflowers.	$28,000.00
North Dakota Department of Agriculture	$3,010,862.06	A Quantitative and Longitudinal Study of Honey Bee Health	North Dakota is the top honey-producing state. The National Agricultural Genotyping Center will perform a two-year honey bee study on the relationship between colony loss and pathogen loads to inform disease management and minimize premature losses within beekeeper operations in North Dakota. The North Dakota monitoring project will not only contribute to the continued surveillance of pathogens, but also will establish provisional thresholds to direct management efforts for infected colonies.	$342,322.00
Commonwealth of the Northern Mariana Islands Department of Lands and Natural Resources	$242,480.13	Using High Tunnel Agriculture to Promote and Boost Economic Benefit	Increase the production and availability of locally grown Northern Marianas specialty crops and the ability of producers to generate an income through the promotion of the use of high tunnels by the local specialty crop industry and studying which techniques and crops work best with the high towers when growing in Northern Marianas unique environment	$242,480.13
Ohio Department of Agriculture	$586,192.56	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$42,400.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Ohio Department of Agriculture	$586,192.56	Demonstrating the Benefits of Specialty Crop Cultivation with LED Pink Lighting	The Center for Innovative Food Technology (CIFT) proposes to demonstrate the efficacy of indoor LED pink lighting as a tool to aid urban specialty crop growers. This demonstration will establish that the following advantages accrue to urban growers who utilize indoor pink light to raise crops indoors: 1) increased yield of specialty crops leading to enhanced competitiveness; 2) enhanced competitiveness of specialty crops due to greater economic return, reduced inputs, and the conservation of scarce resources; and 3) the diversification of specialty crop systems.	$25,000.00
Ohio Department of Agriculture	$586,192.56	The Ohio City Spice Collection	Refugee Response, a registered 510c3, will use project funds for the production costs, including dehydration, shedding, blending, packing, labeling, and promotional expenses, for a collection of spices and spice blends produced from herbs grown on their farm. The proposed project will enhance the value of these specialty crops for retail sale. The development of this income stream will increase the ability of Refugee Response to provide employment for newly arriving refugees.	$5,000.00
Ohio Department of Agriculture	$586,192.56	Ohio Cider: From Apple Frontier to Signature Cheer	A team of investigators at The Ohio State University will build on recent work, which identified 30 “emerging varieties” of apple for cider production out of hundreds of varieties maintained in the Midwest Apple Improvement Association (MAIA) collection. These 30 varieties will be profiled in depth to reveal their suitability for various styles of fresh and hard cider, highlighting key quality indicators such as aroma compounds and the presence of flavor precursors. Also provided to growers will be important logistical metrics, such as Yeast Available Nitrogen (YAN) and Organic Acid Ratio, which will impact operational decision-making for each new variety. This project will also initiate powerful programs to introduce these emerging varieties to an expanding network of Ohio cider producers and specialty growers. These programs will include the establishment of the “Ohio Cider Demonstration Orchard” at the Ashtabula Agricultural Research Station, and the launching of the Ohio Apple Field Day in 2020.	$80,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Ohio Department of Agriculture	$586,192.56	Developing Best Management Practices to Limit the Spread of Pepper Weevil (Anthonomus eugenii)	Anthonomus eugenii, common name Pepper Weevil (PW), is a serious pest and threat to the Ohio pepper industry. In 2015, pepper growers in Huron County, Ohio began to see PW damage to their peppers, and since it has continued to cause significant losses. The Ohio State University's Entomology Department and the Ohio Agricultural Research And Development Center will develop a network across Ohio to increase awareness about this pest, and alert pepper producers to the risks posed by PW. The goals of this project are to: 1) establish a monitoring network for PW in Ohio; 2) evaluate the impact of sanitation and cull management practices on pepper weevil survival; and 3) develop extension materials for pepper weevil management to share with stakeholders.	$100,000.00
Ohio Department of Agriculture	$586,192.56	Biology, Epidemiology and Management of Peronospora Sparsa, the Causative Agent of Downy Mildew	Downy mildew in blackberries, caused by the oomycete Peronospora sparsa, is a systemic disease that causes crop losses of Rubus and Rosa spp. worldwide. The pathogen was recently confirmed in a commercial blackberry planting in Ohio, affecting all plants. A rapid response to downy mildew outbreaks is critical to protecting plants and mitigating yield losses. This study led by Ohio State University seeks to better understand the biology and epidemiology of downy mildew in blackberries in order to identify best management practices including effective chemical spray programs and appropriate cultural practices.	$75,000.00
Ohio Department of Agriculture	$586,192.56	Improving Ohio Hop Economic Returns by Evaluating Disease and Pruning Management Strategies	Hop downy mildew, caused by the fungal-like pathogen Pseudoperonospora humuli, is the most widely spread and destructive disease of hops in Ohio and other northeastern states. The disease is specific to hops (Humulus lupulus) and can cause significant yield and quality losses in hop crops annually. The most common method to prevent spreading is to prune shoots by hand with pruning shears. However, this process is costly, time consuming and if proper sanitation practices are not used can lead to the unintentional spread of the pathogen. An alternative to mechanical pruning is flaming. The objectives of this Ohio State University study will be to evaluate and compare the effectiveness and labor cost of flaming compared to traditional hand pruning and chemical controls to prune hop shoots and to kill downy mildew infected shoots.	$30,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Ohio Department of Agriculture	$586,192.56	Expansion of Black Currant Production in Ohio	The Center for Innovative Food Technology (CIFT) proposes to establish the cultivation of black currant varieties resistant to white pine blister rust at the Agricultural Incubator Foundation in Bowling Green. The focus of this project will be to: 1) research the market opportunities for Ohio currants; 2) expand the market for Ohio-grown currants accordingly; and 3) establish currants as a feasible crop for Ohio specialty crop growers.	$25,000.00
Ohio Department of Agriculture	$586,192.56	Biorational Approaches to Managing Bacterial Diseases of Vegetable Crop	The Ohio State University will improve the productivity and economic return of vegetable and herb crops in Ohio by developing new products and conducting science-based comparative evaluations of existing products to manage diseases caused by bacteria and nematodes. The research will result in recommendations to growers for optimal product use, which will be disseminated widely through print and social media, presentations at grower conferences and field days.	$100,000.00
Ohio Department of Agriculture	$586,192.56	Increasing Efficiency, Productivity, Food Safety, and Profitability in Ohio's Specialty Crop Industry	The Ohio Ecological Food and Farm Association (OEFFA) seeks funding to execute an integrated set of programming which will address five of the AMS-identified outcomes: (1) Enhance the competitiveness of specialty crops through greater capacity of sustainable practices of specialty crop production resulting in increased yield, reduced inputs, increased efficiency, increased economic return and/or conservation of resources; (2) Enhance the competitiveness of specialty crops through more sustainable, diverse and resilient specialty crop systems; (3) Enhance the competitiveness of specialty crops through increasing the number of viable technologies to improve food safety; and (4) Enhance the competitiveness of specialty crops through enhancing or improving the economy as a result of specialty crop development.	$60,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Ohio Department of Agriculture	$586,192.56	The Briermost Foundation's Training Farm for Women in Recovery	The Briermost Foundation trains beginning farmers who are in recovery from substance use disorders. The focus of the training program aims for all individuals to obtain experience in production of specialty crops. Beginning farmers will obtain skills ranging from building raised beds, planting and harvesting crops to marketing and selling products at a variety of marketplaces. The project will create a toolkit of best practices for farmers in the greater community to work with those who are in recovery from substance use disorders. The project will focus on how farmers can utilize the hiring of persons in recovery to market their products.	$30,000.00
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	Oklahoma Farmers' Market Annual Conference	The University of Oklahoma Health Sciences Center on behalf of the Oklahoma Nutrition Information and Education Project (ONIE) will execute an agreement with the Oklahoma Department of Agriculture, Food & Forestry (ODAFF) to organize, implement, and evaluate an annual Oklahoma Farmers' Market Conference & Expo in 2019 and 2020.	$70,000.00
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	Decontamination of Produce by Cold Atmospheric Plasma	Oklahoma State University will optimize a cold atmospheric plasma (CAP) device for decontamination of foodborne pathogens on produce. Research results will be disseminated to stakeholders through Horticulture Industries Conference & Show, OK Pecan Growers Association meeting and scientific conferences. Postharvest decontamination treatment is a critical step in reducing food safety risk associated with produce.	$72,621.00
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	Assessing Pecan Oil for Nutritional Potency in Oklahoma	Scientists at Oklahoma State University from Horticulture and LA in Stillwater and from Biochemistry at the Center for Health Sciences in Tulsa will team with pecan production experts at the Noble Research Institute in Ardmore to document the nutritional potency of pecans produced throughout Oklahoma. Identical pecan varieties will be harvested from northeast (Afton), northwest (Cherokee), northcentral (Cleveland), southeast (Idabel) and southcentral (Ardmore) Oklahoma to determine whether nutritionally vital phytochemicals in the oil (fatty acids, tocopherols, phytosterols and squalene) vary for pecans produced across the state.	$83,099.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	Developing Traffic Tolerant Turf Bermudagrasses for Sports Fields in Oklahoma	Oklahoma State University will develop improved turf bermudagrasses for athletic fields by evaluating traffic tolerance in a large set of 350 experimental turf bermudagrasses that were bred and selected in the last 10 years. The turf bermudagrass development program at Oklahoma State University has bred and selected 350 advanced genotypes for turf quality and adaptation from more than 50,000 plants in numerous field trials. In this proposed project, we will evaluate traffic tolerance and related turf performance parameters in a replicated field trial under simulated traffic stress in response to stakeholders' requests. Our major goal is to select one or a few genotypes that have traffic tolerance superior to commercial standard cultivars. The results of this project will be disseminated through turf field days, turf conferences and social media to sod producers, sports field managers, and industry professionals in OK and beyond.	$91,600.00
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	Tomato Production in Greenhouse, High Tunnel, and Field Along With Quality Analysis for Local Fresh Market Production	Research at Oklahoma State University and Langston University will evaluate tomato production in three different growing systems to compare yield and quality to support local market production. Field production of tomatoes still dominates the market; however, use of season extending production systems like greenhouses and high tunnels is increasing to meet market demands of readily available tasteful tomatoes. Both greenhouse and high tunnel production is thought to improve yields and nutritional quality with less inputs compared to field production by allowing growers to avoid Oklahoma's unpredictable weather. This research will evaluate at least two cultivars of two different types of tomato (slicing and cherry) using similar cultivars adapted to each system.	$99,130.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	Identification of Factors Affecting Sod Tensile Strength and Wear Tolerance of Warm-Season Turfgrass.	Researchers at Oklahoma State University in the Dept. of Horticulture & Landscape Architecture will identify the morphological and physiological characters associated with wear tolerance and tensile strength of sod. Ten experimental and commercial cultivars of bermudagrass and zoysiagrass will be tested for wear tolerance and tensile strength using standard methods. The same grasses will then be evaluated for morphological and physiological features that are suspected to contribute to sod tensile strength in selected cultivars. These findings will be used by the OSU turfgrass breeder to reliably predict and select for wear tolerance or high tensile strength sod. Ultimately, the enhanced selection efficiency will lead to improved cultivars reaching Oklahoma producers and consumers. Results of this project will be disseminated through field days, professional association meeting, extension program, and peer-review publication.	$62,966.00
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	Increasing Pecan Consumption Through Value-Added Product Development	Scientists at Oklahoma State University will investigate the value-added processing of pecans grown and shelled in the state of Oklahoma. The long-term goal of this project is to develop an integrated and sustainable pecan processing system that will produce high-value health beneficial functional foods, cosmetics, and food and industrial ingredients that can be used to improve food safety and quality. To achieve this goal, extraction processes will be designed and optimized and their efficiency to produce extracts enriched in bioactive compounds from various parts of pecan nuts will be examined. Furthermore, antioxidant capacity of these extracts and their effects on common food pathogens and human cancer cells will be tested. The successful completion of this project will benefit farmers and processors in Oklahoma by enhancing the competitiveness of their specialty crop, pecans, through increased consumer usage by providing natural health beneficial and safe food products.	$50,666.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	U Can U-Pick! Resources for Producers Considering Starting a U-Pick Operation	The Oklahoma Agritourism program will undertake a project to help specialty crop producers understand the benefits, risks and best practices involved in operating a u-pick farm. This project will create an educational binder for producers that outlines facts about the most popular u-pick crops in Oklahoma in order to aide in researching and setting up OK u-pick operation. Successful Oklahoma u-pick producers will be enlisted to participate in educational videos showcasing best practices in use on their farm.	$22,400.00
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	Farm to School “Back at the Table” Conference and Tour	Oklahoma Farm to School will hold a “Back at the Table” Training Conference and traveling tour in 2019 and 2020 for local farmers, producers, Child Nutrition Directors, Food Service Personnel and educators who are interested in serving Specialty Crops in their school lunches. These conferences and tours will allow specialty crop producers to network with Child Nutrition Directors near them who would like to purchase and serve specialty crops in their school. These will be two-day conferences. The first day will be spent in a conference location attending sessions focusing on specialty crops. The second day will be a traveling conference to tour specialty crop gardens and Farmers Markets.	$27,964.00
Oklahoma Department of Agriculture, Food, and Forestry	$630,961.29	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$49,899.54

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Oregon Department of Agriculture	$2,069,232.92	Enhancing the Value & Supply Chain for High Desert Specialty Crops	High Desert Food & Farm Alliance (HDFFA) and Oregon State University Extension Service will provide technical support to specialty crop producers through workshops focused on improving on-farm efficiencies and food safety standards, and by providing follow-up support utilizing peer-to-peer mentoring. Farmers, food businesses and processors will also participate in field trips, workshops, demonstrations, and discussions to deepen their understanding of the look, feel, taste and price associated with locally grown foods. To propel consumer motivation to support local farms and improve the competitiveness of regionally grown specialty crops, HDFFA will utilize an existing state-wide communications strategy developed by the Oregon Community Food System Network and implement a regionally targeted campaign, which can be employed by other regions in Oregon.	$132,765.00
Oregon Department of Agriculture	$2,069,232.92	Oregon Blueberry Retail Promotions and Market Research in Korea	The Oregon Blueberry Commission (OBC) will conduct research in Korea to examine why its export volumes have not grown consistently since Oregon fresh blueberries were first allowed access to that market during the 2012 season. Research will be completed with help from a contracted agency and during a visit of OBC representatives to Korea. Research findings will help shape retail promotions. Retail promotions will be implemented with leading Korean chains to generate awareness and encourage purchases of fresh Oregon blueberries. The ultimate goals of the project are to increase distribution for Oregon fresh blueberries in Korea and increase exports to that market.	$123,664.00
Oregon Department of Agriculture	$2,069,232.92	Enhancing Oregon Broccoli Market Competitiveness by Improving Harvest Efficiency	The Oregon Processed Vegetable Commission will facilitate the mechanical harvest of broccoli by developing, manufacturing and field testing improved mechanical harvester prototypes. This will involve the adaptation of vision software using camera and computer technology that will tolerant the naturel elements of farm-production fields, and the development of hardware capable of utilizing computer technology to successfully harvest broccoli in a manner acceptable to the vegetable processing industry. The development of this technology will utilize a group of students at Crescent Valley High School in Corvallis, OR whose first robotics team has been tackling this real-world challenge.	$117,453.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Oregon Department of Agriculture	$2,069,232.92	Market Development for Processed Oregon Berries to Japan	To expand overseas export market opportunities in Japan for Oregon berries, the industry needs to foster business connections with buyers, and help them understand why Oregon berries are different, better, and worth paying more for than other processed berries in the world market. Through this project the Oregon Raspberry & Blackberry Commission (ORBC) and Oregon Strawberry Commission (OSC) will improve market development and access for processed Northwest berries and value-added berry products to Japan by connecting directly with customers via an inbound trade mission to Oregon. Attracting new customers to processed Oregon berries, and the value-added products and production capabilities in the state, will help ensure the economic growth and viability of these valuable specialty crops for years to come.	$81,290.00
Oregon Department of Agriculture	$2,069,232.92	Expanding Consumption and Sales of Wine from Tempranillo Grapes	The Oregon Tempranillo Alliance will be hosting two major events in 2019 to enhance the competitiveness of Oregon-grown grapes. Specialty crop producers will be exposed to new viticultural and enological knowledge at a three-day conference in Ashland, OR. Wine professionals and general consumers will be exposed to the diversity of wines produced by Oregon-grown grapes at a Public Tasting in Portland, OR. OTA's state-wide vision of enhancing Tempranillo grape and wine production will be achieved through deliberate consumer branding and marketing initiatives.	$37,000.00
Oregon Department of Agriculture	$2,069,232.92	Developing Oregon's Winter Vegetable Industry	The overarching goal of this project is to increase the production and consumption of winter vegetables in Oregon. The objectives of this project are to engage farmers in developing markets for high performing winter vegetables and evaluate impacts. To achieve these goals, the project will coordinate a number of winter vegetable variety demonstrations, field days, showcases and festivals. Outreach materials that can be affixed to winter vegetables to direct consumers to the project's marketing website (eatwintervegetables.com) will be distributed to growers, distributors, restaurants and seed companies.	$174,992.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Oregon Department of Agriculture	$2,069,232.92	Promotion of Oregon Nurseries and Specialty Seeds as Bee-Friendly Industries	Oregon State University, in partnership with the Oregon Association of Nurseries and the Specialty Seed Growers of Western Oregon will develop Bee Protection Protocols and promote these protocols to the public as well as highlight seed mixtures and nursery plants that provide forage throughout the season to a broad array of pollinators. The project aims to: 1) increase sales of pollinator-friendly plants from the seed and nursery industries; 2) enhance pollinator health in Oregon; 3) provide a scaling-up of the Oregon Bee Project initiative; and 4) incentivize environmental stewardship by rewarding industries that contribute to pollinator health.	$174,374.00
Oregon Department of Agriculture	$2,069,232.92	Enhancing Productivity and Safety of Oregon Hazelnuts Through Technology Innovation	Oregon State University will conduct pilot-plant scale radio frequency (RF) drying studies by collaborating with Washington State University to evaluate the costs for a large-scale commercial process in comparison with the hot-air drying. This project is aimed to develop an economically feasible, environmentally friendly, and safe postharvest RF drying technology for enhancing quality, safety, productivity, and storability of hazelnuts produced in Oregon.	$169,791.00
Oregon Department of Agriculture	$2,069,232.92	Development of New Biological Control Strategies for Pest Slugs	The most common control methods for slugs rely on chemical pesticides, which have low efficacy, many environmental risks and potential for chemical resistance. Therefore, growers are challenged with developing sustainable management strategies focusing on biological-based environmentally friendly alternatives. Currently in Europe a commercially available biocontrol product (Nemaslug®) comprising a nematode and its associated bacteria is being used to manage slugs. The recent discovery of this nematode in Oregon opens the door to serious consideration of the nematode as a potential biological agent in the United States. Through this project, Oregon State University will conduct further method development to expand the potential of this nematode system to deliver specific bacteria as vehicles for additional biocontrol strategies.	$174,815.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Oregon Department of Agriculture	$2,069,232.92	Improving Fresh Blueberry Quality with Innovative Harvesting and Sensor Technology	Oregon State University (OSU) will work with the U.S. Department of Agriculture, Washington State University, and the University of Georgia to improve the quality of fresh market blueberries by developing innovative mechanical harvesting solutions and using sensor technology. New mechanical harvesting solutions will alleviate constraints growers are experiencing due to increasing costs and decreasing availability of hand labor for harvesting. Since 2015, our collaborative efforts in machine harvesting research have led to advances in using over-the-row (OTR) mechanical harvesters for fresh market quality blueberries. A newly modified OXBO OTR harvester will be built with soft catch surfaces and a stacked catch frame to reduce fruit dropping distance and internal fruit damage, therefore resulting in mechanically harvested blueberries with quality comparable to hand harvest.	$174,499.00
Oregon Department of Agriculture	$2,069,232.92	Equipping the Next Generation of Oregon Farmers for Success	Rogue Farm Corps (RFC) project will equip the next generation of Oregon farmers for success by providing advanced-level course work in agriculture, business preparedness, land access literacy, and farm succession planning. RFC will also support the transition of farmland and farm businesses from one generation to the next. RFC's advanced-level class series compliments their on-farm Apprenticeship Program that will be offered to new participants. Workshops will recruit new farmers to rural areas, build connections across agricultural communities and generations, and support the transition of farmland.	$82,422.00
Oregon Department of Agriculture	$2,069,232.92	AgriCulture – Honoring Culture and Agricultural Career Exploration Through the Food System	Salem-Keizer Education Foundation (SKEF), a community non-profit, is at the cutting-edge of Oregon's Farm to School movement. SKEF's robust program serves over 43,000 students at 13 school gardens and teaches students about Oregon specialty crops from the garden to the kitchen to the pantry to the table. This project will create the Salem-Keizer Land Lab at McKay High School, which will serve as the catalyst for ag literacy in the community. Students will learn not only how to plant and harvest Oregon specialty crops but about the entire food system including different food cultures and heritage. Through a better understanding of the food system, food processing, food innovation, and agricultural applications using technology, students will have better access to careers based in Oregon agriculture.	$99,547.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Oregon Department of Agriculture	$2,069,232.92	Creating a Sustainable WPS Training Program at OSU	Oregon State University's Pesticide Safety Education Program (OSU-PSEP) will streamline regulatory compliance and prevent pesticide incidents within specialty crops in Oregon. OSU-PSEP will create a sustainable program to provide required posters and pesticide safety training in English and Spanish. OSU-PSEP will develop procedures, field-test training materials, and build the registration and record-keeping process in order to deliver at least 36 WPS (Worker Protection Standard) training events across the state of Oregon.	$150,025.00
Oregon Department of Agriculture	$2,069,232.92	Farmers Share – Connecting Consumers with Farmers	Oregon Aglink will connect Oregon's specialty crop farmers with consumers by facilitating direct farm tours, luncheons, and digital engagement. All connections will highlight Oregon's specialty crop farmers and their production practices in different regions of the state. Through these connections, consumers will learn about food safety on and off the farm, how-to buy Oregon grown food on a budget, and ways to incorporate more specialty crops into meals. Consumers engaging in this project will better understand the economic, environmental, and social impact Oregon specialty crop farms have on the state, country, and world. As a result of this greater understanding, consumers will increase their consumption of Oregon's specialty crop products.	$33,681.00
Oregon Department of Agriculture	$2,069,232.92	Opening New International Markets for Oregon Grown Hazelnuts	Wilco Farmers, a farmer cooperative, cooperatively-owned by approximately 3,000 producer-owners, including 216 hazelnut growers, seeks to grow international sales of Oregon hazelnuts by more than 100 percent by 2020. This goal will be fulfilled by increasing the ability of international buyers to purchase Oregon hazelnuts and by increasing awareness of Oregon hazelnuts among international buyers. A new webpage will be developed to support international buyers purchasing Oregon hazelnuts and to create product exposure at four significant international food tradeshows.	$174,312.00
Oregon Department of Agriculture	$2,069,232.92	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$165,268.52

