

2011 SPECIALTY CROP BLOCK GRANT PROGRAM
12-25-B-1210 FINAL REPORT
ALABAMA DEPARTMENT OF
AGRICULTURE & INDUSTRIES

October 2014

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2011 SCBGP – ALABAMA PROJECTS:

Please allow this document to serve as the 2011 SCBGP Final Report. Below please find a listing of approved projects for the Alabama Department of Agriculture & Industries.

Project 1 = MarketMaker Outreach and Education to Enhance Market Outlets and Profitability of Specialty Crop Producers in Alabama

Project 2 = Growing High Density Southern Highbush Blueberries

Project 3 = Food Safety principles to vegetable and fruit farmers, packers and processors taught through “Good Agricultural Practices”, “Good Handling Practices” and “Good Manufacturing Practices” workshops.

Project 4 = “Buy Fresh, Buy Local Specialty Crops in Alabama Educational DVD for Adults and Children”

Project 5 = Determining the Feasibility of Growing New and Improved Grape Cultivars in Alabama for Enhanced Sustainability of Local Food Systems

Project 6 = AUTOMATION OF CHILTON FOOD INNOVATION CENTER

Project 7 = GHP/GAP Program (Shipping Point Inspection)

Project 1

MarketMaker Outreach and Education to Enhance Market Outlets and Profitability of Specialty Crop Producers in Alabama

ACTIVITIES PERFORMED

The primary goal of this project is to inform and educate specialty crop producers about the benefits of the Food Industry MarketMaker program as a means to expand their marketing outlets and visibility. One of the first steps that we planned to make was selecting a master's level graduate student to assist with the outreach efforts of the project. Funds for this project were made available at the beginning of 2012, we were able to identify a graduate student for the project in May, 2012. The graduate student has been instrumental in developing materials, organizing training, assisting producers with signup, and evaluating the effectiveness of MarketMaker. In May, 2013 a post doc was added to the project part-time as temporary employee to assist with project administration due to the PI's promotion to Department Chair. The post doc has carried out the majority of the presentations and material development since May.

To reach the proposed 500 specialty crop producers, in 2012 a MarketMaker informative brochure that targeted specialty crop producers was developed. The brochure provided quick facts about MarketMaker, a QR code and link to the website, as well as the contact information for project personnel. We mailed 50 brochures to each of the 7 Commercial Horticulture Agents as well as to other individuals who work with specialty crop producers in 2012 and again in 2013. =

As of 2014, a total of 526 specialty producers have participated in 18 meetings supported by this grant where presentations were performed related to utilizing MarketMaker. The presentations made and meeting information are listed below. The project proposed reaching a total of 500 producers, which means that we were able to reach 105% of the producers proposed to educate about MarketMaker. In addition to performing presentations, 47 individual producers were provided information on MarketMaker or assisted with registration throughout the project. Producers were given step by step directions for registering on the MarketMaker site and a live demonstration was provided to show how the main features of the program are used. At all of the meetings listed below, we hosted a MarketMaker booth/table and provided brochures, and a laptop computer was to give producers the opportunity to register onsite and test the various functions of MarketMaker.

The 18 meeting presentations conducted for this project were advertised specifically to specialty crop growers and/or consumers interested in purchasing specialty crops. All meetings except the National Value Added Agriculture Conference and the Farm, Home, and Wildlife Expo were designed where specialty crop producers represented 100% of the audience. At these two meetings presentations were made in breakout sessions designed to only accommodate specialty crop growers. All information provided, examples used and impacts discussed in presentations related strictly to specialty crops. Each attendee was provided a MarketMaker Specialty Crops brochure designed with funds from this project.

All presentations acknowledged The Specialty Crops Block Grant program as the source of funds for the workshop.

In addition to the producer meetings that were performed. The project was featured as part of a symposium in the National Value Added Agriculture Conference in Little Rock, Arkansas in May, 2013. A symposium was developed on the use of social media for marketing agricultural products and the National MarketMaker Team recommended the Alabama MarketMaker Specialty Crop efforts to be part of the symposium. Approximately 60 agricultural professionals and producers from around the country participated in this symposium and were informed about Alabama MarketMaker efforts with specialty crop producers.

MarketMaker Presentations Performed

“Connecting to Customers Utilizing MarketMaker”. Alabama Fruit and Vegetable Growers Conference. Auburn, Alabama. February, 2014.

“Who is Using MarketMaker and What are the Impacts?: Success Stories”. Gulf Coast Fruit and Vegetable Growers Meeting. Mobile, Alabama. January, 2013.

“How MarketMaker Can Enhance Your Business”. Alabama Fruit and Vegetable Growers Conference. Auburn, Alabama. February, 2013.

“Impacts of Social Media Marketing: The Case of Alabama MarketMaker”. National Value Added Agriculture Conference. Little Rock, Arkansas. May, 2013.

“Marketing Specialty Crops through Social Media” 3rd Annual Small Farm & Organic Vegetable Production Field Day. Muscle Shoals, Alabama. July 2013.

“Utilizing the Internet as a Marketing Tool: The Case of MarketMaker”. Alabama Cooperative Extension Vegetable Production Seminar. Montgomery, Alabama. July 2013.

“Connecting with New Customers Through MarketMaker”. Farm, Home and Wildlife Expo. Chilton, Alabama. August 2013.

“Marketing Your Products Beyond Your Rural Community: The Use of Online Marketing”. The Alabama Sustainable Agriculture Network Regional Food & Farm Forum. Thomaston, Alabama. September 2013.

“Marketing Pecan Through Social Media”. Alabama Pecan Growers Association 53rd Annual Educational Conference & Business Meeting. September 2013.

“Gaining Local, National and International Farm Exposure Through MarketMaker”. 2013 Regional Food and Farm Forum. Ramer, Alabama. October 2013.

“Utilizing MarketMaker to Identify Specialty Crop Producers Involved in Alabama Tourism”. Alabama-Mississippi Rural Tourism Conference. Lake Guntersville, Alabama. October, 2013.

In the training meetings, we have been able to educate 8 Alabama Cooperative Extension System Regional Agents and County Coordinators on the procedures for registering producers, searching the database for products and the benefits of marketing products through MarketMaker. The total Alabama Cooperative Extension System Agents and Coordinators reached for 2012 and 2013 was 20. Our goal for the project was to educate 25 Cooperative Extension Agents, so we have reached 80% of our goal. These agents have been instrumental in informing specialty crop producers about MarketMaker and assisting them with beginning the registration process. The 7 commercial horticulture regional agents were provided travel funds through the grant to take brochures and information to meetings. They have also directed a number of producers to project leaders, who provided more in depth directions for utilizing MarketMaker. The input and support of commercial horticulture agents added credibility to the project and was an efficient use of resources, given their relationship with producers and close proximity.

We sponsored a producer Market Ready training meeting in Headland, Alabama in September designed to prepare producers for marketing to retail markets such as restaurants and grocery stores. We held a workshop to train specialty crop producers on the requirements for supplying products to these retail markets. The topics covered will include contracts, insurance, food safety, delivery, product selection, packaging, labeling, merchandising, pricing, invoicing, delivery, storage, temperature control, regulations, certifications, and audits. A curriculum was developed to provide producers with a check list to determine their level of preparation for servicing retail markets. The materials purchased in 2012 were used by project leaders and delivered to producers at the training meeting. This was a full day program focused on specialty crop marketing and 16 producers received in depth, hands on training on serving these markets.

Another target of the project was to inform at least 400 potential buyers about Market Maker. In 2013, we began our buyer/consumer education efforts for MarketMaker. We provided information to the Alabama Restaurant Association and the Alabama Grocers Association and they both agreed to provide a MarketMaker link for members who are interested in purchasing Alabama products. Information about MarketMaker has been transmitted to potential buyers and consumers through ads, flyers and newsletters in 5 different publications typically read by consumers who purchase local products. Ads were in Alabama Sustainable Ag Network's newsletter, Alabama Farmer's Cooperative's magazine, Alabama Living, as well as publications produced by state's Restaurant and Grocers Associations.

In addition to advertising in various publications, a MarketMaker Facebook page was developed to inform potential buyers. So far, this page has about 236 followers. The post doc has provided interesting product information on a consistent basis to maintain consumer interest in MarketMaker. We are not able to specifically document exactly how many producers and buyers were informed, but we are certain that the readership of publications and Facebook viewers far exceeded the proposed 400 buyers.

Producer Results

Since the project started, a total of 119 specialty crop producers have registered for MarketMaker and started utilizing the website. From 2013 to 2014 an additional 23 specialty crop farms registered on MarketMaker, which represents a 24% increase. We were able to get information on website activity for specialty crop producers registered for Market Maker from January, 2012 through October, 2014. The data indicated that the 119 producers received a total of 9,642 hits over this period. This suggests an average of about 81 hits per operation which is up from an average of 33 hits per operation in 2012. The average number of hits includes the hits for several producers who were registered for only a few months, so those producers show as few as 4 hits, which reduces the average. The producer with the most hits in Alabama MarketMaker received over 500 views since registering. The total views for 2014 were up 146% over 2012 views. Much of the increase in views can be attributed to the consumer and buyer education through this project's outreach efforts. Our goal was to get a total of 75 producers in the system before advertising the database to consumers aggressively. We began the marketing efforts with about 70 producers in the system. This decision was made so that consumers would have products to buy when they searched the site. The number of views received suggests that more than 400 potential buyers and consumers are actively searching for products on MarketMaker. Of the producers who registered so far, 18% indicated that they have agritourism as part of their operation, 49% had either a website or facebook account or both.

The huge disparity in page views from one specialty crop operation to the next was the motivation for the thesis topic developed from this grant.