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Pennsylvania Department of Agriculture	$1,127,698.87	A Formal Registered Apprenticeship Program for Diversified Vegetable Farm Managers Identifying Alternative Varieties for PA Potato 2 Identifying Alt	The creation of a formal apprenticeship program would be a valuable resource both for experienced vegetable farmers seeking skilled employees and for aspiring farmers looking to lead Pennsylvania's specialty crop industry forward. With support from the SCBG program, PASA will build on our ongoing work with diversified vegetable farmers and register our apprenticeship curriculum with the Pennsylvania Department of Labor and Industry. We will trial the two-year, 3,000-hour program with four mentor-apprentice pairs and coordinate a series of educational events focused on technical topics, including business management and integrated pest management. This project will be a long-term investment in an innovative model for training new farmers and developing a skilled workforce for Pennsylvania's specialty crop industry.	$103,334.00
Pennsylvania Department of Agriculture	$1,127,698.87	Growers to Replace Round White Potatoes Year- 2	Pennsylvania Co-Operative Potato Growers, Inc. will work with Penn State University and Pennsylvania potato growers, packers, and processors to identify russet potato varieties that will be productive under Pennsylvania growing conditions. Today, russet potato varieties account for nearly 60% of fresh potato sales and almost 100% French fry sales nationally. Most russet potato varieties were developed from breeding programs in northwestern states such as Idaho.	$112,844.00
Pennsylvania Department of Agriculture	$1,127,698.87	PA Wine Land Post Video Series	To stay competitive in drawing consumers to choose wines made from local grapes and wineries, PA Wines will invest more heavily in audio-visual experiences on the Post. Thus, the PWA looks to expand its video library for the Post, enhancing a robust content marketing channel with unique, engaging, and shareable video content.	$45,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Pennsylvania Department of Agriculture	$1,127,698.87	Best Practices for Organic Production in Pennsylvania Mushrooms	The American Mushroom Institute (AMI), along with its longstanding partners at Penn State University, will enhance best practices for organic mushroom production according to standards set by the National Organic Standards Board (NOSB). This will be accomplished through the development of a production-based app for mobile devices and smartphones to assist growers with the identification and monitoring of mushroom pests, diseases and collection of critical environmental parameters during the organic crop production process. By developing this app, organic mushroom growers would be able to use a handheld device to track the inputs into the organic crops, determine appropriate cultivation techniques used for organic crops and monitor other certification and traceability inputs in mushroom houses.	$70,000.00
Pennsylvania Department of Agriculture	$1,127,698.87	Beginning Specialty Crop Farmer Success Through Increased Sales Via Marketing and Consumer Education	Nutritional fact sheets, serving and cooking information and recipes will be developed for 10 targeted specialty crops. Chef demonstrations, signage, bonus bucks, educational, fun children's activities will round out the items utilized to promote the 10 targeted specialty crops. A 20% sales increase is anticipated because of the marketing and promotional activities.	$20,000.00
Pennsylvania Department of Agriculture	$1,127,698.87	Establishing Cooperative Marketing Opportunities for Chestnuts	We will develop resources and a business model for chestnut processing facilities in Pennsylvania, focusing on sustainable tree cropping systems and supplementing with native species to reach niche marketing opportunities.	$49,730.40
Pennsylvania Department of Agriculture	$1,127,698.87	Reweaving Youth into the Food System	The LEAF Project's mission is to cultivate youth leaders from diverse backgrounds through meaningful work in the food system. The LEAF Project will enhance the competitiveness of specialty crops in 2 ways. First, by training and equipping the youth of the LEAF Project with tools for meaningful food choice change within their households. Secondly, the LEAF Project will create new pathways to specialty crops through youth-led hands-on workshops with populations who would otherwise not have access to specialty crops.	$20,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Pennsylvania Department of Agriculture	$1,127,698.87	Sustainable Production, Business Management, and Farm Safety Innovations for Next Generation Young Farms and Minority	Penn State Extension will develop bilingual educational programming for a promising next generation of beginning and minority specialty crop growers. The goals are to (1) enhance the ability of the Pennsylvania specialty crop industry to increase capacity and (2) sustain such capacity in the long term by increasing the number of growers and supporting more economical and sustainable methods by a next generation of fruit and vegetable producers from diverse backgrounds.	$91,209.00
Pennsylvania Department of Agriculture	$1,127,698.87	Culinary Training for School Foodservice Professionals	Penn State University, working in collaboration with the Pennsylvania Department of Education (PDE), Division of Food and Nutrition, will provide three hands-on culinary training sessions reaching 90 school food service professionals to increase use and acceptance of Pennsylvania specialty crops in schools through school meals and taste-tests.	$59,920.00
Pennsylvania Department of Agriculture	$1,127,698.87	Enhanced Plant Resistance in Tomato and Broccoli with Seed Treatment and Natural Elicitor	Penn State University will reduce pest damage to tomatoes and broccoli by developing scientifically based methods of seed treatments combined with sprays of an organic, plant extract and will disseminate our results through grower meetings and online materials.	$48,804.00
Pennsylvania Department of Agriculture	$1,127,698.87	Enhanced Diagnosis and Monitoring of Major Pathogens that Threaten Specialty Crop Production and Markets	To protect the production and markets of vegetables and nursery and floriculture crops in Pennsylvania from such threats, Penn State and the Pennsylvania Department of Agriculture (PDA) have been working together to generate data and tools needed for accurate and rapid diagnosis of invasive pathogens and have applied resulting resources to solve various specialty crop-related problems.	$53,884.00
Pennsylvania Department of Agriculture	$1,127,698.87	Good Agriculture Practices & Good Handling Practices Cost Share Program	The Pennsylvania Department of Agriculture will provide cost sharing support for successfully completed USDA Good Agricultural practices (GAP) or USDA Good Handling Practices (GHP) audit annually. The program provides a maximum reimbursement of $400 towards one successfully completed audit per year. The activity is administered through the PA grows program through applications made available on its website and through paper applications made available upon request, by auditors and at various trade shows.	$105,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Pennsylvania Department of Agriculture	$1,127,698.87	Continuing Enhancement of Food Safety Practices by Providing Educational and Support Materials to Produce Farmers	The Pennsylvania Department of Agriculture Bureau of Food Safety will continue efforts and successes, of the last six years, in enhancing fruit and vegetable food safety practices by providing education and practical tools to Pennsylvania produce farmers who are moving toward compliance with the Food Safety and Modernization Act Produce Safety Rule.	$58,060.00
Pennsylvania Department of Agriculture	$1,127,698.87	Consumer Vegetable Promotion	The Pennsylvania Vegetable Marketing and Research Program will be enhancing its outreach to consumers by designing and printing new and fresh point-of-purchase materials for its annual "August is PA Produce Month" consumer promotion. The Program will also be upgrading its online Directory of Farm Markets, Farmers' Markets and CSAs and its online Directory of Wholesale Growers by converting both to searchable databases instead of static webpages or PDFs. In addition, several short consumer videos about Pennsylvania vegetables will be produced for the Program's website	$20,000.00
Pennsylvania Department of Agriculture	$1,127,698.87	PA Preferred Culinary Connection with Focus on Promotion Pennsylvania Specialty Crops	Strategic Contracting, Inc. will plan and coordinate the 2019 PA Preferred Culinary Connection, which delivers immediate benefits to the specialty crops organizations and the local economy in the form of increased sales and marketability of PA commercially-grown specialty crops by allowing local farmers and food suppliers to showcase their specialty crops to local consumers.	$43,200.00
Pennsylvania Department of Agriculture	$1,127,698.87	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$32,387.67
Pennsylvania Department of Agriculture	$1,127,698.87	RFEC South Western PA Specialty Crop Project	The project will promote and improve the access to locally grown fruits, vegetables, and processed produce (specialty crops) processed produce (made from specialty crops) that are designated for distribution to underserved communities with a main focus on community center and senior centers (pop-up farm market) (food deserts) within the southwestern PA counties, local restaurants, local farmers markets, a year-round farm market, and community supported agricultural farms.	$71,158.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Pennsylvania Department of Agriculture	$1,127,698.87	Impact of Management System on Potato Phytochemicals, Yield, Pest and Disease Control	This project will address the Pennsylvania potato specialty growers' needs and provide scientific-based information on optimal practices that can be used in conventional and organic management systems to enhance potato yield and phytochemical contents, reduce pest and disease pressures, and dependency on pesticides.	$121,878.00
Departamento de Agricultura de Puerto Rico	$535,214.33	Increasing Market Competitiveness for Specialty Crop Products of Puerto Rico Thought Marketing and Promotion Strategies	Puerto Rico Department of Agriculture (PRDA) and the Innovation Funds of Department of Agriculture (FIDA) are aware about the difficulties that farmers overcome to access local markets. Most of our farmers lack knowledge in marketing background. As a result, they do not possess technical sales or business conceptualization skills. Trade fairs, events and conventions are great opportunities for established and beginning farmers to learn how to access their target market and increase their sales. Also, these events are a great opportunity to develop local products awareness highlighting our quality and freshness.	$143,481.68
Departamento de Agricultura de Puerto Rico	$535,214.33	Small Farmers Soil Preparation Package to Foster Specialty Crops in Puerto Rico	Organia Farms will develop an extension and service program to small farmers of specialty crop around Puerto Rico. The project will provide direct service to young/beginner farmers and other small farmers who grow horticultural specialty crop. The main outcome of the project will be to increase production of specialty crops around the Island by providing a complete soil preparation and amendment service free of charge to eligible farmers of specialty crops.	$27,000.00
Departamento de Agricultura de Puerto Rico	$535,214.33	Improving Producer Capacity to Comply with FSMA	FIDA will help farmers to comply with the new Food Safety Rule under the Food Safety Modernization Act (FSMA) and establish capacity building for the Produce Safety Rule (PSA). These rule establish new requirements with different levels of compliance based on operation type and size. FIDA will be training 91 specialty crops farmers in Produce Safety Alliance (PSA) Grower Training Course to be offered by the University of Puerto Rico, Mayagüez Campus.	$13,600.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Departamento de Agricultura de Puerto Rico	$535,214.33	Coffee Drying Processing Floors	Hacienda Mireia LLC (the "Company"), a Puerto Rico limited liability Company engaged in the operation of nearly 50 acres of farmland dedicated to Arabica coffee and other agricultural crops, will develop two drying floors to process coffee to promote awareness to coffee producers in the region on a key step in the coffee production chain that is quintessential in the specialty coffee industry. Our goal is to highlight that coffee producers in Puerto Rico should aim to enter the specialty coffee market, and that sun-drying coffee practices can be effectively implemented in most mountain farms.	$2,904.75
Departamento de Agricultura de Puerto Rico	$535,214.33	Family Educational Farm and Culinary Showcases at Placita en Plaza	The Innovation Fund for Agricultural Development of Puerto Rico (FIDA), pursues the use of grant funds to promote Specialty Crops consumption to market visiting families through hands-on activities for children, nutritional programs for adults and culinary activities that will be showcased at the Placita en Plaza site at the Plaza de las Americas at San Juan and the Plaza del Caribe at Ponce, Puerto Rico. We are currently looking to improve the overall awareness of children, young adults, parents and elderly, in the consumption of Specialty Crops as a good source of a healthy and nutritional foods. We will call to visit schools, head starts and other organizations that may handle childcare institutionally and private. A Demo Kitchen will be used weekly by producers and chefs, to promote culinary activities using locally produced Specialty Crops from the kiosks farmers and there will be scheduled activities throughout the month taking into consideration the direct participation of stakeholders.	$50,080.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Departamento de Agricultura de Puerto Rico	$535,214.33	Capacity Building to Puerto Rico Department of Agriculture Agency Staff for Propagation of Musa spp. Through Pathogen Free Meristematic Vegetative Tis	The Puerto Rico Department of Agriculture (PRDA) and the Innovation Fund for Agricultural Development (FIDA) is seeking for one of the varieties of plantain (Musa spp.) to restore part of the industry that was devastated by the pass of Hurricanes Irma and Maria. The initial training will be a "train the trainer" approach that will take place in Meristematic Tissue Labs in Costa Rica for PRDA and FIDA staff. Knowledge transfer will take place thru two training sessions offered by PRDA and FIDA staff to farmers, students, lab technicians and professors, as well as PRDA Regional Agronomist that provide technical assistance to farmers. In addition, the project will be directed towards farmers in the eastern area of the island, where the Yabucoa Valley is located, for those who are qualified to cultivate and ensure the production of plantains in this region of Puerto Rico.	$44,517.70
Departamento de Agricultura de Puerto Rico	$535,214.33	Development of Organic and Synthetic Fungicides again Mycosphaerella (Sigatoka)	The Universidad del Turabo will carry out the preparation of organic and synthetic fungicides to treat the Sigatoka. A synthesis for organofluorinated compounds, formulations of extracts of aromatic plants, followed by analysis of concentration of fungicides, and applications of fungicide in banana crops will be performed. The findings will be published in scientific journals and disseminated through workshops targeting farmers. This research is especially innovative in that the Principal Investigator (PI), Dr. Claribel Baez, will synthesize new fluorinated molecules and fungicide evaluations to contribute to the development of new agrochemicals with enhanced bioavailability.	$25,187.00
Departamento de Agricultura de Puerto Rico	$535,214.33	Replanting and Growth of Fine Quality Cacao after Hurricane Maria (Theobroma Cacao L.)	Cortés Hermanos LLC. will help Puerto Rico cacao producers to overcome the losses suffered as result of Hurricane Maria on their cacao farms by distributing 12,000 grafted trees at a 70% discounted price to be subsidized by the funds from this proposal. The impact of the hurricane on cacao farms represents an estimate loss of 50% of all cacao tress. The tasks to be completed include… • The production of 12,000 grated tress by two local commercial cacao greenhouses • The coordination and supervision of the proper development of grafts • The coordination of the distribution of trees to local farmers	$27,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Departamento de Agricultura de Puerto Rico	$535,214.33	Economic Viability of the Plantain Variety Dwarf Curare in Puerto Rico's Agriculture	Bananera Fabre Inc. will conduct research for the development and implementation of the variety of plantain called dwarf curare (Musa paradisiaca (Eumusa AAB)). This research looks to find a feasible alternative to producers and help one of the few islands' self-sufficient agrobusinesses. In September of 2017 Puerto Rico was hit by hurricanes Irma and Maria, wiping out all the plantain crops in their paths leaving producers scrambling for new and better varieties. The focus of this project is to measure the crops performance and economic viability to help minimize the scarcity of plantain seedlings. The tasks to be carried out in this research are: weekly and monthly tests and evaluations to determine crops performance. Finally, the implementation of this project will lead to the creation of a handbook about crop management techniques with the purpose of educating growers of the variety.	$26,975.50
Departamento de Agricultura de Puerto Rico	$535,214.33	Farm in the City as a technological platform for innovative and modern accelerated urban agriculture	Carmen Ildefonso Ortiz, Bonafide Farmer, will develop the "Farm in the City" concept integrating A Class Engineering Automated Modules for Indoor Farming in Guaynabo Urban Area. This modern and technological concept will be the perfect platform to create community-focused programs targeting better nutrition, increased employment, effective therapy, well-rounded education, and much more. With this educational platform we will provide farmers and new "agro" entrepreneurs with an efficient and sustainable agricultural innovation, producing premium products from an urban area at a competitive price to the community. An integral part of this program is new hydroponic technology, which will enable farmers to harvest different specialized crops.	$27,000.00
Departamento de Agricultura de Puerto Rico	$535,214.33	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$38,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Departamento de Agricultura de Puerto Rico	$535,214.33	Increasing Ornamentals Production in Puerto Rico	After the pass of hurricanes Irma and María through Puerto Rico, the ornamental industry was severely affected. Therefore, the Puerto Rico Department of Agriculture (PRDA), the Innovation Fund for Agricultural Development (FIDA) and the Department of Correction and Rehabilitation developed a rehabilitation program for inmates based on workshops and training in various areas related to the cultivation of ornamental plants. These workshops will include various areas such as landscape gardening, maintenance of green areas, management and production of ornamental plants. Although the industry of ornamental plants in Puerto Rico depends mostly on the importation of vegetative material to propagate, the inmates will have the opportunity to prepare a project where they can produce ornamental plants on the farm and in greenhouses. They will be able to establish a wholesale activity that promotes farmers and garden retailers to buy their products.	$108,800.00
Rhode Island Division of Agriculture	$276,614.02	Creating Sustainability and Prosperity by Aggregating Specialty Crops for Limited Resource and Socially Disadvantaged RI Farmers	Southside Community Land Trust (SCLT) will increase the impact of its Food Hub, which aggregates and distributes specialty crops grown at urban farm sites in Greater Providence. By increasing the production and sale of specialty crops to meet increasing demand across many markets, including in low-income Rhode Island communities, SCLT's goal is to create a sustainable and prosperous enterprise for the farmers and their communities.	$29,858.00
Rhode Island Division of Agriculture	$276,614.02	Technical Assistance, Training and Outreach in Support of Organic Techniques on Specialty Crop Farms	The Northeast Organic Farming Association of Rhode Island seeks to enhance the competitiveness of specialty crops by providing training and outreach to farmers in the use of organic techniques and assisting farmers in certifying their crops as organic or transitioning to organic methods. In addition, this project seeks to provide consumer outreach to raise consumer awareness on the benefits of buying organic specialty crops, thus supporting both the demand for and the production of organic specialty crops. Project activities will include a farmer-to farmer advisor program, a range of education events including an Advanced Growers Seminar, a series of on-farm workshops to demonstrate organic techniques, and an Organic Farming Educational Conference.	$30,950.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Rhode Island Division of Agriculture	$276,614.02	African Alliance of RI Beginner Farmers' Specialty Crops Project	The African Alliance of Rhode Island (AARI) will contract with the Rhode Island Department of Agriculture to expand access to locally produced organically grown specialty vegetables, greens and value-added products to people living in food desert neighborhoods located in Wards 9, 10 and 11 of Providence, RI. The project will support AARI beginner farmers who grow produce to sell at local farmers markets or for home consumption. AARI farmers represent a diverse group of minority farmers, and many are refugees and immigrants who are working to become established as part of the Rhode Island agricultural community.	$14,500.00
Rhode Island Division of Agriculture	$276,614.02	Strengthening Rhode Island Farm to School through Farm-Based Education	This project will advance the Rhode Island Farm to School program through farm and classroom-based educational opportunities for both students and school nutrition professionals. Field trips will provide hands-on, experiential education opportunities for Rhode Island children to understand where their food comes from and learn about specialty crops. Field trips for school nutrition professionals will be professional development opportunities that identify ways to begin or strengthen farm to school programming through local specialty crop purchasing practices.	$50,000.00
Rhode Island Division of Agriculture	$276,614.02	"Get Fresh Buy Local" Marketing Improvement Program	The Rhode Island Division of Agriculture working with specialty crop growers throughout the state will continue to grow its "Get Fresh Buy Local Fruits and Vegetables Campaign" by expanding their work with local media to promote the Get Fresh Buy Local Program by conducting fruit and vegetable cooking demonstrations featuring local celebrity chefs at all Rhode Island farmers markets and participating roadside stands. Its marketing program will be enhanced by making point of purchase advertising material available to farmers such as price cards and logo material stating "Get Fresh Buy Local Fruits and Vegetables." The Division will also update the Rhode Island agriculture display with pictures of nursery stock, fruits and vegetables grown throughout the state.	$88,907.27

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Rhode Island Division of Agriculture	$276,614.02	Developing Protocol and Technologies for No Till Vegetable Production in Rhode Island	Wishing Stone Farm will develop and execute a project to rent a Roller Crimper machine to facilitate further developing technologies to bring No Till vegetable production to the state of Rhode Island and to disseminate that acquire knowledge to other farmers across New England. We are seeking funds for a three year project that will give us time to repeatedly establish protocols to fully develop this ground-breaking technologies that will solve soil erosion, solve nutrient run off and solve water contamination from excess fertilizer leaving Rhode Island farms.	$12,375.00
Rhode Island Division of Agriculture	$276,614.02	Harvesting Rhode Island	Caserta Productions will produce seven half-hour episodes to air on Rhode Island PBS. Each episode will be filmed on location featuring two farms and interviews with the farmers. Discussions will include where the farms are located, the crops that are harvested, and the location where the products can be purchased. Farms will be selected according to the crops they grow and their locations in the state providing a large assortment of products. The locations of the farms will represent as many cities and towns as possible. The episodes will include beginning and seasoned farmers growing their products in the fields, greenhouses and high tunnels. The series promotes public awareness by interpreting how this historically significant way of life on the farm will manage to survive and become more competitive. A total of fourteen farmers will be assisted with their long-term strategic planning through technology based economic development. The farmers will be provided with a method of marketing that is currently unaffordable to them.	$49,984.00
South Carolina Department of Agriculture	$561,520.26	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$44,877.38
South Carolina Department of Agriculture	$561,520.26	South Carolina Cantaloupe Disease Survey	Clemson University will improve disease control for cantaloupe growers by carrying out a disease survey in the main South Carolina counties that produce cantaloupe, writing a Cantaloupe Fungicide Guide to target the main diseases, and educating stakeholders at grower meetings.	$28,790.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
South Carolina Department of Agriculture	$561,520.26	Developing strategies to manage premature peach tree decline from Cytospora canker in peach orchards	This study will investigate the occurrence of Cytospora canker, caused by Leucostoma personii, one of the leading causes of twig and scaffold limb dieback in South Carolina in all major production areas, investigate chemical and cultural management options, investigate breeding germplasm for existence of resistance genes, and inform growers through the production of extension materials, production meetings, and field days.	$50,000.00
South Carolina Department of Agriculture	$561,520.26	Good Agricultural Practices for field pea and kale nutritional breeding for South Carolina	The Clemson University will select field pea and kale varieties suitable for legume-vegetable cropping system. The objectives of this project are to (1) select suitable field pea cultivars for conventional legume-vegetable cropping system; and (2) promote consumer demand for both of these crops via Clemson University “Tiger Garden” and “Lunch box” extension programs. The success of this study will be measured in terms of the increased production, increased legume –vegetable cropping systems, easy access nutritional quality data, increased consumer demand, and training of graduate students. The results will increase consumer demand with respect to the nutritional value of kale and field pea for increased human health benefits through scientific publications, consumer education, social media, and extension programs.	$40,372.00
South Carolina Department of Agriculture	$561,520.26	Improving irrigation scheduling for maximum fruit size in peach orchards in South Carolina	This project is aimed at generating science-based information and developing immediate-term solutions for optimizing peach fruit size of cultivars currently grown commercially. Clemson University will provide South Carolina peach growers with data and guidelines to improve irrigation scheduling and water use efficiency in peach orchards. The amount of water required and the most efficient time for irrigation required to maximize potential fruit size in peach trees will be determined for each specific fruit stage under different irrigation systems (drip or microsprinkler) in a commercial orchard setting. Results will be disseminated through grower meetings and regional grower conferences, field days, fact sheets, websites such as “About peaches”, and included in the Southeastern peach management and culture guide.	$32,206.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
South Carolina Department of Agriculture	$561,520.26	Detecting and managing the hypervirulent nematode Meloidogyne enterolobii on sweetpotato and pepper in South Carolina	Clemson University and the USDA, ARS, U.S. Vegetable Laboratory in Charleston, SC will determine the extent of the distribution of Meloidogyne enterolobii in South Carolina, especially in sweet potato and pepper fields. Impacts on crop yield and quality will be measured in infested fields. Greenhouse studies will identify the relative susceptibility and resistance of selected sweet potato and pepper plant introductions. Proposed control measures will include a program to monitor transplants of both crops to insure the pathogen will not spread or damage new crops.	$30,000.00
South Carolina Department of Agriculture	$561,520.26	Reducing the impacts of chemical insect pest management in cucurbit crops	Clemson University will examine control tactics for common, difficult to control pests (stink bugs, squash bugs, and cucumber beetles) in cucurbits that reduce the amount of pesticide used. The role of insecticides for controlling these pests on secondary pest outbreaks (aphids, spider mites, and whiteflies) whether the insecticides harm natural enemies or stimulate secondary pests will also be determined. Information obtained through the research will be presented at grower and professional society meetings, with the goal of decreasing insecticide applications in cucurbits, resulting in decreased cost and environmental impact.	$39,496.00
South Carolina Department of Agriculture	$561,520.26	Capture and Reuse of Phosphorus in Specialty Crop Production	Clemson University will determine the feasibility of dual use of a waste product from acid mine drainage reclamation (iron oxide), both for removing phosphorus from irrigation runoff and for reusing the phosphorus bound to the iron oxide as a potting substrate amendment for crops grown in container production systems. We will assess whether plants grown with iron oxide as a phosphorus source grow similarly to those grown using conventional fertilizers. We will also perform serial extractions on the substrates to determine the total amount of phosphorus absorbed, as well as the amount of phosphorus available in each fraction. The capacity to reduce phosphorus loss and to recycle phosphorus is both ecologically and economically relevant to specialty crop growers in SC. Growers who implement these technologies and practices can market their phosphorus reuse to environmentally-conscious consumers.	$48,338.60

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
South Carolina Department of Agriculture	$561,520.26	Development of a Website for Weed Control Recommendations in Specialty Crops in South Carolina	Clemson University will improve grower knowledge regarding weed control and quicken the response time to specialty crop growers seeking weed control recommendations by developing an interactive website that will be compatible on mobile smart phones. Growers will be able to use the website to help with identification of weeds, and selection of a management practice to control the weed in season as well as cover crop recommendations to suppress the weed prior to the next growing season. A website with a drop-down menu will be designed to allow users to select a vegetable crop, then select a weed, and then select a weed control option, which will include product label recommendations as well as the locally evaluated herbicide studies.	$50,000.00
South Carolina Department of Agriculture	$561,520.26	Creating a bridge between specialty crop farms and e-commerce	The South Carolina Specialty Crop Growers Association (SCSCGA) will administer a one-day workshop for small-sized South Carolina specialty crop farmers that will provide brand development and e-commerce training with the goals of increasing specialty crop sales. Researchers from the University of South Carolina will conduct four (4) training sessions throughout the one-day workshop focusing on farm resource development, marketing strategies, brand creation, and leveraging social media. Specialty crop farmers will provide information pre-workshop and post workshop through surveys to track the success of the workshop. Through pre-workshop surveys, a baseline of sales will be determined which will help with evaluating the effectiveness of the workshop.	$47,210.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
South Carolina Department of Agriculture	$561,520.26	Increasing Food Safety Technology Access through a Water Analysis Cost Share Program	The South Carolina Specialty Crop Growers Association (SCSCGA) and the South Carolina Department of Agriculture (SDCA) will administer a new program designed to encourage on-farm water testing for specialty crop growers. This project will provide funding for a cost share reimbursement program for water quality analysis for generic E Coli and fecal Coliform bacteria for South Carolina specialty crop farmers. This program will be patterned on the successful cost share reimbursement programs currently offered through SCDA for both GAP Certification and Cold Storage Cost Share program. This project will increase specialty crop farmers' access to food safety technologies, increase specialty crop producers understanding of food safety threats, and mitigate potential bacterial contaminations from water sources by allowing specialty crop producers to establish proper on-farm pre-and post- harvest food safety protocols.	$48,000.00
South Carolina Department of Agriculture	$561,520.26	Increasing specialty crop growers' capacity to expand markets through GAP cost share reimbursement program	The South Carolina Department of Agriculture (SCDA) Fresh Fruit and Vegetable Inspection Services will assist specialty crop growers seeking Good Agricultural Practices (GAP) certification to expand their capacity for supplying produce to additional markets, thus increasing sales. This project seeks to build upon and enhance prior GAP audit cost share reimbursement projects by reimbursing farmers for the cost of audits conducted by SCDA in cooperation with the certifying agency, the United States Department of Agriculture (USDA). Thus, SCDA will conduct outreach at farmer events and through social media channels to inform growers about food safety trainings and on-farm assistance that is available to them. A favorable outcome for this project would be to not only see more specialty crop growers become GAP certified, but also to see an increase in farms that repeat certification and add market outlets to their specialty crop business leading to increased, sustainable income.	$47,550.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
South Carolina Department of Agriculture	$561,520.26	South Carolina Grown Watermelon Promotion and Consumer Education	The South Carolina Watermelon Association in conjunction with the South Carolina Department of Agriculture, will promote and provide consumer education about South Carolina grown watermelons. By utilizing scientifically proven data that supports the "Watermelon Fuels Athletes" (WFA) slogan trademarked by the SCWA, educating consumers on the health benefits of consuming South Carolina grown watermelons will provide increased sales and financial support and stability to rural South Carolina communities. By promoting this specialty crop at several sporting events throughout the year, the association will effectively promote the message that watermelon is one specialty crop that is an excellent source of nutrients to replenish those lost while participating in sports and other strenuous activities. The goal is to promote healthy, sustainable eating habits while helping to continue to increase watermelon productivity and sales, while growing specialty crop agribusiness in rural South Carolina.	$15,000.00
South Carolina Department of Agriculture	$561,520.26	Increasing the Consumption of Specialty Crops in Spartanburg County through Mobile Markets	The Hub City Farmers' Market (HCFM) will increase the consumption of, access to, and sales of specialty crops by purchasing specialty crops from local farmers and reselling them at 400+ stops/year at businesses, community centers, schools, neighborhoods, and events across Spartanburg County. The Hub City Farmers' Market is a non-profit organization dedicated to increasing supply, demand, and access to healthy, local food in Spartanburg County through programs including a Saturday Market, a Mobile Market, a Double-SNAP program, an Urban Farm, a Community Garden, and a Farm Bag subscription program The Mobile Market will particularly focus on outreach to low-income communities by scheduling 50% of its stops in food deserts and offering Double-SNAP which gives SNAP recipients the opportunity to turn $40 into $90 each time they purchase food from the Mobile Market. All produce unsold on the Mobile Market will be donated to local soup kitchens and food pantries, further increasing the consumption of specialty crops in underserved communities.	$29,995.93
South Dakota Department of Agriculture	$326,644.49	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$27,825.10