One operation registered on MarketMaker, Manna Market based in Pelham, Alabama, utilized MarketMaker to identify specialty crop producers who could supply products for their Food Hub. The Food Hub provides about food baskets to about 2,000 individual customers, restaurants, and grocery stores in the Birmingham area. Manna Market leaders indicated that MarketMaker made it easy to identify producers with the products they need to supply their customers.

The graduate student on the project collected the hit data from the website and regressing hits against the characteristic of the producer and products being sold to determine the producer characteristics that are significant for increasing hits on their MarketMaker page. A thesis project was completed in May, 2014. The following findings were gathered from the thesis. Based on results from the study several factors increase the likelihood of consumers' viewing specialty crop producer's profile. Some of the most important found were factors that influence consumers' first view of a profile. These include social networks ("Facebook" and "twitter"), business websites, state "affiliations" (Buy Fresh Buy Local, Alabama Sustainable Ag Network, ...) and "business spotlight" views on the MarketMaker homepage. Of these factors, state "affiliations" and "business spotlight" were consistently positive and significant across business types. Profiles with state affiliated programs were more likely to see increase consumer traffic. This was an important finding that MarketMaker is a strong compliment for state marketing programs through the Department of Agriculture and Industries as well as state-based grass root organizations. This finding shows the importance of state programs for consumer confidence. Collaborating with MarketMaker would increase consumer awareness of these programs as well as the

importance of them. In the long run the combined efforts of both the states' Department of Agriculture and MarketMaker will maximize the benefits of everyone involved. The most important factor influencing consumer views on a MarketMaker profile is the "business spotlight" feature of each state's website. Businesses that are seeking to maximize their time on MarketMaker are challenged to utilize this feature.

Results vary by product categories for most factors, however there were some common findings across all types. Producer profiles with "farmers market" listed as a marketing channel were more likely to see increased consumer traffic. This was a consistent finding across all specialty crop product categories which was supported by the fact that the number of farmers markets has been consistently increasing in the state. Farmers markets are important to consumers because of the convenience of finding a variety of products in one location. Another important method of sale to consumers is "delivery", and profiles with this factor are more likely to experience increased consumer traffic. Similar to the farmers market finding, consumers' demand for "delivery" indicates consumers demand for convenience. Although product forms differ across categories, results show consumers were more interested in products that were packaged and require little preparation before cooking or consumption. Having "niche" or rare products also significantly increased profile views which suggests that producers should identify key niche crops to initially draw customers. Niche crops were defined by ranking the number of times each farmer in the database listed a specific crop. If crops were listed on less than 15 percent of the profiles they were considered niche crops.

The data, analysis, and findings from the thesis will be developed into an Extension publication that can be disseminated to ACES employees as well as specialty crop producers. This information will assist producers with determining the features they need on their MarketMaker profile and in their operation to increase the number of views the operation receives.

An online survey was developed to evaluate the effectiveness of the outreach efforts performed through this project. However, the National MarketMaker team established a policy that does not allow individuals to survey producers without their permission and the permission of the state coordinator. This policy was implemented in April of 2013 and National MarketMaker decided that producers could not be contacted for one year, after which proposals to survey producers have to be submitted to them and approved before producers are contacted. Since surveys were not allowed, we contacted six specialty crop producers who had a large number of website hits to evaluate their experience. Producers with frequent MarketMaker page views were extremely excited about the contacts that had been made through the MarketMaker site. They estimated that they had experienced at least a 10 percent increase in sales volume since registering on MarketMaker. We plan to call and email additional producers to evaluate their satisfaction and determine changes in profitability. Our primary target is producers who have experienced a significant number of page views.

PROBLEMS AND DELAYS

Earlier project delays were primarily related to the untimely resignation of the graduate student working on the project. The primary delay in the project this year was the fact that Principle Investigator became

Department Chair and was not able to devote the same amount of time to the project. Adding the part-time post-doc made this transition much smoother. The timing of the transition decreased the number of Marker Ready Trainings that were scheduled in 2013.

Another problem related to overall program evaluation was a decision made by the National MarketMaker Policy Advisory Council (PAC). Due to the number of individuals interested in collecting data from producers and consumers active on MarketMaker, the decision was made to no longer allow surveys to be attached to the website. Both consumers and producers were becoming annoyed by pop-up surveys and continuous contacts to complete surveys as a result of their participation on MarketMaker. The PAC decided to suspend all surveys for one year and evaluate requests to limit the number of times individuals are contacted twice per year.

Project Timeline:

- August 2011. Hire graduate student.
- August - December 2011. Identify trade show/conference opportunities.
- August, 2011 – May, 2012. Develop training materials.
- August 2011 – May, 2012. Develop strategy to reach for growers and buyers.
- August, 2012 – December, 2012. Identify and schedule up to 12 training events per year.
- December 2012 – October, 2013. Conduct training programs for ACES Extension agents, producer groups, and other agencies that communicate one-on-one with specialty crop producers
- December, 2012 – November, 2013. Attend Trade Shows/Conferences to provide outreach and education.
- March – August, 2013. Identify Future Needs of *MarketMaker* users.
- August, 2013 – December, 2013. Evaluate project outcomes and write final report.

FUNDING EXPENDED

Description	Total Activity
Graduate Assistants Salary & Fringe	\$23,160.37
Travel Expenses	\$13,586.21
Individual Registration Fee	\$2,460.00
Speaker Travel and Honorariums	\$1,250.00
Market Ready Training Material	\$840.00
Brochures - Printing	\$645.00
Flyers, Ads, Periodicals, and Publications	\$1,204.73
Temporary Employee	\$6,613.69
	\$49,760.00

The above table provides a summary of the project expenses to date.

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Project 2

Project Title: Growing High Density Southern Highbush Blueberries

Project Summary:

The initial purpose was to find ways to make Alabama blueberry growers more competitive in the world market place. While the number of Alabama blueberry growers has been increasing in the last ten years, virtually all of the orchards are planted with the rabbit eye type of plants which, in our area, is the standard choice of conventional wisdom. Although they are more difficult to grow, another possibly viable choice in plant type has emerged and that is the early producing Southern High Bush type of blueberry plant. By producing fruit about three or four weeks earlier than rabbit eye plants, the Alabama grower would have the competitive advantage of selling berries at the peak of market price each season. By starting with sales of Southern High Bush fruit in early spring and continuing with fruit from existing rabbit eye plants, current growers will have an additional advantage in extending their harvest season. Also this permits a quicker and larger return on investments made in harvesting and processing equipment as these items can be utilized for a longer period each year.

An integral part of the project was to look into cost of production and a key part of this is land cost. Rabbit eye orchards are typically laid out with significant spacing between plants (12 feet between rows and five feet between bushes is normal) resulting in something over 600 bushes per acre. Some of the project test plots are bushes planted in containers and arranged in a high density fashion so to take maximum advantage of available acreage. This approach makes it feasible for owners of small acreage to participate in Alabama blueberry production in meaningful ways. As many as several thousand bushes may be grown and maintained per acre by using high density planting in pots. It should be pointed out that Southern High Bush fruit tends to be a bit more fragile than most rabbit eye varieties to the extent that mechanical harvest of Southern High Bush is not considered to be viable necessitating the employment of hand pickers.

Both the quality and market acceptance of the fruit from Southern High Bush plants and rabbit eye plants is the same from the customer's point of view. That is to say that when the berries are introduced into the mass marketing channels Southern High Bush and rabbit eye fruits is considered to be totally interchangeable.

The information gained by this project is timely in this period of slow but steadily increasing acreage in Alabama blueberries. Since experiments of this type involve significant investment and risk, the data generated by this project can be highly valuable to individual growers who are considering expanding their blueberry growing operation and becoming more competitive in the process.

This project is a stand-alone effort and is not based upon any other previously funded work.

Project Approach:

Our approach was to set up Southern High Bush test plots with a sensible range of variables such as growing media, specific plant varieties, growing conditions (i.e., planted in pots vs. native soil, with and without soil amendments, and inside and outside of high tunnels). Once planted, each plant received identical regimens of drip irrigation, fertilization and freeze protection as required. The idea was to establish test plots that could be readily evaluated for the key criterion of first, survivability, then cost of establishment and return on investment based upon fair market prices for the fruit. This approach meant that the project was very heavily “front loaded” with most of the actual tasks and expenses occurred in setting up the test plots. (For more detail on this aspect of the project please refer to the project’s Second Annual Report.)

A field day was planned for the spring of 2014, during the harvest period, to show interested parties first-hand the viability of growing Southern High Bush blue berries in south east Alabama. This crucial part of our plan was thwarted by the unusually harsh and severe winter we experienced last year. The exceptionally cold and wet weather damaged many of the young high bush plants which resulted in curtailed limb growth, less than expected foliage and, most importantly, reduced fruit loads. Unfortunately, we cannot quantify these effects but that they exist is evident.

The project was aided greatly by the cooperation of the nearby Wiregrass Agricultural Research Center (WARC) at Headland, Alabama.

Goals and Outcomes Achieved:

The second annual report covered in detail those specific tasks required to set up the horticultural test plots.

Our primary goal was to make the basic determination of whether or not the Southern High Bush blueberry plants could survive and be commercially successful in Alabama. That determination has been made in that the various test plots have plants that are growing well and had fruit production in spite of harsh weather conditions this past winter. However, the deleterious effect of the weather meant that we were unable to achieve the more abundant production expected in a more normal year. The large initial investment in time and funds in setting up the test plots is still in play as the plants are entering their second winter. It is anticipated that the ultimate measure, the quantity of marketable fruit, will be significantly greater in the 2015 harvest.