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
South Dakota Department of Agriculture	$326,644.49	Development of Statewide Farmers Markets Collaborative Support System and Specialty Crop/Local Foods Brand	South Dakota Specialty Producers Association (SDSPA) facilitates a plan to coordinate farmers markets statewide, while utilizing farmers market promotion resources and working to build a South Dakota Specialty Crop/Local Foods brand through a collaborative effort with the South Dakota Local Foods Coalition partners.	$52,487.00
South Dakota Department of Agriculture	$326,644.49	Specialty Crops in the Classroom: Educating South Dakota's Youth through Mobile Classroom Growing Systems	The Edmunds Central School District aims to dramatically impact the exposure to and consumption of specialty crops by developing mobile classroom growing systems geared toward educating and providing opportunities to consume specialty crops not consumed by PreK-6 students in South Dakota due to limitations associated with the per student allocation for general education and the Fresh Fruit and Vegetable Program and obtaining such crops beyond their growing season. This will be done in three phases: (1) involve research and development implemented by the Edmunds Central science department by perfecting protocols and curriculum associated with growing specialty crops in classrooms for education and consumption purposes during the 2017-18 school year; (2) successfully recruit 50 teachers to implement the same mobile growing systems in their classrooms; and (3) coordinate their usage during the 2018-19 and 2019-20 school years. This project will expand curriculum support to middle school and high school grades through the development of in-depth specialty crop curriculum support for higher level learning and expanding material and supplies support to an additional 17 teachers for the specialty crops cohort.	$27,835.39
South Dakota Department of Agriculture	$326,644.49	Rebel Earth- Specialty Crops Incubator Farm Project	Rebel Earth Farms goal is to create a new way of life for the Lakota people by combining specialty crops, traditional foods and high-tunnels. Rebel Earth Farms is one of three proposed Incubator-Hub sites for South Dakota State University's Beginning Farmer and AgrAbility focused project. The farm will serve as the main high-tunnel production incubator site. This grant will cover the costs for three high tunnels to be used by the Lakota people to learn how-to cultivate and produce traditional Lakota wild gathered food as well as vegetables.	$40,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
South Dakota Department of Agriculture	$326,644.49	Connecting Students with Specialty Crop Growers: Beyond Internships	South Dakota State University will facilitate ongoing learning partnerships between specialty crop producers and undergraduate or graduate students on campus. In this pilot project, students will be paired with individual growers and learn about their crops, management, best practices, and challenges. The growers, students, and facilitator will meet initially and map out individual action plans for student and grower learning, and then fulfil or adapt the plans as needed over the following year. A major outcome will be students' increased understanding of South Dakota specialty crop farms, management strategies for South Dakota soils, climate, and markets. Students will be better prepared for future positions either producing specialty crops or supporting specialty crop producers through allied industry or agencies. In addition, through student investigations, growers will have access to the specialized knowledge from agricultural researchers across the world. Students will also have the opportunity to direct applied research at the Local Foods Education Center on campus, to answer specific grower needs, and to present the results of their research.	$33,821.00
South Dakota Department of Agriculture	$326,644.49	Dakota Hops- Brewing beer with frozen hops	Dakota Hops LLC has developed three new methods for preserving hops for the brewing industry that include: mechanical (conventional) freezing of hops at 0 degrees Fahrenheit; cryogenic freezing of hops at minus 120 degrees Fahrenheit; and freeze-drying. Through this grant, they will continue testing hops to determine if these methods improve the flavor and aroma of beer.	$15,000.00
South Dakota Department of Agriculture	$326,644.49	Hydrothermal Applications for Sustainable Agriculture, hereafter referred to as HASA	Southern Hills Economic Development Corporation will partner with South Dakota State University to develop a heating system prototype using hydrothermal energy for year-round production.	$42,435.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
South Dakota Department of Agriculture	$326,644.49	State Fair- Wine Pavilion	The South Dakota Department of Agriculture will take a leadership role in organizing the Wine Pavilion at the South Dakota State Fair. The Wine Pavilion brings tremendous added value to the State Fair experience as well as allows for South Dakota wineries, breweries and distilleries to showcase their products and where consumers can taste and sample South Dakota wines, beers, and spirits. The goals of the project include: increasing the number of consumers who are exposed to and sample South Dakota wine, beer and spirits; increasing the exposure and name recognition for South Dakota wineries, breweries and distilleries, thereby increasing their sales; and expanding the scope of the pavilion to include more specialty producers such as micro-breweries and distilleries.	$35,100.00
South Dakota Department of Agriculture	$326,644.49	SDSU- Increasing the Consumption of Locally-Grown Specialty Crops in Southeastern South Dakota	South Dakota State University Extension through community outreach efforts will promote local produce and educate the public about the availability of specialty crops in Sioux Falls, Brooking and Yankton regions. Through this grant the Dakota Fresh food hub will conduct chef and producer education classes in the southeastern region.	$49,911.00
Tennessee Department of Agriculture	$555,605.15	Tennessee Christmas Tree Growers - Professional Leadership and Economic Growth	The Tennessee Christmas Tree Growers Association (TCTGA) needs professional leadership to coordinate and facilitate growth in the real Christmas tree industry. TCTGA is a strategic organization that is vital to the state's production and sales of real Christmas trees. Dedicated and sustainable leadership is critical to expanding marketing opportunities, crop research projects and educational events. This project will benefit all TCTGA members and provide business growth for existing and new Christmas tree farms.	$10,000.00
Tennessee Department of Agriculture	$555,605.15	Enhancing the Viability of Farmers' Markets in Tennessee through Statewide Resources, Education, and Marketing	The Tennessee Association of Farmers Markets will strengthen the viability and visibility of specialty crop producers throughout the state of Tennessee by creating and implementing both online and in-person educational programming and resources for farmers' market managers and vendors, as well as marketing farmers' markets to consumers and stakeholders as shopping destinations for specialty crops. Examples of shared resources include SNAP doubling programs for fresh fruits and vegetables, increasing consumption by children of fresh produce through education and sampling, and food safety training for managers and vendors.	$25,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Tennessee Department of Agriculture	$555,605.15	Rebel Hollow Farm You Pick Fruit	Rebel Hollow Farm will plan and plant fruit to begin a pick your own operation in an area where fresh fruits and vegetables are not available. In addition to providing a source of fresh fruit to an area where the nearest grocery store with fresh fruit is 20 miles or more from home, we will provide education on how to prepare the fruit and a field day to others to grow fruit as a way to diversify their farms.	$12,136.50
Tennessee Department of Agriculture	$555,605.15	Enhancing The Competitiveness of Specialty Crops Through Increased Sales for Producers in Northeast Tennessee	Jonesborough Locally Grown will increase sales for Northeast Tennessee specialty crops by 20 percent at the Boone Street Market by implementing a comprehensive marketing strategy that promotes monthly featured specialty crops through traditional and social media outlets, product sampling, and appearances on local television.	$15,000.00
Tennessee Department of Agriculture	$555,605.15	Landmark Urban Farmer Program	Landmark Training Development Company's mission is to create sustainable agricultural environments in food desert communities and otherwise, in the State of Tennessee and elsewhere across the United States of America. The purpose of this project is to instruct, train, and develop urban farmers in inner city neighborhoods, specifically food desert communities in Davidson County, Nashville, Tennessee, to cause a more immediate access to fresh specialty crops for those residents which will create increased access and consumption of specialty crops.	$18,000.00
Tennessee Department of Agriculture	$555,605.15	Good Agricultural Practices (GAP) Audit Cost Share	The Tennessee Department of Agriculture would like to increase the number of GAP certified producers offering specialty crops in Tennessee. We plan to mitigate the cost of GAP audits for producers in the state by providing a cost share. GAP Certification allows producers to expand their markets to businesses such as grocery stores and institutional entities such as hospitals with stringent food safety requirements. This will allow producers to increase their income, and help to ensure proper food safety for specialty crops in the state of Tennessee.	$46,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Tennessee Department of Agriculture	$555,605.15	Hops and Other Specialty Crops Grown in Organic Systems in the Mid-South	Growing specialty crops organically such as vegetables and hops in Tennessee is a potential new endeavor that could create extra income and jobs for Tennessee; however, there isn't much research or information on organically-grown produce in Tennessee. Grower interest in diversifying their farm is ever increasing, and the microbrewery and craft beer industry is on the rise and will probably increase in the future. Funding will be used to establish a hop yard at Agricenter International's Organic Resource Center (ORC). The ORC has been established and specialty crop research is currently underway. The results from the research conducted by Agricenter International will provide growers the information that they need to successfully grow vegetables and hops. The data that is generated will then be dispersed to growers throughout Tennessee.	$24,273.66
Tennessee Department of Agriculture	$555,605.15	Growing Food - Growing People	Cul2vate grows and delivers nutritional food into local food deserts, providing access to nutritious food in those areas. All food is grown in the context of a 24-week agricultural educational/training program that targets the chronically unemployed with agriculture, base skills, and job readiness training, preparing them for placement with local business partners. Prior graduates of the program are now working to assist and education customers in local lawn and garden centers, as well as develop specialty crop access and revenue at a local retail nursery. This project will also annually educate 1,000 individuals who visit and work on the farm in 3-hour, pre-scheduled increments.	$25,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Tennessee Department of Agriculture	$555,605.15	Advancing Viticulture in Tennessee Through Demonstration and Education at Dyersburg State Community College	The grape and wine industry is a source of large potential growth for the state of Tennessee, especially rural, agricultural areas. A critical lack of infrastructure and sustained support for the industry continues to hinder large scale growth. To this end, Dyersburg State Community College (DSCC) will establish viticulture demonstration plots to serve as the starting point for an education and outreach center of operations for the wine and grape industry in Tennessee. Current grape and wine producers themselves are eager to expand their knowledge base and have access to hire trained professionals to work in their businesses. As the agricultural climate continues to change, the need for farmers to diversify their cash crops and sources of farm income continues to grow. DSCC can be a strong industry partner with extensive resources to support the industry in our Small Business Development Center and Continuing Education Divisions and is primed to grow the viticulture industry in Tennessee.	$24,532.89
Tennessee Department of Agriculture	$555,605.15	Metro Nashville Public Schools (MNPS) 2018 "Farmers Market"	This project is designed to grow specific vegetables in school gardens and then market and sell our products at a school Farmers' Market. We will host a student-run farmers' market in collaboration with each of six pilot schools. Each pilot school will have a Specialty Crop Garden growing peppers, onions, cilantro, and tomatoes. The Pilot Schools will come together in groups to learn the challenges and rewards of running a small business by selling and marketing their own Specialty Crop Garden vegetables and homemade salsa. For this Specialty Crop Garden project, the focus will be on six high-needs schools: Casa Azafrán Early Learning Center, Fall Hamilton Elementary, Glenview Elementary, Rosebank Elementary, Rose Park Middle and Wright Middle. The USDA Specialty Crop Block planning grant will allow integration of nutrition education. We will educate students and teachers about the process that moves food from the garden to school, and add healthy food preparation classes, while working to address the nutrition disparity felt by low-income families.	$20,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Tennessee Department of Agriculture	$555,605.15	Scientific Validation and Export Market Validation of Wild Growth Characteristics of Commercial-Scale Ginseng Seedlings Production	An existing grant at Middle Tennessee State University (MTSU) is focused on a pilot process for micropropagation techniques producing up to 1,000 seedlings. This new project will focus on industrial techniques for producing hundreds of thousands of seedlings in a cost-effective manner. This large number of seedlings is required if sustainability is to be reached. Micropropagation techniques for seedling production provide the best opportunity to overcome existing sustainable production constraints (unavailability of wild seeds, seed mortality, and the long growth cycle). We will also confirm with direct buyers the market acceptability of wild simulated ginseng grown from seedlings and communicate the results to stakeholders through publications, seminars, web presence, the University of Tennessee extension service, and direct contacts. The outcomes of this project will not only eliminate the environmental pressure on the wild ginseng ecosystem from overharvesting but also open direct market channels for Tennessee farmers through a financially incentivized growth and marketing program that increases gross income and reduces risks for the farmers.	$29,915.00
Tennessee Department of Agriculture	$555,605.15	Creating Demand for TN Specialty Crop Growers through a Children's Farmers' Market	Rural Resources, Inc. will increase consumption and enhance access and awareness of Tennessee Specialty Crops by establishing a Children's Farmers' Market at one elementary school. The project will investigate whether this activity, delivered intensively, can create a demand at local farmers markets as well as change BMI scores of the students and teachers. Results will be disseminated through teacher in-services and coordinated school health educators.	$25,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Tennessee Department of Agriculture	$555,605.15	Pick TN Conference Speakers and Conference Coordinator	Tennessee has a strong rural economy and it is essential that we maintain that strong economy for the agricultural future of our state. The horticulture, fruit and vegetable industries play a critical part in keeping agricultural assets viable through the enhancement of expanded marketing opportunities and employment. An annual conference available to participants planned by an Executive Director dedicated to the conference will increase the knowledge of farmers for better revenue. The objective of the Pick TN Conference is to provide educational and training resources and improve networking for growers, educators, markets, industry suppliers and agencies to increase competitiveness and success of special crops in Tennessee. The second objective will be to Utilize the vast network of statewide associations and agencies to retain industry leaders and experts to provide educational workshops, training (food safety, GAP certification, etc.) and marketing expertise to conference attendees.	$50,000.00
Tennessee Department of Agriculture	$555,605.15	Tennessee Grape and Wine Industry: Development and Implementation of Marketing/Revenue Growth Opportunities	The Tennessee Farm Winegrowers Alliance (TFWA) requires professional, dedicated leadership to coordinate and manage potential explosive growth in the Tennessee grape and wine industry. TFWA is a vital industry asset that is central to the state's position as a leader in regional wine production, and dedicated and sustainable leadership is critical to expanding marketing opportunities and continued industry growth, particularly benefiting rural areas in Tennessee. TFWA's current board/leadership is 100 percent volunteer and is made up from dedicated members of the industry – both farmers and value added producers. TFWA's membership is made up of 70% of the wineries and commercial vineyards in the state, supporting the purchase and utilization of nearly all grapes grown in Tennessee for vinification (value-added). The objectives are to Provide partial salary offset in 2018 and 2019 for TFWA Executive Director and Provide TDY funding for the Executive Director to travel to Ohio, Virginia and North Carolina and research what has and has not worked in these states relative to the grape and wine industry.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Tennessee Department of Agriculture	$555,605.15	Elderberry Cultivation and Value-added Processing on the South Cumberland Plateau	The University of the South will conduct research on North American elderberry (Sambucus canadensis) cultivation on the South Cumberland Plateau and offer educational materials and programming to local farmers who are interested in producing and marketing shelf stable, high-value elderflower and elderberry products. During the first year, six trial orchards will be planted and data will be collected from each site during years 1, 2 and 3. During year 1, 2 and 3 a total of 10 events will be hosted about specific requirements for cultivation and harvesting of elderberry as a specialty crop and two workshops will be hosted about food safety and value-added production. The University Farm is a co-curricular resource at the University of the South with two full time staff members. Four VISTA/AmeriCorps members also use the University Farm as their home site for outreach projects to alleviate poverty in the tri-county area.	$19,992.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Tennessee Department of Agriculture	$555,605.15	Integrating Row Covers into organic Production Systems for Specialty Leafy Vegetables to Strengthening the Sustainability of Limited-Resource Farmers	Tennessee State University (TSU) Organic Agriculture Research program is teaming up with TSU Cooperative Extension staff, new farmer academy, and participating growers to carry out on-farm trials. The specific objectives are 1) to evaluate row covers into organic production systems of specialty greens to improve growing conditions, yield and productivity; 2) to demonstrate the reduction in pest and disease incidence; 3) to conduct field days and outreach for dissemination of information to farmers, stakeholders and extension personnel. Knowledge gathered would be shared through field days, growers' meetings, extension publications, mentoring, technical assistance, and the cooperative extension website of the University. The target groups are military veterans, socially disadvantaged small farmers, and limited-resource small farmers (transitional and organic) and new farmers. Under the direction of the Center for Profitable Agriculture, this project will embark on a collaboration with the University of Kentucky Center for Crop Diversification (CCD) to develop six fact sheets for specialty crops and/or production and marketing systems for specialty crop growers. The exact topics for the fact sheets will be decided by an advisory committee. The published fact sheets (following the existing CCD 'crop profile' model) will be utilized in six outreach sessions (workshops/trainings) with agricultural Extension agents, specialty crop producers, and other agriculture leaders in Tennessee. An estimated 22 County Agriculture Extension Agents will be trained to use the fact sheets with specialty crop growers. In addition, the fact sheets will be distributed to 1400 specialty crop growers through workshops, seminars, conferences, producer meetings, and trade shows. The fact sheets will be used in on-site instruction with specialty crop growers through workshop and educational meetings. This project will develop tools for County Agriculture Extension agents, other agriculture leaders and specialty crop growers to use in the evaluation, development, and marketing of specialty crops. It provides a strong learning foundation for specialty crop growers who are considering the productions of alternative specialty crops and alternative production systems for specialty crops. The program also expands opportunities for marketing success of specialty crops in Tennessee.	$20,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Tennessee Department of Agriculture	$555,605.15	Developing and Utilizing Crop Profiles for Tennessee Specialty Crops Growers (Crop Profiles)	Under the direction of the Center for Profitable Agriculture, the "Developing and Utilizing Crop Profiles for Tennessee Specialty Crop Growers" (Crop Profiles) project will embark on a collaboration with the University of Kentucky Center for Crop Diversification (CCD) to develop six fact sheets for specialty crops and/or production and marketing systems for specialty crop growers. The exact topics for the fact sheets will be decided by an advisory committee. The published fact sheets (following the existing CCD 'crop profile' model) will be utilized in 6 outreach sessions (workshops/trainings) with agricultural Extension agents, specialty crop producers and other agriculture leaders in Tennessee. An estimated 22 County Agriculture Extension Agents will be trained to use the fact sheets with specialty crop growers. In addition, the fact sheets will be distributed to 1400 specialty crop growers through workshops, seminars, conferences, producer meetings and trade shows. The fact sheets will be used in on-site instruction with specialty 86 crop growers through workshop and educational meetings. This project will develop tools for County Agriculture Extension agents, other agriculture leaders and specialty crop growers to use in the evaluation, development and marketing of specialty crops. It provides a strong learning foundation for specialty crop growers who are considering the productions of alternative specialty crops and alternative production systems for specialty crops. The program also expands opportunities for marketing success of specialty crops in Tennessee.	$36,000.00
Tennessee Department of Agriculture	$555,605.15	Comparing Lettuce Yield and Quality Using Drip and Overhead Irrigation on Biodegradable Mulches	The University of Tennessee (UT) will compare disease incidence and severity, yield and quality of lettuce produced with drip and overhead irrigation on biodegradable mulch. If the quality is found to be comparable between these two growing systems, specialty crop growers could enhance the sustainability of their production by saving on irrigation inputs and end of the season plastic removal costs, while also reducing landfill waste by transitioning from traditional polyethylene plastic mulch to biodegradable mulch and more permanent irrigation systems versus drip tape that is disposed of after one season. Results from this study will be shared through videos, factsheets, on-farm workshops and field days, as well as on the UT Vegetable website.	$30,718.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Tennessee Department of Agriculture	$555,605.15	Conference Scholarships	The Tennessee Agritourism Association (TAA) will increase its member's knowledge of growing, marketing, and selling specialty crops. To do this, we will award a total of 12 scholarships over two years to NAFDMA conferences across the United States. These scholarships will be used to cover partial expenses of the recipients. These scholarships will be used for to North American Farm Direct Marketing annual conference. The applicants will present the TAA board an essay and application for these scholarships. It will be competitive, and the winners will be chosen based on their membership participation.	$24,000.00
Tennessee Department of Agriculture	$555,605.15	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding	$49,596.84
Texas Department of Agriculture	$2,099,728.36	Developing Gummy Stem Blight Resistant Watermelon Cultivars Using Metabolimics	The Texas A&M University Vegetable and Fruit Improvement Center (VFIC) will lead a multidisciplinary team composed of the Texas Watermelon Association, HEB, University of Georgia, Texas Plant Disease Diagnostic Clinic Lab and several watermelon producers (Bagley Production Co., Pennington Farms, Prukop Farms and Mandujuan Brothers) to screen Gummy Stem Blight (GSB)-resistant greenhouse and field grown cultivars of watermelon using biochemical and metabolomic approaches the goal is confirming GSB-resistant watermelon cultivars suitable for Texas growing conditions and to minimize the watermelon yield losses in the region.	$164,160.90

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	Research And Survey Programs Aimed At Reducing Losses to Potato Zebra Chip in Texas	Texas A&M AgriLife Research in Amarillo, in collaboration with Black Gold Farms, will conduct psyllid surveys and research that will lead to reduction in losses from potato zebra chip in Texas. Potato psyllids transmit the bacterial pathogen, 'Candidatus Liberibacter solanacearum' (Lso), which causes potato zebra chip. In this project, weekly psyllid surveys will be conducted to provide growers with psyllid incidence and Lso test results in a timely manner. In addition, currently there are two genetically distinct strains of Lso (A & B) and preliminary research results show that Lso A is less pathogenic than Lso B on potatoes. Furthermore, psyllids with Lso A do not reproduce well or cause severe symptoms on peppers. These preliminary results will be further investigated under field conditions. The outcome of these studies will help growers decide if pesticide applications are necessary when Lso A is the dominant strain of the pathogen in their fields, and potentially reduce the frequency and amount of insecticide introduced into the environment. This in turn would result in increased environmental and economic sustainability for potato growers in Texas. Results will be disseminated through multiple outlets including on-online services, e-mail listserv, printed materials, field days, and other extension service outlets.	$112,538.70

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	Developing Strategies For Mitigating The Impacts of Freezing and Cotton Root Rot On Olive Production in Texas	The Texas Association of Olive Oil (TXAOO) will undertake collaborative work with the Texas A&M AgriLife Research and Extension Center at Uvalde to develop strategies to minimize losses due to freezing and Cotton Root Rot (CRR) disease in olive orchards. A variety trial is needed to determine the response of non-regional germplasm to CRR. If any tolerance is noted, it could provide valuable insight to overcoming challenges presented by this pathogen. As a first step towards developing freeze tolerant olive varieties for the state, we will use Texas adapted varieties and non-regionally adapted germplasm to identify potential genetic and biochemical markers for evaluating the freeze tolerance using established techniques. CRR, a widespread soil-borne pathogen in the southwest United States caused by Phymatotrichopsis omnivora, poses a significant challenge to the production of Texas adapted olive varieties, as all are susceptible. The proposed project would enable olive growers in Texas to be better environmental and resource stewards for managing cold damage and disease in their orchards and provide risk information when making decisions regarding costly orchard installation at new sites. The outcome of this project is expected to benchmark efforts to develop freeze and cotton root rot tolerant varieties for the Texas region.	$102,428.10

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	Feasibility of Establishing Vegetable Seed Production in The Texas High Plains	Texas A&M AgriLife Research, in collaboration with West Texas A&M University, will conduct research to determine the feasibility of vegetable seed production in the Texas High Plains. The study will include an investigation of the economic, environmental and biological factors that will most impact growers who are interested in diversifying their farming operation, with vegetable seed production. Because of its long growing season and favorable climate, the High Plains is already a major seed production region for field crops such as corn, sorghum and wheat. Inclusion of vegetable seed production to an existing system could provide economic stability through crop diversification. Specifically, the project initially will focus on jalapeno peppers and heirloom tomatoes and include an economic analysis for seed production, including organic vs. traditional production, a comparison of seed production in protected structures vs. open field production, and a determination of the primary insect and disease pests that could impact production. Seed production for high value vegetable crops has potential to increase economic sustainability for farmers currently involved in seed production for field crops. However, it also offers potential as a lucrative crop option for small acreage, beginning farmers.	$128,360.70
Texas Department of Agriculture	$2,099,728.36	Wash Your Produce - Produce Safety Begins With You	Through a cooperative agreement with the FDA, the TDA Office of Produce Safety is working to establish a farm inspection program to minimize foodborne illness resulting from Texas growers that are covered under the new Produce Safety Rule. This program does not include consumer produce safety leaving an important piece of the supply chain vulnerable to pathogens. The FDA has indicated about a third of consumers did not wash produce using the FDA recommended method, and almost half reported that they only held the produce under running water1. Washing raw vegetables and fruits before consumption may reduce the likelihood of ingesting pathogens, pesticide residues or dirt.	$45,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	Investigating The Potential For Golden Kiwifruit As A New Specialty Crop In Texas	The Nacogdoches-Nacogdoches County Economic Development Corporation (NEDCO) will partner with Texas A&M AgriLife Extension and Stephen F. Austin State University (SFASU), Nacogdoches, to conduct a Texas Kiwifruit Evaluation Project. This project builds on crops at a small Kiwifruit planting at SFASU established in 2011 which can best be described as the first kiwifruit production in Texas history. This project holds the promise of introducing a new specialty crop to the Texas market. Results from this project will be made available via educational resources, field day events and other media, to producers as well as the general public.	$91,512.90
Texas Department of Agriculture	$2,099,728.36	Protection of The Citrus Industry Through Preventative Monitoring and Education	The Texas Citrus Pest and Disease Management Corporation (TCPDMC) in cooperation with USDA and Texas Department of Agriculture (TDA) will provide assistance in detection and education of quarantinable pests and diseases. These pests and diseases include Asian Citrus Psyllid (ACP), Mexican Fruit Fly (MFF), Citrus Canker and Huanglongbing (HLB). Through scouting efforts in both commercial groves and residential areas, trap monitoring, fruit removal and educational presentations for growers and residents in both English and Spanish, TCPDMC will provide a reduction of quarantines and reduce the pest populations.	$250,000.00
Texas Department of Agriculture	$2,099,728.36	Retail Promotions and Consumer Education	The fruit, vegetable and nursery industries continue to play a vital part of the Texas agricultural economy. The Texas Department of Agriculture (TDA) will develop creative marketing programs designed to increase consumer visibility and awareness of Texas' commodities throughout retailers across the state. TDA will also work to ensure consumers are aware of what Texas fruits and vegetables are in season throughout the year. Additionally, TDA will offer mini grants to retailers and/or farmers markets to promote Texas seasonal produce and education. Mini grants will also be available to school districts and/or charter schools to assist in educational projects to create drought-tolerant learning space areas on campus. This project will focus on the use of Texas native plants.	$225,903.49

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	Enhancing Productivity and Resiliency of Texas-Grown Strawberries Through Research and Grower Training	Texas A&M AgriLife Extension in collaboration with Prairie View A&M, GROW North Texas (a non-profit organization), the Poteet Strawberry Festival Association, and six strawberry growers will evaluate specific needs that are critical to sustaining the Texas strawberry industry . Through grower, industry, and university collaboration, we expect to increase in-state acreage, the number of growers and the availability of Texas-grown strawberries to consumers. The project will evaluate five goals to increase yield and quality through (1) using bio-based products (Trichoderma, Bacillus, and mycorrhizae to enhance root zone health, increase rooting and strawberry crown production; (2) incorporate low tunnel technology to protect quality and prevent fruit diseases; (3) provide alternative fertilizer management strategies that reduce labor and improve nutrient uptake by variety in the diverse regional climates; (4) improve weed management strategies to reduce hand-weeding costs; and (5) provide Texas strawberry growers, agents and specialists, and the industry with up-to-date, intensive, and regionally appropriate production training through statewide workshops, on-farm field days, and online training programs. The overall goal of this project is to increase grower productivity, profitability, and resiliency while adding a greater supply of strawberries for Texas consumers.	$68,862.60

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	Enhancing Pepper Crop Health and Value by Integrating Novel Genetics and Mineral Nutrition Management	This proposal is being submitted by Texas A&M University in collaboration with members of the South Texas Vegetable Association to address the key focus area of Plant Health as it pertains to fresh pepper production. This project will evaluate new advanced pepper genetic lines from Texas A&M University, along with novel mineral fertility regimes to reduce losses from heat, bacterial leaf spot, viruses, pepper weevils and broad mites. In addition, the project will engage with some seed producers to examine ways to reduce hybrid pepper seed costs for direct seeding. The project will benefit pepper growers in Texas through availability of improved cultivars and nutrition strategies to combat disease and pest problems. This project will (1) conduct on-farm screening of newly-developed stress-resistant, TAMU pepper varieties and 2) develop cultivar-specific nutrient management guidelines to enhance systemic crop stress resistance to biotic and abiotic environmental stresses. The proposed project will focus on three mineral elements (namely calcium, potassium, and sulfur) that have been linked with disease, pest, and environmental stress tolerance.	$129,512.70
Texas Department of Agriculture	$2,099,728.36	Continued Hops Variety Evaluation and Development of Nutrient Recommendations For Yield and Quality	Following up on an initial year of suitable hops variety evaluations for commercial production in Texas, the Texas A&M AgriLife Extension will lead a project in partnership with Texoma Craft Beverage Alliance (TCBA) to continue evaluating varieties in year two at five sites established in year one. In addition to this task, TCBA and AgriLife Extension will begin evaluating the response of the 2 year old bines and new 1 year old bines in terms of overall yield and quality to rates of nitrogen application. General tasks include continued monitoring of soil and hops plant tissue nutrient status in-season, disease and pest pressures, identification of- and cooperation with new growers, evaluation of appropriate nitrogen fertilizer rates, and post-harvest analysis of hops cones for desirable chemical qualities. Expected outcomes include establishment of a set of best recommended varieties and practices for yield and quality to reduce risk of growers entering this exciting new horticultural niche in Texas. These outcomes will be communicated via outreach and education through print, online, and in-person trainings.	$63,403.20

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	Tomato Grafting: Novel Approaches For Conventional and Organic Systems in Texas- Phase II	This project will be conducted by the Uvalde County Underground Water Conservation District (UCUWCD, primary applicant) and Texas A&M AgriLife Research (partner). If awarded, UCUWCD will establish a contractual agreement or contractual relationship with the Texas Department of Agriculture to lead and execute the project in conjunction with Texas A&M AgriLife Research, Uvalde; and collaborators in Seguin, College Station, Overton, Weslaco and Lubbock. Current commercial tomato cultivars used in Texas are susceptible to soil-borne and leaf diseases, especially under high tunnels with intensive cultivation and minimum rotation. During Phase I applied research has been conducted to screen and identify more stable and effective rootstock/scion combinations for tomato production and markets in Texas. In the proposed Phase II of the project, we will emphasize production of grafted combinations selected from Phase I in order to provide Texas farmers alternative production systems to effectively manage diseases and enhance fruit yields and quality of tomato grown under protected environments (high tunnel) and open-field (organic and conventional) in the south, southwest, northeast, northwest, and central Texas regions. The project will enhance the competitiveness of tomato production in Texas by developing research-based grafting systems to implement in high tunnel and organic/conventional fields and by disseminating results to stakeholders through growers' meetings and field days.	$125,663.65

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	Developing A Prospective Winegrower Guide	The Texas A&M AgriLife Extension Service seeks to produce a guide for prospective grape growers in Texas. Since 2001 the number of wineries in Texas has increased from 46 to more than 450 today. The increase in wineries and demand for Texas grown grapes has been the driver behind an expansion of grape acreage. The proposed guide will provide prospective grape growers with important information regarding the appropriate steps to getting started as well as background on vineyard site selection, vineyard economics, grape varieties and rootstocks, equipment needs, and production practices. This guide will provide growers with accurate, up- to- date information to ensure a healthy start to their vineyard enterprise. The prospective winegrower guides will be disseminated at Texas A&M AgriLife Extension Service educational programs and industry conferences such as the Texas Wine and Grape Growers Association Annual Conference, Newsom Grape Day, and the Hill Country Wineries Symposium.	$12,308.40
Texas Department of Agriculture	$2,099,728.36	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$242,991.17
Texas Department of Agriculture	$2,099,728.36	Improving The Productivity and Quality of Texas Grapes and Wines	The Texas A&M AgriLife Extension Service, in partnership with the High Plains Winegrowers Association, aims to improve the productivity and quality of Texas grapes and wines through a research and extension project to determine the relationship between crop load and grape and wine quality, and the usage of mechanical fruit thinning to reach target yields. An economic analysis of these practices will facilitate the adoption of techniques best suited for individual vineyard businesses. A guide and a video on how to mechanically thin using a harvester will be available for growers and wine industry. This project serves to enhance the competiveness of grape production in Texas.	$56,333.70

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	Industry Workforce Enhancement of Specialty Crop Marketing and Education	The proposed project covers enhancement targeted to the Green Industry's workforce through increased knowledge of sales and marketing through increased educational resources. In the latest Economic Impact Report by Texas A&M University, Texas' Green Industry was estimated at over $20 billion, with over 250,000 jobs within Texas' workforce. This industry continues to gain momentum. Every year, more and more people are needed to continue to move this industry forward; however, dwindling enrollment in higher education programs have necessitated cuts in many options available for continued learning. Texas Nursery and Landscape Association (TNLA) continues to be a dominant source of education for Texas' Green Industry; however, resources and access to new and advanced training have become limited. Through the Specialty Crop Block Grant (SCBG), TNLA will develop new programs to be added to certificate programs and other education platforms. Specific, targeted programs such as internship, ambassador programs and train-the-trainer programs will also be developed. Experts from all areas of the industry will convene at an Issues & Industry Summit to discuss and propose current needs for the Green Industry. This summit will set the stage for all the content to be developed. All new programs will be educated on and publicized to industry professionals at the Industry Conference which will be the cornerstone to all programs to get known by the industry. These programs will be used to aid in, and lead, the development of an educated, resourceful and prosperous workforce for the now 3rd largest agricultural crop in Texas.	$91,466.55

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Texas Department of Agriculture	$2,099,728.36	A Systematic Review of Listeria Growth and Survival on Fruit and Vegetable Surfaces	The Texas International Produce Association will partner with the Center for Produce Safety (CPS) who will partner with Virginia Polytechnic Institute and State University (Virginia Tech) to expand knowledge on Listeria growth potential and kinetics on intact, whole produce. Currently, there are critical knowledge gaps regarding the risk of Listeria monocytogenes in raw agricultural commodities (i.e., whole fruits and vegetables that are not cut or processed). This project will determine L. monocytogenes growth and survival potential on intact whole produce commodities and develop quantitative risk models for selected commodities that demonstrate growth or significant survival potential. These goals will be achieved using a three-pronged approach of (i) investigating prior information (systematic literature review), (ii) filling critical data gaps (L. monocytogenes growth and survival experiments), and (iii) developing risk models to assist the industry in managing the risk from L. monocytogenes contamination. Knowledge on which whole produce commodities support L. monocytogenes growth and/or survival potential at various handling and storing conditions observed along the supply chain will be developed.	$186,523.00
U.S. Virgin Islands Department of Agriculture	$241,757.76	Propagating Guavaberry: A High Valued Native Virgin Island Fruit Tree	The University of the Virgin Islands will collect seeds of Guavaberry (Myrciaria floribunda), a fruit tree native to the Virgin Islands and investigate different pre-germinative seed treatments along with vegetative propagation in order to develop nursery protocols for planting stock. The fruits of Myrciaria floribunda are used to make Guavaberry liqueur, juices, jams, jellies, and flavored ice cream. One pound of fresh fruit sells for approximately $35. The goal of the project is to produce viable plantlets from the various germinated seedlings to give to farmers along with a fact sheet for the general public.	$45,000.00
U.S. Virgin Islands Department of Agriculture	$241,757.76	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$19,340.38

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
U.S. Virgin Islands Department of Agriculture	$241,757.76	Establishment of an Indigenous Fruit Tree-planting Program	The U.S. Virgin Islands Department of Agriculture is seeking to establish an indigenous fruit tree-planting program to replace the native fruit trees that were destroyed as a result of hurricanes Maria and Irma. Kenneth Mapp, VI Governor, stated in his State of the Territory address that "the agriculture industry suffered severely under the storms and that most VI farmers are experiencing hardship and severe losses of their livestock, fruit trees, crops, and infrastructure." Native trees are part of the cultural tradition of the VI. This project will begin to repair the severe loss to the competitiveness of specialty crops in the U.S. Virgin Islands territory due to storms. Indigenous fruits are a vital source or fiber and vitamin C and can act as a 'safety net' when other fruits are scarce since the trees are well-adapted to local conditions. In three to five years after the fruit trees are planted, project outcomes include a severe reduction in import, energy, and storm water management costs.	$64,334.47
U.S. Virgin Islands Department of Agriculture	$241,757.76	Establishment of a Bee Keeping Colony Program	The U.S. Virgin Islands Department of Agriculture is seeking to establish a Bee Keeping Colony Program. The U.S. Virgin Islands received two category 5 Hurricanes within a span of 15 days of each other; as a result, beekeepers on both Island districts lost a significant amount of bees and hives. This initiative seeks to increase production of locally grown fruits, vegetables, and forage crops in order to enhance the competitiveness of specialty crops grown in the U.S. Virgin Islands. A decrease in bees equates to less pollination, which is the movement of pollen from the anthers (male parts of a flower) to the stigmas (female part of a flower). Through this project, VI Department of Agriculture will host seminar(s) to educate farmers on the benefits of bee keeping and agriculture. Participants who complete a seminar on bee keeping will receive a bee keeper kit.	$42,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
U.S. Virgin Islands Department of Agriculture	$241,757.76	To Establish a Compost Program, Which Will Seek to Turn Green Waste into Compost for Soil Amendment	The U.S. Virgin Islands Department of Agriculture is seeking to establish a compost program. This program seeks to turn green waste into compost and then use it to amend the soil. When compost is added to the soil, it improves and promotes healthy production of locally grown fruit and vegetables. According to the 1994 Soil Survey Illustration A.2 of the United States Department of Agriculture, the main problem confronting VI Agricultural producers is retaining sufficient soil moisture to produce crops that are otherwise suited to the soils and climate and that poor soil management causes a depletion of the ground water supply. Producing compost as a soil amendment is necessary to improve the competitiveness as well as the quality and quantity of specialty crop yields in VI.	$71,080.00
Utah Department of Agriculture and Food	$357,572.71	Sustaining Green Industry Production Through Irrigation Management by Low-cost Microcontrollers	Utah State University will establish an agreement or contractual relationship with the State department of agriculture to lead and execute the project to demonstrate an emerging sensor-based precision irrigation system in a local nursery and compare the irrigation efficiency of this new system with standard nursery irrigation practices. The results from this project along with benefits of the sensor-based precision irrigation system will be disseminated to nursery and greenhouse growers through field days and/or workshops. Adoption of this smart technology by local growers in their specialty crop production could enhance the competitiveness of Utah green industry through increased water use efficiency, reduced pesticide and fertilizer runoff, reduced inputs, and/or increased economic return.	$39,875.00
Utah Department of Agriculture and Food	$357,572.71	Developing the Four Corners Potato (Solanum jamesii) for Market	The Four Corners Potato project will facilitate the development of a native Utah potato for cultivation, marketing and conservation that benefits communities in southern Utah. The project requires nutritional research to select the best genetic sources, developing practical growth and harvest methods, working with local people to develop marketing and providing conservation guidance to landowner-stewards. Our project's goal is to select, grow and distribute the best-tasting and most nutritious potato on the market. Having a 10,900-year history of use among Native Americans, along with importance to pioneers and pioneer descendants, make the Four Corners potato a uniquely Utah product.	$95,710.84