All goals of setting up test plots so that we could monitor the growth and progression of a wide variety of Southern High Bush varieties were successfully accomplished and is still on going. The mandatory activities were selecting specific varieties, preparing pots and native soil for planting, installing drip irrigation, fertigation and freeze protection systems, laying plastic mulch, and planting. After planting, scouting for pests and verifying that the irrigation and fertigation systems were operating properly were conducted at least weekly. The harvest, though limited

due to the influence of the cold temperatures, was done by hand. The fruit harvested, a little over two hundred pounds, far less than anticipated, is the baseline to compare with the 2015 harvest which should be significantly greater.

Beneficiaries:

This project benefits both current and potential Alabama blueberry growers and, indeed, blueberry growers in other sections of the country who are interested in growing Southern High Bush blue berries. In particular the lessons learned from this project can benefit that class of current and potential blueberry growers who own or have access to only small acreages of land. That is because of the test plots using 45 gallon pots arranged in high density configurations shows a way to get maximum return for surface area of land.

However, current and potential blue berry growers who do have larger acreages available can benefit from this project as well because there are also test plots in which bushes are planted in rows in native soil similar to rabbit eye plantings. Why did we do this? The reason is to gather cost metrics for a return of investment comparison of Southern High Bush plantings in rows in native soils and those plantings in a more optimal growing medium in containers and arranged in high density fashion.

Lessons Learned:

In general, the first and primary lesson learned was that, using several techniques, Southern High Bush blue berry plants can be grown successfully (meaning adequate plant growth and an appropriate level of fruit production) in southeast Alabama. Successful Southern High Bush test plots contained different combinations of plant varieties, growing mediums, and different freeze protection methods. A point of using different growing methods was to get indications of which method could be successfully employed with the least up-front investment.

More specifically, we learned that the approach of planting Southern High Bush in containers in which the grower has total control over the growing medium is sound and that the plants in containers perform better than those in amended native soils. Advantages of growing in containers include the ability to eliminate competing weeds by manually pulling them soon after they appear. Pulling these weeds is a continuous process during warm months but is far from onerous. We did not see any particular issues with insects nor disease. The downside to planting in containers is the initial cost. For this reason, and because our investigation showed that some growers in south Georgia are planting Southern High Bush plants in soil lead us to experiment in this way also. We learned that with the proper organic amendments in the soil and using drip irrigation and fertigation under plastic mulch the plants not only survived but show adequate growth. We should mention that we learned too during the course of our investigation that using “wetable” type sulfur is far superior to using the standard row crop agricultural type granulated sulfur. This is due to the lengthy period of time required for the granulated sulfur to break down and enter the soil as opposed to the wettable type which permeates the soil and so modifies the

pH of the soil immediately. The plastic mulch did a good job of weed control for the bushes planted in native soil and also prevented water loss to evaporation.

We harvested a little over 200 pounds of fruit. As mentioned previously we had expected a much larger production but believe this low production is directly attributable to the harsh winter. At this low quantity we were unable to put this fruit into the normal sale and distribution channels as the later maturing rabbit eyes. The fruit quality in size, general appearance, taste and texture was fully comparable to that from the rabbit eye bushes. In view of the extremely low production the fruit was given to the Wiregrass Agricultural Research Center and disposed of in their normal channels of produce gifting/charity.

Given that the project determined Southern High Bush blue berries can be grown successfully in our climate, further lessons learned involved the relative merits of different plant varieties, different growing mediums and methods. These different combinations of growing conditions and the results will be the main focus of the 2015 harvest.

Comments of Larry Wells, Director, Wiregrass Agricultural Research Center, Headland, Alabama:

“Overall, the study successfully demonstrated that Southern High Bush blueberries can be grown in Southeast Alabama. Furthermore, the study demonstrated that there are several possible ways to grow Southern High Bush blueberries. This ranged from container grown in all pine bark to several combinations of pine bark in mineral soils. There was very little death loss in any of the treatments and all treatments produced plants with measurable fruit yields. The addition of row covers whether it was the plastic mulch or woven mesh increased the overall growth of the plants.

In summary, because of the relative short duration of the study it will be several years to determine which varieties and pine bark mulch regimes will be the most productive. However, the study has resulted in some significant preliminary observations. These observations are very promising and should lead to further research in this area.

Finally, these results warrant further consideration by the blueberry growers in Southeast Alabama as a potentially viable addition to their overall blueberry operation.”

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Additional Information:

For more information about this project, Growing High Density Southern Highbush Blueberries , go to:

<http://www.southernhighbushexperiment.com/>

The master test matrix has been developed and implemented with the assistance of the Wiregrass Agricultural Research Center (WARC), Headland, Alabama. The focus of the WARC for many years has been to conduct research into ways to help Alabama farmers produce more and better crops with minimal risk. Specialty crops farmers/growers are very pleased that the scope interest at the WARC now includes research about specialty crops. For more information about the Wiregrass Agricultural Research Center go to www.aaes.auburn.edu/researchcenters/wiregrass/.

A very good source for any information about blueberries is offered and maintained by the USDA Extension Service and has proven to be very popular since its inception a few years ago. Their website is located at:

<http://www.extension.org/pages/29356/all-about-blueberries-community-page#.UvZU5IU8qfk>.

Another study related to the strong interest in growing more Southern High Bush is one conducted by Dr. Jay Spears of Auburn University. This study explores the innovative concept of using Sparkleberry rootstock grafted to Southern High Bush hybrids to, among other things; help make Southern High Bush plants more amenable to mechanical harvest. Further on this point, there are two aspects of Southern High Bush fruit that make mechanical picking less desirable than with rabbit eye varieties: 1 – Southern High Bush plants tend to put out many more canes and in a wider pattern than rabbit eyes making it harder for the picker's catcher plate to capture the fruit, and 2 – many of the Southern High Bush varieties seem to be a bit more fragile than some of the rabbit eyes and therefore more susceptible to being crushed or bruised by mechanical pickers. This is, however, antidotal data, an opinion often expressed by growers with experience with both types of berries but without any known substantiation. An information paper about this study can be accessed at:

www.aaes.auburn.edu/researchcenters/woregrass/news/blueberries.php

Recap of Activities Performed (Excerpts of Previous Report) :

The bulk of the work of the project, that is design, installation and activation or commencement of the test plots has been accomplished. That is to say over 1,000 Southern High Bush blueberry plants of six different varieties and of varying maturity levels have been planted in test plots and conditions in accordance with the planned experiments. Other than the different varieties and maturity levels, major variable parameters include planning media, planting in pots vs. native soil, amount of fertilizer used, use or non-use of sulfur as a soil amendment, and the methods of winter freeze protection.

Specifics of the activities performed are as follows:

Description of the Test Philosophy: The test plots, in multiple configurations of relevant variables, comprise an area of approximately ½ acre at the Wiregrass Research Center. At the inception of this project it was thought that most of the bushes would be planted in pots arranged

very close together or, in other words, in high density fashion. Some of the bushes are planted this way with some in a high tunnel and others outside, but after studying the issue, consulting with blueberry growers in other states and professionals in this field, we decided we should also establish test plots in native soil. A big part of the thinking here was to ensure we examined and experimented with lower cost orchard establishment methods as well as planting in pots which has a higher per plant establishment cost.

The test plots were set up as follows:

High density pots (outside): This involves the use of containers filled with the ideal growing media, finely ground and composted pine bark and a combination irrigation/fertigation and freeze protection system. The term “high density” merely refers to a method of placing the pots very close together maintaining only enough space between rows to enable workers to pass through and hand pick the berries. It is this type of blueberry production that enables very small areas of land to be put to a high value use when that land is producing the early market Southern High Bush berries.

High density pots (inside a high tunnel): These bushes are set up the same as the outside pots except that the overhead spray freeze protection is not used. Instead the freeze protection is provided by a fully enclosed high tunnel that protects from the wind plus captures solar energy for heat.

Traditional Blueberry Orchard plantings; i.e., plantings in native soil: The remainder of the test plots was planted in native soil with various soil amendments, drip irrigation, plastic mulch or fallow, overhead winter freeze protection, various varieties of bushes, and bushes of different maturity levels.

IRRIGATION AND FREEZE PROTECTION SYSTEMS – The water source is an existing pond which draws water from a local stream. A standard “ride on” trencher was used to cut trenches to an approximate depth of 18” to bring water from the pond and to set up buried piping for the drip irrigation requirement sub-mains and the system to deliver water to the overhead wobblers. Each wobbler casts water over a 20’ diameter area. This system will be employed if ambient temperature reaches 28 degrees F or below. All components used are standard items and are readily available at an agricultural irrigation supply firm. When required inject sulfuric acid in irrigation water to ensure the pH is in an approximate range of 4.5 to 5.0.

PLANTS IN POTS (OUTSIDE)



- 1 – On level site lay down ground cloth to prevent weed growth.
- 2 – Arrange pots in rows at desired spacing.
- 3 – Fill pots with desired mulch or other growing media.
- 4 – Plant plants.
- 5 – Apply long duration fertilizer.
- 6 – Install drip irrigation system.
- 7 – Install overhead winter freeze protection.

PLANTS IN POTS (INSIDE HIGH TUNNEL)



- 1 – On level site lay down ground cloth to prevent weed growth.
- 2 – Arrange pots in rows at desired spacing.
- 3 – Fill pots with desired mulch or other growing media.
- 4 – Plant plants.
- 5 – Apply long duration fertilizer.
- 6 – Install drip irrigation system.