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Utah Department of Agriculture and Food	$357,572.71	Enhancing Specialty Food Product Producers Sourcing Local Produce for Products	Utah State University Extension will work with Utah's Own to enhance access to local specialty crops by local food product entrepreneurs. This will be done by holding six events where local farmers and entrepreneurs can establish business contacts. It will also use focus groups and other techniques to examine the needs of farmers and entrepreneurs and how to facilitate the use of local fruits and vegetables in their products.	$20,191.00
Utah Department of Agriculture and Food	$357,572.71	Using Weather Data to Predict Orchard Crop Development	The Utah State University Department of Plants, Soils and Climate, working with the Utah Climate Center and USU Extension will integrate existing crop growth models for tart cherry, peach and apple into the Climate Center's Plant Management website. USU Extension agents working directly with growers in Utah's major fruit growing areas will collect data on phenological growth stages in commercial orchards that are near automated weather stations to validate these models. Utah fruit growers will be able to access these models to schedule labor requirements for frost protection, fruit thinning, harvest and orchard pruning.	$49,012.00
Utah Department of Agriculture and Food	$357,572.71	Urban & Small Farm Specialty Crop Hydroponic/Aquaponic Feasibility Study & Demonstration	The USU Botanical Center in Kaysville will create a teaching garden, demonstrating the feasibility and advantages of growing with hydroponic and aquaponic systems, and geothermal heating; knowledge of methods and systems used will be disseminated through USU Extension activities and the Utah Urban and Small Farms Conference in February 2020 and 2021. When available, findings will be presented at national conferences of Extension and related industry meetings.	$79,144.00
Utah Department of Agriculture and Food	$357,572.71	Piute County Specialty Crops Awareness and Utilization to Address Intergenerational Poverty and Food Deserts	In Piute county the nearest large grocery store is at least one hour away from all of the communities within Piute. This lack of affordable produce creates a food desert and in turn adds to the problem of intergenerational poverty because of the limited access to fresh fruits and vegetables. The lack of "gardening and food preparation" skills coupled with a short growing season limits the kinds and amounts of specialty crops grown in Piute county locations.	$21,540.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Utah Department of Agriculture and Food	$357,572.71	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$26,475.00
Utah Department of Agriculture and Food	$357,572.71	Demonstration of the Feasibility of production Service Berry (Saskatoons) in Cache Valley, UT	Cache Valley has long been known for its long winters and short growing seasons which has made commercial fruit production difficult. This project will assess the viability of Service Berry also known as Saskatoons (Amelanchier alnifolia) as a new specialty crop which is naturally adapted to tolerate the climatic challenges of this region. If successful Serviceberry has the potential to provide local producers with a reliable product for new markets locally and for international exports abroad.	$25,468.00
Vermont Agency of Agriculture	$332,632.61	On-Farm Tissue Culture Laboratory for the Micropropagation of Specialty Ranunculus Cultivars	Ardelia Farm & Co. will support the creation of a new Vermont-based cut flower industry via micropropagation of novel ranunculus cultivars in our Specialty Crop Block Grant Program-funded on-farm tissue culture laboratory.	$20,274.00
Vermont Agency of Agriculture	$332,632.61	Steam Seed Treatment Services for Organic Specialty Crops	High Mowing Organic Seed (HMOS) will prevent the spread of seedborne plant pathogens by identifying seedborne pathogens of importance in Vermont, researching and developing standardized protocols for the steam treatment of infected vegetable seed, and making this service available for organic specialty crop producers, HMOS customers, and other seed companies.	$10,400.00
Vermont Agency of Agriculture	$332,632.61	Improving Nutrient Management on Small Vegetable Farms	The University of Vermont (UVM) Extension Vegetable and Berry Team will provide individual technical assistance to 100 commercial vegetable growers managing a total of 1,000 acres, helping them use existing educational resources to develop scale-appropriate nutrient management plans that comply with Vermont's Required Agricultural Practices.	$29,798.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Vermont Agency of Agriculture	$332,632.61	Responding to Need for On-Farm Technical Support for Vermont Apple and Grape Growers	The University of Vermont Fruit Program (UVMFP), in response to mounting requests from prospective and beginning farmers and farmers transitioning to apples and grapes from other crops for experiential-based technical support trainings covering a broad spectrum of production needs, will conduct nine hands-on, on-farm trainings. The farm trainings will include: farm site evaluation, cultivar and planting systems, tree and vine pruning and training, crop load management, groundcover management, and harvest and postharvest management. Participants will be provided with access to a collaborative online communications platform to facilitate a cohort learning environment and introduce them to industry support organizations to support use of new skills within the Vermont fruit industry.	$25,963.00
Vermont Agency of Agriculture	$332,632.61	Maple Syrup: Assessment of Conditions, Trends, Opportunity & Constraints for Expanding Consumption	The Vermont Agency of Agriculture will complete a three-part project in which we will (1) collect data on the global maple syrup industry including innovative uses of maple syrup and maple as an ingredient; (2) disseminate this information to Vermont maple syrup producers via a trackable report download and focused seminar, and (3) using the research compiled in part 1, work with our partners in the maple industry to identify two countries where maple has opportunity for growth and complete a Market Scan in both countries.	$31,000.00
Vermont Agency of Agriculture	$332,632.61	Increasing the Competitiveness of Vermont Wine through Vermont Restaurants and Agritourism Opportunities	The Vermont Fresh Network (VFN), in collaboration with the Vermont Grape and Wine Council (VGWC), will increase sales of Vermont wine through better cooperation with Vermont restaurants, a more strategic approach to how restaurants present local wine to diners, and regional tourism-related opportunities designed to enhance Vermont's reputation as a wine producing region.	$13,947.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Vermont Agency of Agriculture	$332,632.61	Expansion of a Vermont Maple Sugarhouse Food Safety Certification Program	The Vermont Maple Sugar Makers' Association (VMSMA) will expand upon an existing voluntary food safety program for maple producers by designing a framework for training new program inspectors, creating consumer awareness of the program to provide additional incentive and benefit for certified sugarhouses, and building capacity within our organization to provide a greater level of needed technical assistance and education on topics ranging from food safety regulations, best practices, and production methods to improve product quality.	$35,000.00
Vermont Agency of Agriculture	$332,632.61	Increasing the Vermont Apple Industry's Marketing Capabilities	The Vermont Tree Fruit Growers Association (VTFGA) will develop a cost-effective market strategy to identify and implement high-impact marketing priorities to meet growers' needs to increase direct-to-consumer sales.	$7,995.00
Vermont Agency of Agriculture	$332,632.61	Upper Valley Producer-Buyer Forum	Vital Communities' Valley Food & Farm (VFF) program will plan and execute an Upper Valley Producer-Buyer Forum, engaging the region's wholesale buyers (e.g., restaurants, institutions, grocers) and up to 15 Vermont specialty crop producers for education and sales connections. Modeled on our successful Flavors of the Valley expo and producer-buyer matchmakers in other regions of New Hampshire and Vermont, the forum will provide specialty crop producers a structured opportunity to share their businesses with prospective buyers, resulting in new market connections desired by both buyers and producers. Based on findings from Vital Communities' 2014 comprehensive market analysis, of 180 restaurants and 80 food stores in the region, 86% would like to purchase more locally grown food, 65% direct from farmers or a farm cooperative. VFF staff will work with buyers and farmers to design a useful event for all parties and provide pre- and post-forum technical support.	$11,595.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Vermont Agency of Agriculture	$332,632.61	Commercial Opportunities for New Perennial Crops and Climate Smart Agriculture	Walking Onion Nursery will work in partnership with the University of Vermont Extension to assess the commercial opportunities for three little known perennial food crops – Sea Kale, Spinach Vine and Hosta – through trial plot studies at two locations and associated activities. We will generate data and plants in production in order to familiarize growers and consumers with them and encourage their adoption in Vermont and the Northeast. Through additional research and reporting the analysis will include best practices for sourcing, propagation, establishment, weeding, harvest, plant spacing, growing and soil management, pollinator interactions and market development. We will conduct outreach through field days, articles, tasting events and our project supporter's network of newsletters, blogs, social media, print publications and websites.	$18,915.00
Vermont Agency of Agriculture	$332,632.61	Vermont Produce Safety Improvement Grants to Enhance Grower Competitiveness & On-Farm Food Safety	The Vermont Agency of Agriculture will help produce growers implement on-farm food safety practices, transition to compliance with the Food Safety Modernization Act (FSMA) Produce Safety Rule, and meet market demands for on-farm food safety by providing cost share grants to Vermont growers for on-farm food safety improvements.	$50,000.00
Vermont Agency of Agriculture	$332,632.61	Local Food Markets as a Placemaking Tool in Community Development: Increasing Specialty Crop Consumption, Access and Awareness	The Vermont Agency of Agriculture, Food and Markets (VAAFM) will continue to strengthen local direct to consumer marketing by collaborating in eight targeted community planning, economic development, and revitalization projects across Vermont, which will ensure the long-term viability of market opportunities for specialty crop producers. VAAFM will partner with other organizations to organize local food advisory teams in target communities for facilitated placemaking discussions around how best to incorporate specialty crop market opportunities into community development and revitalization projects.	$53,000.44
Vermont Agency of Agriculture	$332,632.61	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$23,327.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Virginia Department of Agriculture and Consumer Services	$556,320.93	Making Food Safety Certification Attainable for Virginia Farmers While Preparing for Potential Market and Changes	Appalachian Sustainable Development (ASD) will enhance the competitiveness of fresh fruits and vegetables by providing training and one-on-one technical assistance to specialty crop farmers across Virginia. Produce farmers will be prepared to obtain USDA GAP, Harmonized GAP, or Harmonized GAP with Global Addendum certification and will be prepared for Global GAP should the markets make such a change necessary. Additionally, producers will be prepared to meet the Food Safety Modernization Act Produce Safety Rule requirements with the addition of Produce Safety Alliance Grower Trainings.	$59,164.83
Virginia Department of Agriculture and Consumer Services	$556,320.93	Making Food Safety Certification Attainable for Virginia Farmers While Preparing for Potential Market and Changes	Appalachian Sustainable Development (ASD) will enhance the competitiveness of fresh fruits and vegetables by providing training and one-on-one technical assistance to specialty crop farmers across Virginia. Produce farmers will be prepared to obtain USDA GAP, Harmonized GAP, or Harmonized GAP with Global Addendum certification and will be prepared for Global GAP should the markets make such a change necessary. Additionally, producers will be prepared to meet the Food Safety Modernization Act Produce Safety Rule requirements with the addition of Produce Safety Alliance Grower Trainings.	$59,164.83
Virginia Department of Agriculture and Consumer Services	$556,320.93	Exploring Anaerobic Soil Disinfestation for Improved Vegetable Crops in Virginia	The goal of this project is to evaluate a non-fumigant approach that does not require forfeited growing seasons. This type of control strategy is paramount to sustaining valuable vegetable production in Virginia and the larger Mid-Atlantic region.	$59,176.07
Virginia Department of Agriculture and Consumer Services	$556,320.93	Exploring Anaerobic Soil Disinfestation for Improved Vegetable Crops in Virginia	The goal of this project is to evaluate a non-fumigant approach that does not require forfeited growing seasons. This type of control strategy is paramount to sustaining valuable vegetable production in Virginia and the larger Mid-Atlantic region.	$59,176.07

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Virginia Department of Agriculture and Consumer Services	$556,320.93	Assessing and Addressing Educational Needs of Exploratory/Beginning Growers of Hydroponic Produce for Local Markets	Virginia Tech (VT) faculty Holly Scoggins, Associate Professor of Horticulture, Joyce Latimer, Professor of Horticulture and Extension Specialist for Greenhouse Crops, Amber Vallotton, Fresh Produce Food Safety Team Coordinator & Extension Specialist, and Virginia State University (VSU) faculty Chris Mullins, Greenhouse Extension Specialist, will assist exploratory and beginning commercial growers by assessing current needs, evaluating hydroponic growing systems, and delivering educational programs via workshops as well as developing multi-media educational resources for long-term use by stakeholders	$54,644.77
Virginia Department of Agriculture and Consumer Services	$556,320.93	Assessing and Addressing Educational Needs of Exploratory/Beginning Growers of Hydroponic Produce for Local Markets	Virginia Tech (VT) faculty Holly Scoggins, Associate Professor of Horticulture, Joyce Latimer, Professor of Horticulture and Extension Specialist for Greenhouse Crops, Amber Vallotton, Fresh Produce Food Safety Team Coordinator & Extension Specialist, and Virginia State University (VSU) faculty Chris Mullins, Greenhouse Extension Specialist, will assist exploratory and beginning commercial growers by assessing current needs, evaluating hydroponic growing systems, and delivering educational programs via workshops as well as developing multi-media educational resources for long-term use by stakeholders	$54,644.77
Virginia Department of Agriculture and Consumer Services	$556,320.93	Cider Production from Virginia-Grown Apples: Managing Yeast Nutrition during Fermentation for Targeted Cider Aroma and Style	The Virginia Tech Department of Food Science and Technology's Enology and Fermentation group will develop research-based strategies for nitrogen-rich yeast nutrient management to retain desired fruit aromas during cider fermentation and will disseminate results to stakeholders through state and regional workshops, extension publications, and industry-led field days.	$59,745.52
Virginia Department of Agriculture and Consumer Services	$556,320.93	Cider Production from Virginia-Grown Apples: Managing Yeast Nutrition during Fermentation for Targeted Cider Aroma and Style	The Virginia Tech Department of Food Science and Technology's Enology and Fermentation group will develop research-based strategies for nitrogen-rich yeast nutrient management to retain desired fruit aromas during cider fermentation and will disseminate results to stakeholders through state and regional workshops, extension publications, and industry-led field days.	$59,745.52

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Virginia Department of Agriculture and Consumer Services	$556,320.93	Model-guided bloom thinning applications for managing crop load and disease pressure in apple orchards	Management of apple crop load by chemical thinning is one of the most critical orchard practices that significantly affects the annual production and profitability of apple orchards, and it can lead to significant losses if done improperly. Through the proposed project, Virginia Tech will determine and recommend chemical thinning strategies that optimize crop load, improve fruit quality, enhance return bloom, and reduce disease pressure in apple orchards.	$48,465.22
Virginia Department of Agriculture and Consumer Services	$556,320.93	Model-guided bloom thinning applications for managing crop load and disease pressure in apple orchards	Management of apple crop load by chemical thinning is one of the most critical orchard practices that significantly affects the annual production and profitability of apple orchards, and it can lead to significant losses if done improperly. Through the proposed project, Virginia Tech will determine and recommend chemical thinning strategies that optimize crop load, improve fruit quality, enhance return bloom, and reduce disease pressure in apple orchards.	$48,465.22
Virginia Department of Agriculture and Consumer Services	$556,320.93	Expanding Livelihood Options for Virginia Land Owners through Tree Syrup Production	The Virginia Tech led project team will increase the competiveness of the Virginia maple syrup sector by engaging with Virginia landowners and farmers to develop new maple syrup production capacity, value added products, improved markets, and related practices that result in increased awareness of income generation and nutrition opportunities.	$46,071.67
Virginia Department of Agriculture and Consumer Services	$556,320.93	Expanding Livelihood Options for Virginia Land Owners through Tree Syrup Production	The Virginia Tech led project team will increase the competiveness of the Virginia maple syrup sector by engaging with Virginia landowners and farmers to develop new maple syrup production capacity, value added products, improved markets, and related practices that result in increased awareness of income generation and nutrition opportunities.	$46,071.67
Virginia Department of Agriculture and Consumer Services	$556,320.93	Building a Bridge between VA Hops Growers and Brewers: Studying the Impact of Terroir and Postharvest Handling on Flavor and Quality	This is a joint effort between Virginia Tech and Virginia State University to respond to the increasing demand for hops as the indispensable component of beer driven by the unprecedented growth of the craft brewing industry in Virginia and the mid-Atlantic region. Virginia Tech will lead the research work.	$58,496.83

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Virginia Department of Agriculture and Consumer Services	$556,320.93	Building a Bridge between VA Hops Growers and Brewers: Studying the Impact of Terroir and Postharvest Handling on Flavor and Quality	This is a joint effort between Virginia Tech and Virginia State University to respond to the increasing demand for hops as the indispensable component of beer driven by the unprecedented growth of the craft brewing industry in Virginia and the mid-Atlantic region. Virginia Tech will lead the research work.	$58,496.83
Virginia Department of Agriculture and Consumer Services	$556,320.93	Evaluation of Organic and Biodynamic Weed Control Options for Specialty Crops in Virginia	Virginia Tech will investigate organic and biodynamic weed control methods to determine crop safety and control of troublesome weeds for producers of vegetable, fruit, and nursery crops, with results disseminated at grower meetings and field days as well as through extension publications and newsletter articles.	$40,015.98
Virginia Department of Agriculture and Consumer Services	$556,320.93	Evaluation of Organic and Biodynamic Weed Control Options for Specialty Crops in Virginia	Virginia Tech will investigate organic and biodynamic weed control methods to determine crop safety and control of troublesome weeds for producers of vegetable, fruit, and nursery crops, with results disseminated at grower meetings and field days as well as through extension publications and newsletter articles.	$40,015.98
Virginia Department of Agriculture and Consumer Services	$556,320.93	Novel Approach to Control Multiple Major Diseases on Nursery Crops with Plant Endophyte	Virginia Tech will develop a biologically based technique that targets multiple major diseases affecting a variety of ornamental crops and disseminate the results to the end user through grower meetings and field days. This technology will enable growers to build crop health into their products, boosting consumer satisfaction and improving the competitiveness of the horticultural industry in the Commonwealth.	$59,662.53
Virginia Department of Agriculture and Consumer Services	$556,320.93	Novel Approach to Control Multiple Major Diseases on Nursery Crops with Plant Endophyte	Virginia Tech will develop a biologically based technique that targets multiple major diseases affecting a variety of ornamental crops and disseminate the results to the end user through grower meetings and field days. This technology will enable growers to build crop health into their products, boosting consumer satisfaction and improving the competitiveness of the horticultural industry in the Commonwealth.	$59,662.53

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Virginia Department of Agriculture and Consumer Services	$556,320.93	Vertical farming of strawberries in greenhouses with mason bees for pollination	In the research proposed here, we (ODU Research Foundation; ODU Professor Dr. Horth) will evaluate the effectiveness of the increasingly popular mason bee for pollination of the specialty crop strawberries in a vertical farming layout. We have shown that mason bees are valuable pollinators for strawberries on farms and have determined that mason bees will land on strawberry flowers in greenhouses. Here, we will evaluate whether mason bees will effectively pollinate strawberry flowers in a vertical design in greenhouse conditions	$59,301.63
Virginia Department of Agriculture and Consumer Services	$556,320.93	Vertical farming of strawberries in greenhouses with mason bees for pollination	In the research proposed here, we (ODU Research Foundation; ODU Professor Dr. Horth) will evaluate the effectiveness of the increasingly popular mason bee for pollination of the specialty crop strawberries in a vertical farming layout. We have shown that mason bees are valuable pollinators for strawberries on farms and have determined that mason bees will land on strawberry flowers in greenhouses. Here, we will evaluate whether mason bees will effectively pollinate strawberry flowers in a vertical design in greenhouse conditions	$59,301.63
Virginia Department of Agriculture and Consumer Services	$556,320.93	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$11,136.81
Virginia Department of Agriculture and Consumer Services	$556,320.93	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$11,136.81