PLANTS PLANTED OUTSIDE IN NATIVE SOIL





- 1 – Ensure site is level by harrowing, tillivating, using a land leveler over site as required; continue under site is smooth and all debris > 1” has been removed.
- 2 – Disc bed as wide and high as desired or to width of plastic laying machine/
- 3 – Tillivate the beds.
- 4 – Rip bed open with middle buster.
- 5 – Spray wettable sulfur with tractor/sprayer rig.
- 6 – Apply the desired type and amount of pine bark mulch with mulch wagon.
- 7 – Tillivate these amendments into the soil.
- 8 – Spread a long duration fertilizer such as 18-6-12 on top of beds.
- 9 – Lay plastic mulch or woven ground cover over beds; ensuring that the drip tubing in on to of ground under the plastic.
- 10 – Punch or cut holes in plastic for plants and plant the plants.

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Project 3

PROJECT TITLE:

Food Safety principles to vegetable and fruit farmers, packers and processors taught through “Good Agricultural Practices”, “Good Handling Practices” and “Good Manufacturing Practices” workshops.

PROJECT SUMMARY

The number of reported outbreaks associated with the consumption of raw fruits and vegetables has increased in the past few decades. The week of May 2, 2011, Six L's of Immokalee, Florida voluntarily recalled a single lot of grape tomatoes, because they have the potential to be contaminated with *Salmonella*. However this single lot of product was distributed to North Carolina, South Carolina, Alabama, Florida, New Jersey, New York, Michigan, Pennsylvania, California, Georgia and Canada, and reached consumers through retail stores and restaurant distribution. The contamination was detected through a random sample obtained by the USDA at a distributor in New York. The product was actually from a farm in Estero, Fla. which has since ceased production of that commodity. To complicate the recall, the tomatoes were purchased by Taylor Farms Pacific, Inc. of Tracy, CA which in turn placed the tomatoes in their products which has resulted in a massive recall of hundreds of their food items that they distributed to the public. This is only one incidence that occurred just in one week (May 1, 2011). This emphasizes the need for training the producers to grow and pack food safety.

PROJECT APPROACH

Just over 50 producers/farmers attended the Good Agricultural Practices (GAP)/Good Handling Practices (GHP)/Good Manufacturing (GMP) meetings in the spring of 2012. Of those trained, 9 Alabama Cooperative Extension System (ACES) Food Safety Regional Extension Agents (REA) and 4 Commercial Horticulture Regional Extension Agents (REA) were trained. In the fall we have been able to meet with an additional 5 producers/farmers on a one on one basis. These meetings seem to be more profitable as they can ask individual questions about the needs of their specific farm.

In the summer of 2012, the retail outlets decided to accept Harmonized GAP/GHP. Therefore, I was able to attend a meeting that went through these standards. We now have the task to change the original GAP/GHP Standards of Operation (SOP's) to the new Harmonized GAP standards.

The results of this grant project have introduced the standards to the producers/farmers that are necessary for them to become GAP/GHP certified. While many are not going to move in this direction, they will continue to sell their produce at local farmers markets. As an outcome of this grant we saw the need to educate the producers/farmers on safe food practices for farmers markets. This will be a new program that we will introduce in 2013.

The partnership with the Alabama Department of Agriculture and Industries is a critical one and we have established an excellent working relationship. I was invited to their annual supervisors meeting in Orange Beach, AL on April 10 and 11th. Also, the inspectors were invited to each of

the GAP/GHP workshops that were presented through this grant project. They were a great asset to the training, adding important insight for the farmers/producers.

The other great partnership was with the Alabama Cooperative Extension System (ACES) Commercial Horticulture Team lead by Dr. Ayanava Majumdar. These Regional Extension Agents have assisted in contacting farmers and meeting with them to bring them to the meetings and even take the notebooks and forms to them individually.

GOALS AND OUTCOMES ACHIEVED

Outcome I:

Number of participants will be totaled by May 2012.

Accomplishments:

GAP/GHP meetings were held in 5 locations by the end of May. Here is the list of meetings held and their locations.

March 8, 2012 in Headland, AL with approximately 15 people in attendance.

March 27, 2012 in Mobile, AL with approximately 15 people in attendance.

April 23, 2012 in Hartselle, AL with approximately 10 people in attendance.

April 30, 2012 in Oneonta, AL with approximately 8 people in attendance.

May 17, 2012 in Opelika, AL with approximately 6 people in attendance.

A total of 54 individuals attended the in the spring workshops. Among these participants a total of 13 Regional Extension Agents (REA) were trained to assist farmers in writing their Standards of Operation to obtain their GAP/GHP certification from USDA. Of the 13, 9 were Food Safety REAs and 4 were Commercial Horticulture REAs with the Alabama Cooperative Extension System. This greatly increased the number of trained individuals that could assist the farmers through this process.

Outcome II:

The number of participants that did get GAP or GHP certified will be totaled no later than December, 2012. Also the participants in the 2012 workshops will be followed throughout 2013 to see if they received certification as a result of the 2012 workshops.

Accomplishments:

As of today we only know of a few attendees that actually received their GAP certification after attending the workshops. Many of the attendees decided, after seeing the amount of paperwork that was needed, to continue to sell their produce at local farmers markets instead of getting GAP certified. However, they did comment that they would incorporate some of the GAP/GHP standards into their farming practices. In 2013, the team of Regional Extension Agents (REA) will continue to follow the farmers and assist them with obtaining GAP/GHP certification. Also, workshops will again be held throughout the state as requested by the Commercial

Horticulture REAs. Also we will meet individually with farmers upon their request to assist them one on one with the Standards of Operation to meet the GAP/GHP standards.

Outcome III:

The number calls, emails and visits which seek assistance will be determined no later than December of 2012 for the formal report. However the participants will be followed into 2013 to see if they benefited from the workshops. Also the materials presented will be evaluated and updated to make the material more understandable.

Accomplishments:

As stated in Outcome II we will continue meeting with farmers and producers to assist them through workshops and one on one as needed. We will also follow the farmers that attended the workshops in 2012 and determine why they did not choose to obtain the GAP/GHP certification.

In the fall of 2012 it was determined that most of the major buyers would accept the Harmonized GHP/GAP Standards. Therefore, I and one other REA attended a meeting put on by United Fresh in Beltsville Maryland to be trained in the harmonized GAP/GHP standards. This meeting allowed us to also meet with many third party auditors and see their requirements. We were also able to meet with buyers and brokers to see how we could assist them in getting Alabama farmers ready to sell their produce through their organization.

Our Goal was to have 50 farmers in the state to have their farm certified in GAP. This was a lofty goal. We did reach out to approximately 50 farmers but to date less than 10 have been certified that have attended the workshops we presented. However, we believe this is a process for the farmers to realize what it will take to sell their produce at the retail markets. This first year we have introduced the program to the farmers and in the next year it will become more familiar to them. As it becomes familiar to them, they will see that the GAP/GHP standards are a necessary business decision that they will need to make in order to move their farms' economy to the next level.

BENEFICIARIES

The farmers were the major beneficiaries of this project. Also, the other group that benefited from this training was the Alabama Cooperative Extension agents and specialist. Through their training in GAP/GHP principles they will be better prepared and equipped to assist farmers as they go through the process of getting their farming operations ready for GAP/GHP certification.

Although, we taught the Standards of Operation for GAP/GHP to over 50 farmers less than ten of them adapted the standards and became GAP/GHP certified. However, there are now more agents and specialist in the state of Alabama knowledgeable and ready to assist farmers when they are ready to adapt the GAP/GHP standards and sell their produce to the public.

LESSONS LEARNED

It takes time for farmers to change their methods of operation. It is difficult for some of them to see the need for some of these food safety practices. They feel their produce is safe and have not realized some of the issues that are involved. This year we spent most of our time educating the

farmers about the food safety issues that can cause problems with their produce. We had only a small group of early adopters. However, we have started the process and will continue to educate and offer to assist the farmers to adopt GAP/GHP practices.

The lack of participation by the farmers was not expected. Maybe we did not get the word out effectively and we will work to get the information out about the meetings to more growers in the future.

There will be Harmonized GAP/GHP/GMP Meetings in 2013. Also we have obtained a new grant to teach food safety concepts to those farmers selling their produce at state certified Farmers Markets.

Getting the farmers to the meetings and giving them the assistance they need is critical. We relied only on the commercial horticulture agents and we should have reached out to very resource that was in any way in contact with the farmers to get them to the meetings.

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ADDITIONAL INFORMATION

Attached is a photo of a farmer we took through the GAP Standards of Operation. This individual was ready to become GAP certified and understood the importance of early adoption. She also stated that she would get more farmers ready for the training to assist them in becoming GAP certified for the next year.

Visit with the GAP farmer during a one on one training session in South Alabama.



Project 4

Project Title:

“Buy Fresh, Buy Local Specialty Crops in Alabama

Educational DVD for Adults and Children”

Project Summary:

Young children and many adults often have the perception that vegetables come from the local grocery store, *not a farm*. Even more alarming, many children and adults do not recognize fruits and vegetables are not able to name common produce that is grown in our state and are not familiar with how to prepare produce for consumption. This lack of knowledge indicates the limited opportunities for people of all ages to see the farming process. Multiple studies indicate that people who are exposed to farms and/or gardens are more likely to taste different vegetables and fruits. A stronger link is noted between willing to taste the produce and the hands on experience of being exposed to a farm/garden setting. The willingness to taste produce has a direct impact on consumption.

One possible reason of not implementing more fresh produce in the diet is the lack of knowledge on where to purchase local produce. To address the above concerns, the Farmers Market Authority (FMA) proposes developing an educational DVD targeting adults and children of Alabama increasing their knowledge and consumption of local specialty crops, i.e. locally grown fruits and vegetables.