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Fate of Different Listeria Monocytogenes Strains on Different Whole Apple Variates during Long-Term Simulated Commercial Storage	The Center for Produce Safety will partner with Michigan State University to determine the fate of Listeria monocytogenes on three varieties of whole apples during long-term simulated commercial storage. The microbiological safety of whole and sliced apples has been called into question during the last seven years due to multiple recalls for Listeria monocytogenes (Lm) and a high-profile outbreak of listeriosis from caramel apples. This project aims to answer specific research questions for the apple industry, such as: (i) Do different foodborne outbreak strains of Lm differ in their ability to survive on apples; (ii) Does Lm survival differ when apples are contaminated from water versus direct contact with equipment surfaces (crates, brushes); (iii) Does the physiological state of Lm, specifically whether cells in the inoculum harvested from a planktonic (i.e., broth) culture versus from a biofilm (i.e., solid surface) impact Lm's subsequent fate on the apples The answers to these and other questions will assist the apple industry in minimizing the Lm risks associated with current apple growing and packing practices.	$228,260.00
Washington State Department of Agriculture	$5,108,035.62	Using Native Blue Orchard Bee for Pear and Sweet Cherry Orchard Pollination	The USDA-ARS Pollinating Insects Research Unit in Logan, Utah, with WSU-IAREC in Prosser, WA will evaluate the feasibility of Osmia lignaria (the blue orchard bee; 'BOB') pollination of Washington commercial pear and sweet cherry orchards. This project evaluates the contribution of BOB co-pollination with honey bees to pear and sweet cherry yields in orchards that have been historically limited by poor pollination. Fruit yield per acre will be evaluated annually and compared to historical yield averages to examine the relative impact of BOB pollination on orchard performance. If experimental orchards reveal consistent increases in fruit yield over time and relative to other neighboring orchards in a given year, it will confirm that BOB pollination provides an overall net benefit to Washington fruit growers. This study would be the first to report on the potential success and influence of BOB pollination on Washington orchards.	$153,893.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Addressing the Technical Gaps to Increase the Markets for Dry Peas	This project addresses critical needs that can directly help increase the markets for dry peas. Lack of basic physical, chemical, and functional data on individual varieties of dry peas as whole flours and their protein fractionates is a significant hurdle for their use in end products. Thus, the objective of this project is to produce the basic processing data for all commercially available dry pea varieties grown in the state of Washington and, for comparison, the surrounding region. Further, data will be generated on the extrudability of these pea proteins for making texturized protein products. Importantly, all the data generated will be publicly available and disseminated to relevant stakeholders through various channels including grower meetings, professional meetings, online resources and publications. To accomplish these goals, the following tasks will be completed at WSU laboratories: i) acquisition of all commercially available varieties of dry pea seeds through generous donation by project collaborators; ii) physical and chemical analysis of whole seed flours and protein fractionates; iii) determination of functionality of flours and proteins through extrusion processing; and iv) dissemination of data through the mechanisms mentioned above and measuring the impacts.	$243,247.00
Washington State Department of Agriculture	$5,108,035.62	Increasing Washington Blueberry Exports to India through Tariff Reductions	India is an important and growing market for the Washington blueberry industry, and one with significant export potential. India has a growing and increasingly affluent middle class, which is estimated to reach 475 million by 2030. Blueberries are not grown domestically in India, and there is already tremendous interest in India in sourcing blueberries from the United States. It is a strong aspirational food item and there is significant potential opportunity for Washington blueberries to be exported to the market. The goal of this project is to reduce the Indian tariff through the official Indian budget cycle, which adjusts tariffs annually. By addressing the obstacle of India's high blueberry tariff, this project will help reduce the oversupply in the United States and greatly increase sales of Washington blueberries to the Indian market.	$205,500.00
Washington State Department of Agriculture	$5,108,035.62	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$407,864.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Growing Wholesale Prospects for Whatcom and Skagit Specialty Crop Producers	Sustainable Connections will work with more than 100 specialty crop producers throughout Whatcom and Skagit counties to help them develop the know-how to be comfortable successfully managing relationships with an array of different buyer types (restaurant, grocer, and institution). Guidance will be provided to facilitate introductions between buyers and producers; provide technical training on larger scale crop growth, packaging, and marketing; and facilitate specialty crop and wholesale buyer collective crop planning efforts to help specialty crop producers maximize profit potential. At the end of the project over a hundred Whatcom and Skagit County, specialty crop producers will be better positioned to engage in larger scale sales to wholesale buyers and will transform production capacity that currently goes unsold into an additional $500,000 annually in revenue for those producers	$151,273.00
Washington State Department of Agriculture	$5,108,035.62	Increasing Sales for Direct Market Specialty Crops Through Digital Marketing	The goal of the project is to increase specialty crop sales through consistent, high quality digital media marketing especially during high harvest season (May-October), which will target new shoppers. A 5% increase in farm sales in the NFM system adds almost $400,000 in annual sales to Washington's small farmers, $250,000 of which is specialty crop sales. The project will include: high season staffing dedicated to social media content creation, posting, engagement, ad buys (and A/B testing), leveraging influencers, back-end evaluation, and training for staff and farmers. Seattle's consumers are tech-savvy, social media hungry, and there is a massive millennial workforce that will be inspired to shop and learn through well executed digital media planning.	$107,858.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Decision Support for Managing Climate Risks in Tree-Fruit and Grapes	Washington State University (WSU) will develop a decision support system (DSS) that provides climate-related risk analysis and risk management decision support for the tree fruit and grape industries. This proposal addresses three critical temperature-driven production risks: (i) sunburn risk in tree fruit, (ii) shifts in apple bloom time, honeybee foraging behavior, and the potential for plant-pollinator interactions to be out-of-sync, and (iii) cold-damage risk in grapevine. The DSS will allow tree fruit and grape producers/consultants in Washington State to (a) understand and analyze current and emerging climate related production risks, (b) evaluate options for managing risk, (c) be better prepared to address emerging increased vulnerability to risks and (d) incorporate risk management in their long-term planning. While the proposal addresses multiple funding priorities, it is most closely related to “improving production practices through innovative technologies” through its focus on development of decision-support technologies.	$249,971.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Improving Machine Harvest Efficiency and Fruit Quality for Fresh Market Blueberry	Fresh-market blueberry growers in Washington and Oregon are increasingly constrained by high labor costs and decreasing availability, which directly impacts harvest operations and farmers' profitability. Growers need new solutions to grow and efficiently harvest a safe and high-quality product while maintaining economic solvency. This proposal jointly submitted by Washington State University and Oregon State University seeks to address this need while building on the promising work of this research team's previous research with mechanical harvesters. In this two-year multi-state project, we propose to: 1) Develop and test harvest technologies and practices that allow for the mechanical harvest of fresh market blueberry with high fruit quality and high harvest efficiency; 2) Evaluate packing lines for impact forces that could decrease fruit quality; 3) Compare food safety risks associated with traditional and new harvesting technologies; 4) Assess microbial quality of the fruits harvested by hand versus using mechanical harvesters; and 5) Extend project information to growers and packers in Washington and Oregon. Completion of this project will produce new knowledge, practices, and tools that will enable the efficient harvest and packing of high quality fresh market blueberries and minimize risks associated with food safety, which will reduce growers' dependence on hand labor for harvesting and promote cost- savings.	$178,328.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Precise Mechanical Solution for Vineyard Shoot Thinning	Washington State University will develop an automated solution for green shoot thinning in wine grapes. Green shoot thinning, an operation to remove some of the shoots from vine cordons, is used to improve spacing and direction of shoot growth, which is essential to create healthy and productive canopies as it improves light penetration and air movement in the canopies. This operation is highly labor-intensive, costing growers >$265/acre/year. Machine thinning can reduce the cost to about ~$10/acre. Our goal is to develop an automated system for precise positioning of thinning heads of a mechanical thinner. To achieve this goal, the focus will be on developing; i) a machine vision system to estimate cordon/trunk location and shoot density; ii) a prototype, pneumatic shoot thinner capable of quickly adjusting thinning roller position for precise removal of target shoots; and iii) an integrated, automated thinning machine and evaluate it in the vineyard environment. By the end of the project, it is expected that the prototype and field validation study will provide sufficient data and information for companies to develop and commercialize the machine. Commercial adoption of this technology will reduce farm labor use and production cost, resulting in a substantial benefit to Washington wine grape industry.	$195,232.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	High-Throughput Technology for Molecular Detection of Potato Pathogens	Potato production is impacted by many pathogens and nematodes that reduce yield, quality, and marketability of the harvested crop. To limit the prevalence of disease, diagnostic tests are implemented in both seed certification schemes and as pre-plant assessments of potato field soils. The goal is to develop a high-throughput method for the molecular detection of all potato pathogens, including those that are soil-borne, seed-borne, and insect-spread. The “Millichip” is a microarray technology with a low cost that is convenient for a typical bench scientist to use on a day-to-day basis. The sustainability and profitability of the Washington state potato industry will benefit from improved diagnostics and disease control strategies, and more secure trade agreements. To accomplish this goal, we will pursue the following objectives: (1) design nucleotide probes that detect potato pathogens on the Millichips; (2) test run designed Millichip array using DNA template, tuber, or soil samples; (3) improve and refurbish Millichips based on the test run results; (4) disseminate Millichip technology and provide workshops for the WA potato community. This project will be mainly conducted by the Molecular Plant Pathology Lab at Washington State University in Pullman, WA.	$249,414.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Enhancing the Competitiveness of Certified Organic Specialty Crops at Farmers Markets	In partnership with 25 farmers markets and statewide industry leaders, the WSDA Organic Program will provide timely and targeted training on organic certification standards, clarify signage requirements and market policies, and share best practices on organic income records at farmers markets. A new "Fresh Produce Labeling and Signage Standards for Farmers Markets" workbook will provide an accessible understanding of consumer protections, regulations, and best practices to 100 markets' staff, volunteers and vendors. This two-year project will directly benefit 75 specialty crop producers through improved organic visibility at their farmers markets, practical income record keeping tools, and proactive messaging to convey to shoppers and during statewide promotions such as Washington Organic Week. More generally, this project will promote specialty crops that are certified organic by building consumer trust and transparency in produce claims while reducing consumer confusion and potential fraud. The positive ripple effect among farmer's market shoppers, specialty crop farmers, and among additional farmers markets will create a lasting impact.	$99,600.00
Washington State Department of Agriculture	$5,108,035.62	E. Faecium as a Surrogate for L. Monocytogenes Intervention in Apple Dump Tanks System	A reliable non-pathogenic surrogate is urgently needed to predict behaviors of L. monocytogenes in dump tank practice. The overall goal of proposed studies is to comprehensively examine and validate Enterococcus faecium as a surrogate for L. monocytogenes intervention in the dump tank water system. Washington State University will pursue two objectives: 1) Evaluate use of E. faecium as a surrogate for L. monocytogenes antimicrobial intervention in dump tank and flume water system with different levels of organic matter; 2) Compare cross-contamination rates of E. faecium and L. monocytogenes in water-to-apple, apple-to- water, and apple-to-apple during dump tank practices of fresh apple packing lines. The proposed project will identify a validated non-pathogenic surrogate to predict L. monocytogenes behavior during intervention in dump tank water system. Knowledge developed will be disseminated to the apple packers and handlers in Washington as well as other regions.	$249,344.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Evaluation of Agriculture Water Disinfection Treatments	The Washington State University, has been actively engaged in discussions with the growing community regarding implementation of the Produce Safety Rule. The PSR has begun to shape the production practices of fruit and vegetable growers across Washington. Because pre-harvest agricultural water has been identified as a likely point of foodborne pathogen contamination during fruit and vegetable production, the PSR calls for rigorous water testing of generic E. coli populations in order to verify the microbial quality of surface water that will contact the edible portion of the plant during growing, unless a water treatment method is used. The testing expenses will greatly impact Washington fruit and vegetable growers since many utilize surface water for irrigation, cooling or foliar sprays.	$194,017.00
Washington State Department of Agriculture	$5,108,035.62	Root Growth Management to Reduce Ca Deficiency Disorders in Apples and Cherries	Calcium (Ca) deficiencies can lead to several disorders that reduce fruit quality and storability in Washington's key tree fruit crops. Washington State University will help reduce Ca-deficiency disorders by promoting early root growth. A correlation between root zone conditions; temperature, nutrients, pH and water availability, and Ca-deficiency disorders will be evaluated in different WA apple and cherry orchards. In parallel, we will evaluate the effect of soil temperature, root pruning and soil nutrient supply on early root growth and fruit quality. To develop a better indicator of Ca-deficiency disorders, we will compare the predictability of Ca-pectate analyzes versus total Ca. With this novel project, we expect to obtain a better understanding of Ca absorption and distribution, and to reduce Ca-deficiency disorders contributing to the competitiveness of the PNW apple and cherry industries. The outcomes will develop management practices to promote early root growth and thus, Ca-absorption during cell division, immediately transferable by the end of the project through outreach activities and education.	$152,937.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Investigating Impacts of Insecticides on Pollinators in a Biennial Seed Crop	This Washington State University research will provide growers with guidance to maximize bee safety while controlling common pests of cabbage seed crops when using a fall neonicotinoid drench for cabbage maggot and a foliar pyrethroid for common seed pests such as lygus. This data will provide critical information for producers of bee pollinated brassica seed crops. Objectives: Investigate potential of late season systemic insecticide drenches for control of cabbage maggot, to contaminate nectar and pollen and impact pollinators in cabbage seed, a biennial specialty crop. Evaluate honey bee contact toxicity of field-aged residues of a popular pyrethroid, bifenthrin, applied in the spring for pre/post-bloom control of common cabbage seed pests. Late season applications to control cabbage maggot; thiamethoxam and clothianidin will be applied in early October to cabbage grown for seed along with an untreated check.	$72,012.00
Washington State Department of Agriculture	$5,108,035.62	Promoting Productivity and On-Farm Efficiencies with Plastic Mulches in Raspberry	Red raspberry (Rubus idaeus) growers are increasingly using tissue culture (TC) transplants for planting. However, weed management and establishment of TC transplants is challenging. Growers need new techniques to promote TC establishment and ensure the long-term productivity of their fields. The goal of this project is to continue and expand our evaluations so that knowledge and practical strategies are developed to promote establishment of raspberries planted as TC transplants. To accomplish this, plastic mulches (BDMs and PE) impact raspberry plant growth, yield, and fruit quality, as well as impacts on weed management and root lesion nematode populations in on-farm collaborative experiments will be studied. Information from field trials and adoption studies will be incorporated into a robust outreach plan to ensure timely dissemination of project information.	$249,569.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Plant biology and the control of annual polygonum species	This project will be led by Washington State University. Four annual polygonum species, wild buckwheat, prostrate knotweed, palesmartweed, and ladysthumb smartweed (Polygonum convolvulus, aviculare, lapathifolium, and persicaria, respectively) are becoming more problematic in northwest Washington specialty crops. As these plants are all related, chemical control methods are similarly problematic. Fortunately, there are important differences in the biology of these plants that impart potential weakness that can be targeted in carefully designed integrated pest management strategies to achieve improved control.	$137,128.00
Washington State Department of Agriculture	$5,108,035.62	Integrated Management Strategies for Thrips Iris Yellow Spot Virus Threat to Onion	Washington State University will contribute to the development of eco-friendly thrips management practices and disease resistant onion cultivars thereby reducing the inputs, including insecticides for vector control, and cost of production with a subsequent increase in profit, and will directly contribute to environmental stewardship and increased sustainability. Washington is the 2nd biggest producer of onions in the country, and diseases are a major production constraint affecting both yield and quality of seed as well as bulb crops This project will employ the most effective means to manage an insect-transmitted virus such as thrips-transmitted IYSV by developing and deploying a combination of tactics – the central ones being sound thrips management combined with growing virus resistant cultivars. We will use a two-pronged approach – target the thrips vectors by developing eco- friendly and sound thrips management regime and to develop virus resistant cultivars by enhanced screening of breeding lines that were previously found to have less virus accumulation under heavy virus pressure.	$216,351.00
Washington State Department of Agriculture	$5,108,035.62	Alternative pest management technologies for tree fruit and wine grapes	This WSU team, with agricultural engineering, viticulture, plant pathology and entomology expertise, will investigate use of horticultural oil thermotherapy (HOT) and ozonated water sprayer (OWS) applications for effective control of indicator pest and disease species in pear and wine grapes This project aligns with environmental stewardship goals of using methodologies and products that have minimal off-target impacts and reduced chemical inputs. It bolsters available toolkit for organic pest management, while being equally viable in conventional and IPM-based programs.	$249,088.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Gut Content Analysis to Pinpoint the Weed Sources of Potato Psyllid	Circumstantial evidence from recent research suggests that matrimony vine (Lyciumbarbarum) is a primary weed source of potato psyllids entering potato fields of the Pacific Northwest, but direct evidence for this association is lacking and the role of other perennial weed hosts as sources of psyllids is still uncertain. A primary goal of this project is to use molecular gut content analysis to directly pinpoint what plants (e.g. matrimony vine) potato psyllids are dispersing from as they enter potato fields in early summer. A second goal is to determine if early-season monitoring of potato psyllid in matrimony vine or other perennial host species identified in this project as sources of psyllids can be used to predict psyllid pressure expected in potato in late summer. The capability to predict psyllid populations and risk based on populations on spring hosts would allow growers to more effectively tailor management decisions. This project will be led by researchers at the USDA-ARS in Wapato, WA, and includes researchers from Washington State University, Oregon State University, and University of Idaho.	$215,538.00
Washington State Department of Agriculture	$5,108,035.62	Establishing risk of invasive insect pests of tree fruits in green yard waste from Canada	The USDA-ARS Temperate Tree Fruit and Vegetable Research Unit in Wapato, WA will establish an agreement with WA State Department of Agriculture focusing on protecting specialty tree fruit crops from invasive insect pests associated with solid waste from British Columbia (BC), Canada, transported to landfills in WA. Green yard waste is the most likely component of the waste stream to contain invasive pests of tree fruits. The introduction of an invasive pest into the tree fruit production areas of WA will greatly reduce the profitability of the growers because of establishment of quarantines to prevent further expansion of the pest, implementation of additional field and postharvest control measures, and revocation of several export and interstate transport agreements due to the existence of the pest. The major anticipated outcome of the project is the enhancement of the competitiveness of specialty tree fruit crops through management of green yard waste movement originating from BC to protect the tree fruit industry in WA, and potentially the banning of green yard waste movement into major fruit-growing regions.	$243,449.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Ensuring the sustainability of pollination services to Washington specialty crops	Honey bees provide vital pollination services for numerous specialty crops in Washington including tree fruits, berries, and vegetable and horticultural seeds. Declines in honey bee health in recent decades have been caused in large part by two intractable pest issues, Varroamites and a wave of new bee infecting viruses. To safeguard a reliable and economically viable pollination system, novel methods are needed to control these two pest issues. Washington State University (WSU) bee research team has already made strides in developing innovations to address these two issues, including the breeding of a new strain of entomopathogenic fungus against Varroamites and the identification of the first candidate treatments for honey bee viruses. WSU will: 1) continue to breed our novel strain of Metarhizium fungus for improvement as a biological control agent against Varroa mites; 2) determine the best dosages and delivery methods of Metarhizium for Varroa control; 3) test new formulations and IPM practices using extracts from wood decay fungi to treat bee viruses; 4) partner with industry to produce the first ever available treatment for honey bee viruses.	$249,751.00
Washington State Department of Agriculture	$5,108,035.62	Novel Disease Control Strategies for WA Berry Growers	Washington State University and the Agricultural Development Group will provide Washington (WA) berry growers with novel and environmentally sound control measures for WA berry diseases. WA berry growers suffer severe annual fruit losses due to Botrytis gray mold, the most economically significant disease facing the industry. Growers are in desperate need of strategies to preserve existing fungicides and slow resistance development and require access to new disease control products with different modes of action. This project will address three interrelated objectives that build on previous research: 1) high-throughput monitoring of fungicide resistance in individual berry fields, 2) high-through put monitoring of SDH resistance mutations to newFRAC7 fungicides in individual fields, 3) evaluation of alternate fungicide timing strategies, and 4) efficacy testing of new fungicides with novel mode of action.	$207,709.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Washington State Department of Agriculture	$5,108,035.62	Developing a Washington Organic Asparagus Industry	The Washington Asparagus Commission will help develop an organic asparagus industry. Current production is limited due to difficulty in controlling the European asparagus aphid and a spectrum of weed species. There is tremendous demand for organic asparagus and growers want to transition conventional asparagus to organic asparagus and are in need for technical assistance. The objectives of this trial are to develop new and improved means of control for European asparagus aphid (EAA) and weeds using new tactics approved for organic use in asparagus.	$82,932.00
Washington State Department of Agriculture	$5,108,035.62	Expanding Organic Access: Creating Resources for Spanish-Speaking Tree Fruit Growers	The WSDA Organic Program translation project will provide access and resources related to organic certification for Spanish-speaking operators, managers, and farmworkers in the tree fruit industry. Spanish speakers are crucial participants in the success of agriculture in Washington State, and tree fruit. While agricultural safety programs and pesticide applicator trainings have been implemented to support Spanish speakers, little is available to support the Spanish-speaking population in organic agriculture. To address this critical need, WSDA Organic Program will format and translate its application, technical factsheets, and resources into Spanish. Further, the Organic Program will work with industry partners to clarify and distribute these resources, ensuring Spanish speakers have equitable access to organic certification technical assistance.	$108,040.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
West Virginia Department of Agriculture	$295,704.43	Creating Education and Market Opportunities for Students and Beekeepers in Southern WV	The Raleigh County Board of Education is partnering with the Raleigh County Beekeepers Cooperative Association, Appalachian Beekeeping Collective, Fayette County Beekeepers Association, and Greenbrier County Beekeepers Association to develop a honey extraction facility in Raleigh County. This facility will provide market opportunities to students in Raleigh County Schools, members of the beekeepers associations, partners in the beekeeping collective as well as other interested beekeepers in Southern West Virginia. The programs provide instruction and mentoring to students in Raleigh County Schools and beginning beekeepers that will teach effective management practices, demonstrate how to grow colonies using natural beekeeping methods, provide grants for hives and equipment to beekeepers up to 300% above the Federal Poverty line, and provide a market for honey extracted by students, collective partners, beekeeping association members, and other interested beekeepers. The facility will also teach proper handling, manufacturing, and marketing of honey in accordance with WV Uniform Packaging and Labeling requirements.	$25,000.00
West Virginia Department of Agriculture	$295,704.43	Developing New Detection Methods to Enhance Food Safety in Specialty Crops in WV	Many laboratories are not familiar with specialty crop testing processes and procedures. The West Virginia Department of Agriculture (WVDA) will develop a new detection method and written procedure for Listeria monocytogenes detection in specialty crops using specialized equipment. This method will then be used to analyze samples for the pathogenic bacteria in specialty crops and value-added specialty crops in West Virginia.	$68,342.00
West Virginia Department of Agriculture	$295,704.43	2018-2021: West Virginia Specialty Crop Producer Education Opportunities	The West Virginia Department of Agriculture, in cooperation with multiple stakeholders and service providers, intend to address the need to grow the specialty crop industry through a variety of educational resources aimed at new, beginning, and disadvantaged farmers throughout the state. Required training as well as a travel course designed to explore best practices will be supplemented with an open access on-line video series will provide growers and processors with the mandated tools as well as innovative and industry best practices to achieve market entry and/or expansion.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
West Virginia Department of Agriculture	$295,704.43	Southside K-8 Tunnel and School Farm Project	Reconnecting McDowell is combatting food insecurity in a highly vulnerable population, providing market opportunities in an economically distressed region, and increasing education on specialty crop production practices in youth and adults. This will be accomplished by constructing a high tunnel and school farm at Southside K-8 in War, WV, creating an agricultural club in partnership with WVU Extension and West Virginia's Promise AmeriCorps VISTAs, and facilitating community-based workshops for all ages.	$15,000.00
West Virginia Department of Agriculture	$295,704.43	Yew Mountain Center Forest Farming with Non-Timber Forest Products Research and Education Project	The Yew Mountain Center will establish and develop long–term demonstration and research plots for the sustainable cultivation of marketable non-timber forest products (e.g. medicinal, decorative and culinary species) in our hardwood forest. This center will also offer training workshops and special events in cultivation, processing, marketing, adding value, and sharing best practices to West Virginia growers, established and new.	$19,932.00
West Virginia Department of Agriculture	$295,704.43	Initiative to Develop a Cider Apple and Cider Production Economy in West Virginia	A team of West Virginia University faculty from the Cooperative Extension Service and the Division of Plant and Soil Sciences will establish a research and demonstration orchard at the WVU Kearneysville Tree Fruit Research and Education Center. This will consist of a collection of 26 different cider apple varieties to identify varieties of this specialty crop best suited for cultivation in the distinct environment of West Virginia. This center will also research the production of high quality ciders representative of the unique Appalachian terroir, as well as to train and advise new and established apple growers in West Virginia in the production of these cider apples.	$24,522.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
West Virginia Department of Agriculture	$295,704.43	Growing Farmers, Horticulturists, Nutritionists in West Virginia: Garden-Based Learning for Elementary Schools	The goal for building the local food economy in our counties and state relies on getting our youth excited about agricultural/biological systems and learning how to grow their own food. Work on these goals through a garden-based learning (GBL) program also addresses critical WV issues with child obesity and food security. The West Virginia University (WVU) Extension Service will provide technical assistance and resources to expand the Putnam County GBL program into two additional counties in West Virginia and provide technical assistance to other GBL initiatives in the state for consistency. The high tunnels erected to facilitate the classroom learning will be sold back to the schools for consumption and real experience in entrepreneurship.	$31,460.07
West Virginia Department of Agriculture	$295,704.43	2018-2021: Supporting GAP Audits for Specialty Crops	Good Agricultural Practices (GAP) audits provide critical third-party audit certification for market access in the specialty crop industry. The number of GAP audited firms in the state continues to grow with the implementation of the reimbursement program provided by the West Virginia Department of Agriculture (WVDA) and its associated training program conducted by the multi-agency collaborative known as the Food Safety Training Team (WV FST) consisting of expertise from WVDA, WV University Extension and WV State University Extension. This project will continue to provide resources and services necessary for farmers (especially new, beginning and socially disadvantaged) to accomplish audit status and enter new markets for their specialty crops.	$17,500.00
West Virginia Department of Agriculture	$295,704.43	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$43,874.56
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Seed to kitchen: Identifying vegetable varieties with quality and production characteristics for WI growers	Dr. Julie Dawson and partners with the Seed to Kitchen Collaborative (SKC) will extend the impact of the SKC trials by improving access to information, participation in on-farm trialing, and demand for varieties identified as well adapted to WI climates and markets and will identify high performing red bell peppers and early tomatoes for WI growers through an expansion of the SKC trials to address these two unmet needs.	$78,606.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Expanding markets for vegetable seconds by building relationships and training farmers	The Wisconsin Food Hub Cooperative will work with buyers and farmers to build new markets for vegetable seconds, providing technical education and assistance on production, grading, and packaging, as well as marketing and logistics to get more Wisconsin specialty crops into these new markets.	$74,646.80
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Developing and testing inexpensive, open-source instruments and methods to monitor frost events in Wisconsin orchards and vineyards	A collaborative effort between the Atmospheric and Oceanic Sciences and Horticulture departments at the University of Wisconsin - Madison will develop and test inexpensive instrumentation to obtain highly detailed field- scale information about spring and fall frost events in WI orchards and vineyards, in order to: improve growers' understanding of the microclimates in their current and future production blocks; monitor frost events to successfully implement control methods; and to evaluate the efficiency of their frost control methods.	$74,540.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Celebrating seasonality: Wisconsin-grown recipes for the early childhood setting	Community GroundWorks and the Center for Integrated Agricultural Systems will develop “Celebrate Seasonality,” a recipe guide and training series to increase the use of Wisconsin-grown specialty crops in meals and snacks at Wisconsin Early Care and Education (ECE) sites by (1) Educating ECE providers and support staff about accessing and preparing Wisconsin-grown specialty crops and (2) Exploring opportunities to connect underserved and beginning Wisconsin specialty crop growers with the early childhood setting.	$74,032.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Evaluating and Improving the Biological Control Potential of Brown Marmorated Stink Bug Egg Parasitoids in Wisconsin Apple Orchards	The University of Wisconsin at Madison will survey for biological control agents of the invasive brown marmorated stink bug, determine where in the orchard parasitoids are most present, assess the efficacy of several potential attractants for parasitoids, and provide information about biological control for brown marmorated stink bug to Wisconsin fruit growers.	$73,962.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Investigating biopesticides and alternative disease management strategies for vegetable crops grown on muck soils of Wisconsin	Dr. Amanda Gevens, Potato & Vegetable Disease Research and Extension Specialist, grower cooperators, graduate students, and University of Wisconsin Extension county educators will 1) investigate ecological factors of the pathogen causing potato silver scurf and integrated management options, 2) investigate biopesticide and other novel treatments for control of nematode and fungal pathogens in potato and carrot crops, 3) investigate integrated management options for onion Stemphyllium disease, and 4) communicate results of investigations to enhance integrated management practices through educational programming with muck vegetable growers of Wisconsin.	$72,388.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Sustainable soil nitrogen fertility management for hops in the Midwest	The UW-Extension Hop Working Group will reduce the risk of groundwater contamination through the study of optimum economic rates of nitrogen fertilizer needed in hops and the movement of nitrogen in soil profiles and disseminate information through hop grower meeting, field days, and electronic resources.	$60,630.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Testing effectiveness of lithium chloride in nucleus colonies under field conditions for its ability to control varroa destructor, a devastating paras	Dr. Brad Mogen will compare the effectiveness of lithium chloride salt treatments to standard varroacide treatments applied in field conditions throughout the beekeeping season and the subsequent overwintering success of treated hives, and disseminate results to stakeholders at state and regional beekeeping meetings.	$51,160.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Growing a farm to college community of practice	The University of Wisconsin Center for Integrated Agricultural Systems will build institutional demand for Wisconsin- grown specialty crops by developing a Farm to College Community of Practice comprised of university and college food service leaders to (1) Establish baseline data of college and universities' procurement of target Wisconsin-produced and processed specialty crops, (2) Build capacity to purchase locally-sourced specialty crop products, (3) Provide technical assistance to reduce barriers to local specialty crop procurement, (4) Develop approximately 2-3 new pilot products, recipes and associated supply chains, and (5) Disseminate project brief to practitioner audiences in Wisconsin and beyond.	$50,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	An artificial intelligence-based pest management solution for cranberry Growers	The Wisconsin State Cranberry Growers Association will contract with Laughlin Constable (a long-term consultant of the Association) to develop an artificial intelligence/machine learning application that will allow cranberry growers, researchers, pest management consultants and others to take a photo of an insect in the field using their smartphone device and immediately receive an identification of the insect, providing growers with important insight on whether or not the pest is harmful to the crop, reducing unnecessary treatments or consultant visits, and gathering data that could be used in the future to track infestations, provide early warning to nearby growers and more.	$45,000.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Education and outreach in specialty crop production for beginning, minority and underserved producers	DATCP - DAD staff will partner with successful specialty crop growers to conduct educational field days targeted to beginning, minority and underserved populations with the intent of increasing their knowledge and success in marketing Wisconsin specialty crops.	$40,000.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Developing a nursery stock supply chain of select germplasm from the Upper Midwest Hazelnut Development Initiative (UMHDI) breeding program	Bayfield County UW-Extension will enable scale-up of hazelnut production in Wisconsin through the development of a nursery stock supply chain to provide growers with affordable and field-ready planting stock of the top selections from the Upper Midwest Hazelnut Development Initiative breeding program.	$32,141.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Education for youth	The Wisconsin Christmas Tree Producers Association will educate and expose youth and young adults to the live Christmas tree industry. Exposure will educate future producers to increase supply of real Christmas trees or as potential buyers to increase the demand, sales and market share of trees with the development of resources and will disseminate the results to stakeholders through grower meetings and publications.	$10,000.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Impact of mulch treatments on managing the devastating pest spotted wing drosophila and on fruit yield and quality	The University of Wisconsin will assess the impact of different types of mulch treatments on spotted wing drosophila adult presence and berry infestation, as well as the effect on fruit yield and quality, to provide recommendations for managing spotted wing drosophila and improve yield components to Wisconsin berry growers.	$99,883.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Increasing precision Integrated Pest Management in vegetable cropping systems using grower-driven scouting data and remote sensing	A multidisciplinary team of University of Wisconsin Extension faculty will increase the precision and on-farm adoption of IPM decision-making for vegetable production systems by analyzing existing crop scouting data to define where and when insect, disease and weed pests are most likely to occur and using hyperspectral imaging technology to identify pre-symptomatic disease infection in the field, allowing early treatment to prevent spread.	$99,303.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Evaluating the impact of pollinator habitat installations on fruit and vegetable pollination and yield	The Gratton Lab at the University of Wisconsin-Madison will develop a better understanding of the relationship between pollinator habitat plantings, crop pollination, and yield outcomes to provide science-based management recommendations for small-scale vegetable farmers in Wisconsin and will disseminate results to stakeholders through grower meetings and online and printable materials.	$99,165.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Improving sustainability of potato and vegetable production in the Central Sands by understanding spatiotemporal variability of nitrate delivered thro	The Kucharik Lab at the University of Wisconsin-Madison will help to modify nitrogen fertilizer use and improve water quality in the Central Sands region by quantifying spatial and temporal variability of nitrate-nitrogen in irrigation water and precipitation delivered to potato and other specialty crops (i.e. sweet corn, snap beans, and peas), and disseminating new nutrient management recommendations to growers and other stakeholders at annual education conferences.	$98,102.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Stopping rusty root on ginseng through research and education	The Ginseng Board of Wisconsin seeks to stabilize and increase their markets and strengthen the demand and price for their 201 growers including those in the Hmong community by offering blemish-free dried Ginseng root to their overseas consumers but recent outbreaks of the soil-mold Cylindrocarpon cause severe root blemishes (Rusty Root) and have greatly diminished root quality.	$95,882.00
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Comparison between variable rate irrigation and conventional center pivot for sustainable vegetable production in Wisconsin	The University of Wisconsin - Madison will conduct a comprehensive study on commercial farms to compare Variable Rate Irrigation, a promising and sustainable strategy of agricultural water use, with conventional center pivot for vegetable production in Wisconsin, which ranks as one of the top states in the country.	$80,000.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Wisconsin Department of Agriculture, Trade and Consumer Protection	$1,425,618.40	Grant Administration	Ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$113,864.42
Wyoming Department of Agriculture	$353,019.37	Grape Growing Guide for Beginner Producers in Wyoming	The University of Wyoming (UW) Extension along with UW Research will create a user-friendly publication on beginning grape production in Wyoming to increase the knowledge of beginning and existing producers on common issues in the state, cultivation techniques and strategies to overcome them. This comprehensive grape growing guide will be marketed and evaluated across Wyoming. The manual will incorporate the latest knowledge about grape production in Wyoming from previous and current research by the University of Wyoming.	$24,407.00
Wyoming Department of Agriculture	$353,019.37	Producer, Processor and Producer Groups Specialty Crop Research Grants	Through this project, the Wyoming Department of Agriculture will award six small grants to specialty crop producers, processors or specialty crop producer organizations in cooperation with a technical advisor to improve specialty crop operations. The grant funds will be competitive and may be used for costs of sampling and sample analysis, materials and supplies needed for the project, outreach expenses such as holding a field day, travel needed for the project, contracted labor to help accomplish outcomes, and other preapproved expenses. Results will be shared with others through publications, meetings and/or field days.	$48,126.00
Wyoming Department of Agriculture	$353,019.37	Evaluation of Yacon in Rotation with Fenugreek in Wyoming Environments	The University of Wyoming will evaluate available and promising genotypes and cultivars of yacon in Wyoming for the phenotypic adaptability and stability for growth, yield, and quality. The study will be conducted at the University of Wyoming James C. Hageman Sustainable Agriculture Research and Extension Center under irrigation in rotation with fenugreek. Selection will be made of well-adapted, high performing yacon genotypes and cultivars that will be suitable for Wyoming and perhaps neighboring states.	$37,599.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Wyoming Department of Agriculture	$353,019.37	Optimizing Grapevine Canopy Management Practices for Improving Fruit Yield and Quality in Wyoming Vineyards	The University of Wyoming will work towards the optimization of canopy management practices for improving fruit yield and quality, and disseminate results to stakeholders at field days and conferences. The long-term goal of the project is to optimize important grapevine canopy management practices for enhancing berry and subsequently wine quality of cold-hardy table grape varieties grown in Wyoming vineyards.	$38,000.00
Wyoming Department of Agriculture	$353,019.37	Creating Guilds to Maintain the Health and Productivity of an Apple Orchard	Central Wyoming College Sinks Canyon Center seeks to reduce labor and inputs and increase biodiversity, health and productivity of its restored apple orchard near Lander, WY by incorporating the permaculture practice of “guilding.” The Center will hold workshops and provide information on the benefits of this practice for specialty crop producers.	$23,256.00
Wyoming Department of Agriculture	$353,019.37	Raspberry Variety Trial	University of Wyoming (UW) Extension will conduct raspberry variety research to evaluate cold-hardiness of 10 selected varieties to evaluate suitability for Wyoming production. Yield data will be collected to help producers decide which varieties to choose for local markets and fresh consumption. Information will be disseminated through UW press, UW Extension websites, specialty crop conferences and workshops, and UW Research and Extension Center field days.	$14,700.00
Wyoming Department of Agriculture	$353,019.37	Laramie County Library Water-wise Conversion Pollinator Habitat Bioretention System	The Laramie County Conservation District (LCCD) will convert an irrigated turf-lined monoculture infiltration pond into a biologically diverse pollinator habitat bioretention pond using water-wise species and efficiently captured storm runoff. Seeds from the pollinator-friendly specialty crops will be collected and distributed to Laramie County residents through the Laramie County Library’s Seed Bank Program to promote an increase in pollinator habitat throughout the county for both native and domestic bees and other pollinators. Increased awareness of pollinator habitat and water-wise landscaping will take place through both the Seed Bank Program and educational programs conducted by library staff, LCCD staff, and other interested parties.	$24,500.00