The Alabama Farmers Market Authority partnered with the Alabama Department of Public Health, Physical Nutrition Section/State Obesity Task Force Section to create the DVD and an interactive media tool, allowing students to have worksheets, adults to have resource tools, and both to enjoy auditory learning. In addition FMA will strive to work with school systems and their wellness committees to forge community collaborations to help build a culture of health through the increased consumption of locally grown fresh fruits and vegetables. The DVD has the potential to reach thousands of viewers, thus having a direct impact on the perspectives of local food sources from specialty crops.

Project Approach:

The Farmers Market Authority (FMA) began contacting the contributing parties based on the workplan schedule. The determination of content, format, farmers, markets, production contractor, packaging, distribution, and many other factors were decided upon by the FMA over the next several months.

The FMA met with an Alabama Department of Public Health (ADPH) representative in February 2012. It was determined the ADPH Video Communications department was qualified and available to produce the DVD. The FMA then met with the ADPH Video Communications Team in March and shared the vision for the educational DVD. Based on the FMA’s vision and the ADPH Communications department expertise, a production plan was formulated. The FMA generated a detailed script that included narrative and video direction. The script required farm visits, trips to a farmers market, interviews with farmers and customers, video of a family at market/ home and finally a chef providing a cooking

demonstration. The FMA determined the best market and farmers for the project and started organizing dates. While recruiting 'on camera' participants for the DVD, the FMA created shot list for all of the filming locations. The shot list detailed the expected footage from all of the locations that will be incorporated with the script.

The FMA knew the visits to the farms and farmers market were time sensitive and must be determined immediately. The FMA contacted all parties and organized the trips. Throughout the market season 2012 all the video footage was shot and then came the editing.

The fun part of the project was over and the gruesome part of sitting and watching hours and hours of raw video that was shot at the Aplin and Dixon Farms, the EastChase Market the Parnell Home and the Highland Elementary School had just begun. The staff at the Alabama Department of Public Health and the Farmers Market Authority worked well together in editing the video to the correct scenes that would lend it to convey the message hit our target audience. Then the FMA had to match the script to the video. Once this was done the video was re-edited with voiceovers, music, sound, credits and aligned the scripting with the Farm To Table DVD chapters we were ready for production.

We decided to distribute the DVDs to 1,199 K-5 grades Public and Private Schools along with twenty Buy Fresh, Buy Local Posters. We also created a lesson plan to go along with the DVD that is posted online at ALEX for school teachers to use in their social studies or science curriculums. Other outlets of distributions were to 357 senior centers throughout the State, to all members of the Alabama Legislature (Senate and House), three Land Grant Universities, and all sixty-seven County Cooperative Extension Offices. The FMA has extra copies on hand to distribute to others when requested.

However, before distribution could take place we participated in the State bid process to procure services for the production of the DVDs and distribution of the DVDs, and posters to all 1,199 schools plus the remaining delivered to FMA.

Goals and Outcomes Achieved:

The **primary goal** of this initiative is to increase consumption of specialty crops by introduction, information, and education of adults and children on the positive aspects of Buy Fresh, Buy Local including the preventive health benefits of consuming fruits and vegetables and the importance of consuming produce in reaching and maintaining an appropriate body weight. The **secondary goal** is to increase interest in horticulture while teaching the importance of the local farmer in the sustainable community. Both goals utilize nutrition and health facts, physical farm activities, and developing lifestyles as a living example from which to learn.

Expected Measurable Outcome: The goal of the project is to increase sales of fresh fruits and vegetables by increasing demand through educating children and adults on the preventive health benefits of consuming fruits and vegetables and the importance of consuming produce in maintaining appropriate body weight. The **benchmark** will be determined by an initial survey of 1100 FMNP farmers. The survey will determine the value of specialty crops sold at farmers markets. After year one of presentations, the farmers that responded to the initial survey, will be surveyed again to determine the

increase or decrease in sales. We expect a ten percent increase in sales within this first year. At the end of year two, another survey will be conducted to see if the increase in sales that was experienced in year one of the project was replicated in year two or how it compared. The success of the project will be measured in two ways: 1) a total increase in sales of specialty crops at farmers markets from benchmark, 2) by the number of farmers that experience an increase in sales.

The DVDs were distributed in November of 2013 to all K-5 schools in Alabama. We also gave 90 Ag in the Classroom Teachers a copy of the DVD in May of 2014 at the Annual Ag in the Classroom Workshop.

The DVD will contain different chapters, each supplemented with resource materials and work sheets. The following topics will be covered on the DVD:

- The farm to table process-
 - Footage will include a farmer tilling the soil, planting the seed, caring, harvesting, packaging and selling the plants at farmers markets, schools, restaurants, and/or grocery stores.
- Family involvement-
 - Families of diversity will be filmed shopping and talking to the farmer at a local farmers market. Scenes of the different families will demonstrate taking the fresh food home, preparing the meal, and eating together. Cultural appropriate recipes will demonstrate how the same produce can be prepared in various-yet healthy- manners.
- Health and nutritional information-
 - Health care providers (doctor, nutritionists, etc.) will provide basic information in an engaging and energetic manner, keeping an appropriate educational level as suggested by public health marketing resources.
- Cooking demonstrations-
 - Chef demonstrations will be filmed in a cooking show format to engage the audience and encourage new, healthy, recipes. The ADPH nutritionists will work with the Chefs to adhere to heart healthy type recipes. Each demonstration will have a version of the recipe available for printing.
- FMA background and information-
 - Farmers market information for the State of Alabama will be grouped by county.
 - Alabama based produce will be listed by season availability.

Beneficiaries:

The DVD will serve as an educational component to raise public awareness of local specialty crops as a major food source and to encourage lifestyle changes related to healthy eating. As produce consumption increases the potential increase in the financial benefits for specialty crop farmers is substantial. With increased knowledge of specialty crops, we believe that many adults will increase consumption of fresh fruits and vegetables. Furthermore, we believe that young children will grow up with healthy eating habits that will carry over into adulthood and therefore add a new and sustainable customer base to purchase fresh fruits and vegetables for years to

come. There are more than 1100 specialty crop farmers in Alabama that will receive direct financial benefits of increased sales of fresh fruits and vegetables as a result.

Lessons Learned:

Ideally our DVDs would have been distributed in the Spring (March or April) of 2012 just prior to the summer market season. With hopes the teachers would have used them for 6-8 weeks before school was out and the children would have gone home with this fresh on their minds and wanting Mom and Dad to take them to the farmers market on Saturday. Timing did not work out for this. We will have to see how the 'wrong' timing effects the overall results.

Results:

The project has been delayed but we are beginning to see some initial results that are positive. Farmers have reported increased sales at farmers markets this year compared to this same time last year. Increased sales would correlate to increased consumption of fresh fruits and vegetables. We will continue to monitor throughout the market season to see if this trend holds up.

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Additional Information

www.buylocalalabama.gov

<http://www.adph.org/ALPHTN/Default.asp?id=6247>

Project 5

I. Project Title: Determining the Feasibility of Growing New and Improved Grape Cultivars in Alabama for Enhanced Sustainability of Local Food Systems

- a. Project Investigator: Dr. Elina Coneva
- b. Co-Project Investigators: Edgar Vinson, Arnold Caylor, Joyce Ducar, and Jim Pitts
- c. Affiliation: Auburn University, Alabama Cooperative Extension System

II. Project Summary:

Alabama is unique in that its principle fruit commodities are marketed almost exclusively through local outlets. There is therefore a concomitant need to evaluate new specialty fruit crop selections and to assess suitability for this market culture. Since the number of farmers market in Alabama has expanded tremendously, the demand for locally grown fruits has also expanded, outpacing current local supply. One way to meet the increased market demand is to diversify fruit crop production by introduction of non-traditionally grown, relatively new to the local markets or underutilized specialty fruit crops with high nutritional value and high fruit quality. Alabama grape growers are eager to explore alternative grape species in addition to the traditionally-grown muscadine grapes as a means of increasing profits by diversifying their operations that can lead to enhanced economic and social sustainability. The Alabama Wineries trail offers opportunities for local agritourism and there is a tremendous potential for the industry to attract more traffic by offering a new market product based on the three newly introduced grape species researched at the Alabama Agricultural Experiment Station, Auburn University's vineyards. Current nutraceutical research revealed grapes are a powerful source of phytochemicals and antioxidants and very beneficial to human health. This breakthrough information triggered an increased market demand for grapes and processed products. According to a March 2011 report provided by the U.S. Wine Institute, record high 2010 wine shipments make U.S. the world's largest wine-consuming nation.

Pierce's Disease (PD) is a serious threat to the cultivation of grapes in the United States, especially in the warmer southern regions. Presently, there is no known cure for PD, which is caused by infection with the bacterium *Xylella fastidiosa*. The xylem-limited bacterium, *Xylella fastidiosa* is also known to affect a wide range of crops and causes economic losses to several agricultural industries in North, Central, and South America. *X. fastidiosa* causes a variety of plant diseases. In grapes, it causes Pierce's disease (PD), where infection leads to blockage of the vine xylem vessels which inhibits transpiration, delays vine growth and eventually leads to vine death. Pierce's disease on grapes is the

major limiting factor for growing *Vitis vinifera*, so called European grapes in Alabama and southeastern U.S. Generally, PD infection leads to vine decline, yield loss, and vine death typically occurs within two to three years of infection. Management efforts are focused on the development of grape selections resistant to this devastating bacterial disease and effective insect vector control. Even though PD is endemic in the southeastern US and is the main limiting factor affecting the grape industry in the area, according to a 2009 USDA National Agricultural Statistics Service report, fruit growing acreage data for the state of Alabama shows that grape production ranks third with a total of 467 acres. When compared to the grape acreage a decade ago, there is a 41% increase, which is a considerable growth. Newly developed grape selections were introduced from the UC Davis, California, that are 87.5% *Vitis vinifera* (European type) and are resistant to PD in greenhouse and field assays because they have the PdR1 - the resistance locus inserted, and can provide an opportunity for a substantial economic growth. French-American and American hybrid bunch grapes that are tolerant to PD also can produce substantial crop for the fresh market and for processing which can add value to the grape production. Seedless table grape selections are usually a preferable consumer choice on the market place. Grape breeders have responded to consumer preferences for seedless grapes with the development of numerous improved varieties. The seedless trait in grapes was originally derived from cultivars of ancient origin such as 'Thompson Seedless' and 'Black Monukka'. Most seedless grapes suitable for the eastern United States are descended from crosses with these two cultivars. Breeding programs in New York, Ontario, Arkansas, and elsewhere continue to produce seedless selections with improved hardiness and quality. The University of Arkansas Division of Agriculture has been breeding table grapes since 1964. The program continues with crossing and selection, and several advanced selections are under consideration for release and were introduced in Alabama for testing in our environment. The performance of the newly introduced grape selections with diverse origin needs to be studied in Alabama growing conditions in order to evaluate the overall species and cultivar performance.

In 2007, Auburn University partnered with the Alabama Wineries and Grape Growers Association to introduce new and improved grape selections and established a number of research vineyards which also attracted the public attention:

http://blog.al.com/living-news/2011/01/alabama_wineries_auburn_univer.html. Furthermore, the potential regional economic benefit of growing grapes in Alabama by utilizing these improved selections was nationally recognized by the Vines and Wines magazine: <http://www.winesandvines.com/template.cfm?section=news&content=83010>.

Currently, the commercial bunch grape production in the Southeast is very limited, and sustainable production systems have not been determined. The major goals of our study were to determine: 1) the feasibility of growing *Vitis vinifera* in Alabama; 2) best performing French-American and American hybrid bunch grape cultivars; 3) best performing table grape selections; 4) best management practices for the newly introduced selections and cultivars. We successfully completed this two year project and generated valuable information to achieve the project goals.

With acreage of 455 (Department of Agriculture, National Agricultural Statistics Service, 2009), grapes rank third among fruit commodities produced in the state. Bacterial diseases are the major factor limiting grape production in Alabama, and an emerging threat to the state expanding grape industry. Interest is growing in high-value, locally produced specialty crops as Alabamians are looking to enrich their diets with functional foods and healthier lifestyles. Knowledge gain through this project can contribute to enhanced nutritional diets of our citizens supplying a new array of fresh and processed grape products, and can impact Alabama's markets by offering a new market product. Furthermore, introducing locally grown fresh and processed *V. vinifera* products, rich in antioxidants and resveratrol, and proven to help in preventing cardiovascular diseases, inflammation and aging processes, will contribute to healthier diets for Alabamians. The knowledge gained through our study is expected to improve the agricultural sustainability of Alabama agriculture and food systems by advancing the environmental and economic sustainability in the state through implementation of advanced technologies that ensure the viability of specialty crop production systems for future generations, enhance the quality of life for farmers and society as a whole by providing better profits to the farmer and a valuable healthy food to the consumer.

Another possible impact can originate from the opportunity to enhance state Agritourism industry and aid in the development and promotion of the recently established Alabama Wineries Trail. Hence, multiple industry impacts are envisioned by the introduction of these newly developed grape selections.

Project Approach:

Our investigations included research activities conducted at three experimental vineyards in the state. Experiment 1 was planted at the Chilton Research and Extension Center, Clanton in 2010 in order to determine the feasibility of growing three of the UC Davis developed Pierce's Disease (PD) resistant *Vitis vinifera* grape selections in Alabama and evaluate their production potential. Experiment 2 comprised of eleven PD tolerant American and French-American hybrid bunch grape cultivars, including 'Black Spanish', 'Blanc du Bois', 'Champanel', 'Conquistador', 'Cynthiana', 'Favorite',

'Lake Emerald', 'Seyval Blanc', 'Seyval Blanc' grafted on Coudrec 3309 ('Seyval Blanc'/3309C), 'Stover', and 'Villard Blanc', planted at the Sand Mountain Research and Extension Center (SMREC), Crossville, AL in 2008. Experiment 3 encompassed three recently released seedless table grape cultivars from the University of Arkansas breeding program, including 'Faith' ('A2412'), 'Joy' ('A2494'), 'Gratitude' ('A2505'), eight advanced grape selections 'A2817', 'A2245', 'A2359', 'A2467', 'A2574', 'A2602', 'A2632', 'A2786', two previously released seedless cultivars ('Mars', and 'Neptune'), as well as two standard cultivars 'Conquistador', and 'Stover', that were planted at the North Alabama Horticultural Research Center (NAHRC), Cullman, AL in 2008. All of the experimental plots utilized a randomized complete block design with four to six replications and 2 to 5 single vines per replication to ensure reliable scientific results. Vineyards were maintained according to the standard commercial grape growing practices. During the 2013 season, data were collected to determine an array of cultivar characteristics aiming to assess grapevine vegetative growth, cropping potential and fruit quality of tested cultivars and selections.

Our results suggest the PD resistant *V. vinifera* selections vary in terms of their vegetative growth (expressed by the trunk cross sectional area (TCSA) and pruning weight), yield potential, and fruit quality traits. The least vigorously growing selection was the early season '502-10' that produced the largest clusters. The late ripening selection '501-12' had the most vigorous vines, the highest number of clusters per vine, and the highest yield in both years of this study.

Our experiment 2 results indicate that 'Champanel' and 'Villard Blanc' had the most vigorous vegetative growth, while 'Seyval Blanc' had the weakest vine vigor. 'Villard Blanc' produced the largest yield in both study years and had the greatest mean cluster weight of 270 g. 'Champanel' produced the largest berries, followed by 'Villard Blanc'. PD tolerant hybrid bunch grapes 'Villard Blanc', 'Cynthiana', and 'Black Spanish' were the best performing cultivars combining vigorous vegetative growth, high yields, and good fruit quality.

Experiment 3 evaluated recently released seedless table grape cultivars and a number of seedless or seeded selections. Our results suggest that 'Neptune', 'Joy', 'Faith', and 'Gratitude' were the best performing seedless table grape cultivar in this experiment with a good potential for local markets.

Goals and Outcomes Achieved:

The major goal of this research was to determine the feasibility of growing *Vitis vinifera* grapes in Alabama and select the best performing French-American, American hybrid bunch

grape cultivars, and seedless table grape selections. We have generated baseline data needed to evaluate the performance of three types of grapes during the years of vineyard establishment. Also, a list of recommended cultivars for commercial production in Alabama conditions is going to be published based on the results from current study. Our results are very encouraging, because with the proper management we had a successful cropping season despite the colder than usual season and the above average rainfall that impede the grape ripening and fruit sugar development in 2013.

Beneficiaries:

Knowledge gain through the completed study is going to benefit commercial fruit growers, backyard growers (homeowners), Alabama consumers, agritourism and associated industries.

Mr. Edgar Vinson, a research associate in my lab has provided a valuable technical help and expertise in maintenance and data collection. Mr. Jim Pitts, Dr. Joyce Ducar, and Mr. Arnold Caylor, superintendents at each respective experiment station contributed time and labor to maintain the grapevines.

Lessons Learned:

In 2012 we experienced a severe bird damage and crop loss even the grapes were covered with a bird protective net. We needed to consider re-adjusting the net coverage and were very successful protecting the rest of the vineyard.

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Additional Information:

Factsheets and Timely Information Sheets Published:

- Elina Coneva, 2013. Feasibility of Growing Pierce's Disease Resistant *Vitis vinifera* Grapes Within the High Disease Pressure Southeastern Region. Timely Information Sheet, Alabama Cooperative Extension System, Auburn University, AL.

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- **Elina D. Coneva**, Y. Hu, J.R. Clark, R. Kessler, J. Spiers, E. Vinson, and A.W. Caylor. 2013. Investigations to Determine the Performance of Recently Released Seedless Table Grapes and Advanced Selections from the University of Arkansas Breeding Program. HortScience 48.
- **Elina D. Coneva**, E. Vinson, and J. Pitts. 2013. Is it Feasible to Grow Pierces Disease Resistant 87% *Vitis vinifera* Grapes within the High Disease Pressure Southeastern Region? HortScience 48.

- **Elina Coneva**, Y. Hu, R. Kessler, Jr., and J. Spiers. 2013. Feasibility of Growing Pierce's Disease Tolerant American and French-American Hybrid Bunch Grape Cultivars in Alabama. National Association of Agriculture County Agents (NAACA) Galaxy Meeting, Pittsburgh, PA.
- **Elina Coneva**, Andy Walker and Jim Pitts. 2013. Feasibility of Growing Pierce's Disease Resistant 87.5% *V. vinifera* Grapes in Alabama. American Association of Enology and Viticulture (ASEV) Annual Meeting, Monterey, CA.

Poster Presentations

- **Elina D. Coneva**, Y. Hu, J.R. Clark, R. Kessler, J. Spiers, E. Vinson, and A.W. Caylor. Investigations to Determine the Performance of Recently Released Seedless Table Grapes and Advanced Selections from the University of Arkansas Breeding Program. Southeastern Regional Fruit and Vegetable Conference, January 10-13, Savannah, GA, 2013.
- **Elina D. Coneva**, Y. Hu, R. Kessler, J. Spiers, E. Vinson, and J. Ducar. Assessing the Crop Potential and Vigor of Selected Pierces Disease Tolerant Bunch Grape Cultivars in North Alabama's Environment During the Years of Vineyard Establishment. Southeastern Regional Fruit and Vegetable Conference, January 10-13, Savannah, GA, 2013.
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- Elina Coneva. 2013. Growing Pierces Disease Resistant *Vitis vinifera* Grapes in Alabama. Alabama IPM Communicator. Alabama Cooperative Extension System (ACES).
- Elina Coneva. 2013. Fruit Crops Research Update. Alabama IPM Communicator. Alabama Cooperative Extension System (ACES).