Organization	Amount Funded to Organization	Project Title	Description	Project Budget
Wyoming Department of Agriculture	$353,019.37	Wyoming Ag Producer, Processor, and Handler Trade Event Marketing Grants	The Wyoming Business Council will help support independent specialty crops producers by providing trade show marketing grants to increase marketing opportunities and knowledge. The project will provide small marketing grants up to $1,450 to cover eligible expenses related to attending eligible trade events. Approximately six grants will be awarded with the requested funds.	$10,800.00
Wyoming Department of Agriculture	$353,019.37	Wyoming Specialty Crop Farm Walls	Wyoming Business Council through mini grants will increase knowledge on how to access or produce specialty crops using vertical farm walls in cities and towns around the state. The purpose of the project is to support the production of specialty crops throughout Wyoming by providing grants to install farm walls that will educate communities about the importance of specialty crops as well as innovative ways to grow them. Approximately 15 grants up to $1,450 will be awarded to cover eligible expenses related to the purchase, installation and education of the farm walls.	$21,750.00
Wyoming Department of Agriculture	$353,019.37	Strawberry and Raspberry Cultivars, Season Extension and Productivity, and Adaptability to Northeastern Wyoming Climate and Soils.	Shiloh Valley Family Farm will establish plantings of strawberries and raspberries in Sheridan County to help determine which varieties are most suitable for commercial and organic production in northeastern Wyoming. In addition, a cost-benefit analysis on hoop house berry production will be conducted in order to provide information to current and aspiring producers of berries to help increase the profitability and sustainability of Wyoming growers.	$13,225.00
Wyoming Department of Agriculture	$353,019.37	Specialty Crop Agribusiness Directory	The Wyoming Department of Agriculture through a contractor will develop a Specialty Crop Agribusiness Directory to increase the production and consumption of specialty crops in Wyoming. The overall goal of the project is to increase the access, production and consumption of specialty crops, by developing and providing a comprehensive directory on Wyoming producers, processors, farmers markets and other direct to consumer businesses, technical assistance organizations and local specialty crop training opportunities.	$47,936.00
Wyoming Department of Agriculture	$353,019.37	Grant Administration	To ensure that the State Agency and sub-awardees abide by Federal and State requirements and regulations by performing pre-award and post-award activities to administer Specialty Crop Block Grant Program funding.	$48,496.72