Presentations at Grower Workshops and Field Days:

- Coneva, E. 2013. Muscadine and Bunch Grape Production Workshop. Fall Fruit Harvest Workshop. Chilton Research and Extension Center, Alabama Cooperative Extension System, October 17.
- Coneva, E. 2013. Muscadine and Bunch Grape Production Workshop. North Alabama Horticulture Research Center, Alabama Cooperative Extension System, September 10.
- Elina Coneva. PD resistant *V. vinifera* production in AL. Farm, Home, and Wildlife Expo Field Day, Chilton REC, Clanton, August 3, 2013.
- Elina Coneva. Pierce's Disease Resistant *V. vinifera* Selections and Hybrid Bunch Grapes; Seedless Table Grapes. Alabama Wineries and Grape Growers Association Annual Meeting, Chilton REC, May 19, 2013.
- Coneva, E. 2013. Peach and Grapes Research Updates. North Alabama Tree Fruit Production Meeting Alabama Cooperative Extension System, Athens, AL, March 6.
- Coneva, E. 2013. Muscadines and Pierces Disease Resistant Grapes Production in Alabama. Wine and Grape Production Meeting. Alabama Cooperative Extension System, Kiessel Park, AL, February 22.
- Elina Coneva. Bunch Grape Research Update. Alabama Fruit and Vegetable Growers Association Annual Conference, Auburn, AL, February 8-9, 2013.
- Coneva, E. 2013. Peach and Grapes Research Updates. Central West Alabama Peach Production Meeting. Alabama Cooperative Extension System, Chilton REC, Clanton, AL, January 31.
- Elina Coneva. PD resistant *V. vinifera* production in AL. Farm, Home, and Wildlife Expo Field Day, Chilton REC, Clanton, August 4, 2012.
- Elina Coneva. Seedless table grape evaluations for Alabama. Grape Production Workshop and Vineyard Demonstration Field Day. Cullman, September 10, 2012.
- Elina Coneva. Establishment of Pierce's disease resistant *Vitis vinifera* (European) grapes in Alabama. Alabama Fruit and Vegetable Growers Association Annual Conference, Auburn, AL, Feb. 10-11, 2012.

Presentations at Professional Meetings:

- Elina Coneva, Y. Hu, R. Kessler, Jr., and J. Spiers. 2013. Feasibility of Growing Pierce's Disease Tolerant American and French-American Hybrid Bunch Grape Cultivars in Alabama. NAACA Galaxy Meeting, Pittsburgh, PA, September 15-20, 2013.
- Elina Coneva, Edgar Vinson, Jim Pitts. 2013. Second Year Assessment of Pierces Disease Resistant *Vitis vinifera* Selections in Alabama. SE Professional Fruit Workers Conference, Athens, GA, Sept. 17-19.
- Elina Coneva and Andy Walker. 2013. Feasibility of Growing Pierce's Disease Resistant 87.5% *V. vinifera* Grapes in Alabama. American Society for Enology and Viticulture Annual Meeting, June 24-28, 2013, Monterey, CA.
- Elina D. Coneva, Y. Hu, R. Kessler, J. Spiers, E. Vinson, and J. Ducar. Assessing the Crop Potential and Vigor of Selected Pierces Disease Tolerant Bunch Grape Cultivars in North Alabama's Environment During the Years of Vineyard Establishment. Southern Region American Society of Horticultural Science Annual Meeting, Orlando, FL, February 2-5, 2013.
- Elina D. Coneva, E. Vinson, and J. Pitts. Is it Feasible to Grow Pierces Disease Resistant 87% *Vitis vinifera* Grapes within the High Disease Pressure Southeastern Region? Southern Region American Society of Horticultural Science Annual Meeting, Orlando, FL, February 2-5, 2013.
- Elina D. Coneva, Y. Hu, J.R. Clark, R. Kessler, J. Spiers, E. Vinson, and A.W. Caylor. Investigations to Determine the Performance of Recently Released Seedless Table Grapes and Advanced Selections from the University of Arkansas Breeding Program. Southern Region American Society of Horticultural Science Annual Meeting, Orlando, FL, February 2-5, 2013.
- Elina Coneva, 2012. Establishment of Pierce's disease resistant *Vitis vinifera* (European) grapes in Alabama. Southern Region of the American Society of Horticultural Science Annual Meeting, Birmingham, AL, Feb. 2-5, 2012.
- Yilanna Hu, and Elina Coneva, 2012. Comparison of Vegetative Growth, Cropping Potential and Fruit Quality of Selected American and French-American Hybrid Bunch Grape Cultivars and Advanced Selections in Alabama. American Society of Horticultural Science (ASHS) Annual Meeting Orlando, FL, July 31-Aug. 3.
- Elina Coneva. Is it Feasible to Grow Pierces Disease Resistant *Vitis vinifera* Grapes Within the High Disease Pressure Southeastern Region? SE Professional Fruit Workers Conference, Arkansas, October 22-25, 2012.

- Elina Coneva. Assessing the Crop Potential and Vigor of Selected Pierce's Disease Tolerant Bunch Grape Cultivars in North Alabama's Environment During the Years of Vineyard Establishment. SE Professional Fruit Workers Conference, Arkansas, October 22-25, 2012.
- Elina Coneva. Investigations to Determine the Performance of Newly Released Seedless Table Grape Cultivars and Advanced Selections from the University of Arkansas Breeding Program. SE Professional Fruit Workers Conference, Arkansas, October 22-25, 2012.
- Y. Hu, Elina Coneva. Vegetative Growth, Cropping Potential and Fruit Quality of Pierce's Disease Tolerant American and French-American Hybrid Bunch Grape Cultivars in Alabama. American Society for Enology and Viticulture Eastern Section Annual Meeting, July 16-19, 2012, Traverse City, Michigan

Peer-reviewed article published:

- Elina Coneva, and E. Vinson. Investigating Innovative Fruit Crop Production Systems for Local Markets. Auburn Speaks (Accepted).
- Y. Hu, Elina Coneva, E. Vinson, J.R. Kessler Jr., J Spiers, and J. Ducar. 2012. Assessing the Feasibility of Growing Pierce's Disease Tolerant American and French-American Hybrid Bunch Grape Cultivars in Alabama. Journal of the American Pomological Society, 4:220:222. **Graduate student Y. Hu awarded second place U.P. Hendrick Award winner.**

Published Master's Degree Thesis:

- Y. Hu, Feasibility of Growing Pierce's Disease Tolerant American and French-American Hybrid Bunch Grape Cultivars and Advanced Grape Selections in Alabama. Master Degree Thesis.

Project 6

AUTOMATION OF CHILTON FOOD INNOVATION CENTER

PROJECT SUMMARY

Chilton Food Innovation Center (CFIC) is a shared-use food processing facility designed to be the launching place for new food businesses, particularly for the development and production of value-added products made from the harvest of local farmers. This project is a continuation of work completed with previous Specialty Crops Block grant funds. As reported earlier, a survey was taken among specialty crop producers in Central Alabama. About 30% responded positively to the use of a facility that would enable them to utilize the portions of their crops that were not suitable for fresh market or during high yield seasons when the market was saturated. For example, it was estimated that during an average season about a third of the peach crop was lost each year due to over-ripe, undersized or imperfect, but otherwise edible fruit. The previous funds were used to bring CFIC from an idea to a reality. This project was the first stage towards automating the processes to increase the profitability of the products made by our clients.

Though there has been an increase in interest, there has not been the growth we expected. One problem is that the processing is more costly than the potential clients are willing to risk. We were able to increase the efficiency of the processing line thus increasing potential profit for our current and prospective clients.

PROJECT APPROACH

Several activities remain the same before, during and continue after this grant period. Some of these activities include the marketing and management of CFIC. The Director, Christy Mendoza, continues to promote CFIC through Facebook and other internet sites, face-to-face meetings, and speaking engagements with local civic groups as well as state-wide Conferences. She went on a tour promoting CFIC with the Alabama Environmental Health Association, presenting in Birmingham, Huntsville, Troy, Anniston, Prattville and Mobile. She worked with Auburn University in the development of promotional materials such as brochures, presentation displays, and articles in printed and online publications. She continues to work with Alabama Cooperative Extension System's Food Safety team by teaching the Better Process Control School, where she makes several contacts for those needing the services of a facility such as CFIC. She coaches clients and prospective clients of the steps necessary to become a food processor. During the first year of this project, CFIC had an Open House. We had approximately 95 people in attendance with media coverage. Auburn University has been a proud partner in this project, offering many contact opportunities including the Alabama Fruit and Vegetable Growers Association Conference and the Farm, Home & Wildlife Expo for several years. Gary Gray, a regional agent in Commercial Horticulture, also assisted in marketing CFIC to producers he spoke with during his travels. He will continue to support CFIC in this way as he is able. We

have received more contacts every year through our marketing efforts and over fifty contacts within the last year received CFIC information and coaching from our Director.

Two new clients became processors during this grant period. One is making a variety of pickled products and the other is making a sweet potato pie filling.

The majority of the funds of this grant were expended on equipment. The equipment includes a lye peeler/scalding and extra basket, a piston depositor, and a conveyor belt. An unexpected lack of qualified technicians to install our equipment caused delays and a slight change in expenditures. All changes were approved by the grant manager in advance. There was not enough business to warrant the assistant to the director, so these funds were redirected to pay a qualified technician to repair current equipment and install new pieces throughout the project. Donated was maintained.

There were slight increases in all charges regarding the equipment from the time of the quote to the time of purchase, but this was off-set by the air compressor that was not purchased with these funds, but through another source.

One development has been the demand for co-packing and product matching. CFIC will investigate the possibility of offering these services in the future; however, it is not feasible at this time. Others wishing to begin similar operations to CFIC should take these things into consideration before beginning, especially if they are for-profit. There are some co-packers in Alabama, but they are cost-prohibitive to our customers because of the size of their operations.

Jim Pitts, Director of the Chilton Research and Extension Center, continues to support CFIC in many ways. He provides expertise in local crop knowledge, transportation needs, equipment knowledge, tools, labor and fruit. He over-saw the growing, harvesting and delivery of strawberries that were used to collect data for the testing of the new equipment. Gay West, County Extension Coordinator of ACES, continues to provide support through her many contacts and promotional opportunities. She is involved in several day-to-day activities of the management of CFIC as well. She communicates with prospective clients and supporters. Mrs. West helps plan and attends the CFIC Advisory Board meetings, CFIC tours and other events; is an administrator on the CFIC Facebook page; and helps with administrative activities. She is also a hands-on supporter of CFIC, assisting in all aspects of test batches performed to test equipment, ingredients or processes from weighing strawberries to mopping the floor.

GOALS AND OUTCOMES ACHIEVED

The lye peeler uses steam to heat the lye solution. The steam pipes were placed to connect the existing steam pipes to the new peeler. In anticipation of the arrival of the air compressor, the air lines were installed from the location where the compressor is now housed to the processing area. There were some delays in procuring the made-to-order depositor. The day the depositor and ten-foot conveyor belt arrived was very exciting. Jim Pitts brought a forklift to unload it

from a very long trailer. The CFIC does not have a loading dock and the crated equipment could not fit through the door, so these two pieces had to be un-crated and hand-carried into the building by Mr. Pitts and a few other volunteers.

Documentation for benchmark information continued to be collected throughout the project duration. The new line was promoted during the conferences in which CFIC was represented during the grant period and throughout last year. Although there have not been any clients ready to use the new line yet, we have conducted a few small trials. Comparing similar products and processes from no automation to partial automation, we have found that the depositing time was increased from about 3.5 jars per minute to 6 per minute and the depositing weight variance was improved by 25%. It was expected to increase efficiency of a processing run by 30% total. These initial findings indicate that the goal will be met and exceeded with more experience using the depositing line. In addition, a commercial food processor was purchased during the grant period with other funds. Previously, the strawberries were washed by hand in a sink, the greens hand-capped and the berries processed in a home-use food processor. The total process employed 6 people, took 5 hours with a yield of 9 gallons to be frozen for later use. The improved process utilized the small fruit washer, hand-capped, and sliced in the commercial food processor. The total process employed 5 people, took 4 hours with a yield of 25 gallons.

The funding also allowed us to purchase a few small supplies to maintain donated refrigeration units. They were repaired to working order prior to this project, but during the last year it was noticed that the temperatures were not consistent and the gaskets should be replaced. All gaskets and a few hinges were replaced.

One of our goals was the increase in clientele. We have doubled clients since the beginning of this project and the interest has really grown. There were an estimated 20 serious inquiries in 2012. In 2013 we supplied 46 informational packets to people who have contacted CFIC to learn more about our services or getting started with a food business.

The CFIC has developed a protocol to ensure these funds will be used to solely enhance the competitiveness of specialty crops. This protocol includes pre-screening during the application process, equipment locks and visual confirmation by the director of the facility. The Board of Directors must review and approve all applicants before they are permitted to use the facility. A general listing of ingredients and equipment is required on the application. All clients will meet specialty crop requirements or will not be allowed to produce their product using the equipment supported by these funds. We currently have four clients and their products meet the specialty crop criteria. Equipment only available to specialty crop clients will be labeled as such if/when clients who do not meet the requirements are approved to use the facility. There have been no applicants in the past year that do not fulfill the requirements set forth by the specialty crops grant. Other funding was sourced to begin providing similar equipment to any future clients that do not meet the Specialty Crop Grant requirements.

BENEFICIARIES

The direct beneficiaries of this project are the current and future clients of CFIC. They are and can be farmers that create shelf-stable product from their crops, processing the product in CFIC. This product is ready to sell at their current fresh market outlets or any other retail market. New food business entrepreneurs with family favorite recipes are benefiting from CFIC and will be able to grow their family business with the implementation of this project. Indirectly, the small groceries and specialty markets as well as their clientele will benefit from having these locally produced items in their stores.

LESSONS LEARNED

We are a separate non-profit organization with multiple partners and supporters including the Alabama Cooperative Extension System, Auburn University, the Chilton County Board of Education and of course, our grantors. We could not function without the assistance of each of these partners, but it also makes decision making, documentation, and implementation slower than a for-profit entity. We have no in-house maintenance and not many qualified persons in the County available to work with this specialized equipment. We must get authorization for some of the work by the Board of Education, owners of the building, or they have to schedule their own crew to accomplish it due to insurance regulations. There were some aspects of this grant that were not considered during the writing of the proposal to complete the project: air hoses and the filter for the compressor, for example. These supplies and some of the work were funded by other sources. A project of this size would greatly benefit from a consulting engineer.

Everyone involved in this project has learned a lot of information regarding the work required to produce and process foods. There are many regulations in regards to processing foods and safe food handling. Many people who could benefit from knowing something of these regulations and why they were put into place. We have learned that the entrepreneurial spirit is still alive in Alabama, but getting started is much more difficult in today's world. In conclusion, education and training is still needed. Our team is committed to seeing CFIC become a successful organization, benefiting our community. We look to the next stage of planning for CFIC to concentrate on marketing our capabilities and educating the potential clients.

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Project 7

GHP/GAP Program (Shipping Point Inspection)

Project Summary:

The purpose of this project was to assist Alabama specialty crop producers in the effort to be GAP/GHP certified in order to expand produce markets that could become unavailable in the future due to food safety concerns and requirements. We believes that food safety and the consumer confidence are very important areas to keep U.S. Agriculture productive. Therefore, ADAI concurs with USDA's Initiative "Know Your Farmer Know Your Food". GAP/GHP certification implementation by packers/producers and outreach by ADAI is a valid tool to promote safe and reliable products within the market place.

In our opinion, uncertified producers will be left at a disadvantage with their certified competition, if elected not to participate. This project educated producers and packers, which are considered industry leaders, with regards to the USDA GAP/GHP certifications and requirements. During the time frame for change of scope, May 2011 to April, 2014, our Shipping Point Inspection Section did reach out to producers and packers to expand the importance of implementing measurements regarding food safety (GAP/GHP Certification).

For many in the industry, the financial means for the GAP/GHP certification can be considered burdensome. Funds from this grant did offset the cost of getting certification of a few applicants through a cost share program. The total cost of certification to the grower or producer would be offset by 100% per certification. Shipping Point Inspection did not place a restriction on the number of certifications or reimbursements one grower may receive, during this time frame.

Numerous retail chain stores, wholesalers and restaurants are requiring vegetable growers/suppliers to obtain third party audits to be GAP/GHP certified.

PROJECT APPROACH

The Shipping Point Inspection (SPI) held meetings with Alabama's sweet potato farmers, blueberry farmers, and watermelon farmers throughout the state of Alabama. The meetings were held to help the farmers learn about the benefits of Good Agricultural Practices and Good Handling Practices GAP/GHP Auditing Program. We have also developed and printed the ALABAMA Good Agricultural Practices and Good Handling Practices. An employee was hired and trained by Shipping Point Inspection to work with the Association of Alabama Fairs to hand out our brochures and to meet and discuss with anyone having a question about the program at Alabama Fairs across the state. We printed out the U.S.D.A. Good Agricultural Practices and Good Handling Practices User's Guide as well as other GAP/GHP material to help the public gain more information on the benefits of the GAP/GHP program. We have obtained a T.V for

meeting and training exercises. Shipping Point Inspection Auditors have to attend refreshers each year and 4 of the auditors have attended the U.S.D.A Mushroom good handling practices (MGAP) class. We had in place a cost-sharing assistance program. An applicant that had a successful Good Agricultural Practices and Good Handling Practices GAP/GHP audit could go to our website and apply for reimbursement for that audit. Anyone who was looking for more information on The U.S.D.A GAP/GHP audits or the cost-sharing assistance could have gone to our website (www.alabamafsis.com).

Shipping Point Inspection had three inspectors attend the U.S.D.A. “New Auditor School” in Fredericksburg, VA. for a week long class. We need the three new auditors due to the fact that the volume of new audits that have been requested is coming from the northern part of our state and as of now, we only have one auditor to cover the most northern part of the state to Montgomery. We have had in 2013 an auditor did leave the inspection service and one that is going to retire in the next few years. We had an Auditor attend the “IS9001 Lead Auditor School” in Atlanta, Ga. This will help the Inspection Service meet with the requirements of the U.S.D.A.

GOALS AND OUTCOMES ACHIEVED:

Our goal is to have more and more farmers and producers get Good Agricultural Practices and Good Handling Practices GAP/GHP certified. When the Birmingham office has performed about 63 GAP audits, the Mobile office has done about 15 audits and the Dothan offices has don or performed 10 audits. As far as 2014, we are on our way to surpassing this figures. This certification will allow the producers to sell their produce to large distributors and wholesalers, such as Wal-Mart, Winn Dixie, Publix and other facilities located in the state of Alabama and around the country.

BENEFICIARIES:

This project had a positive impact on Alabama’s Specialty Crop Industry. Alabama specialty crop producers are required to obtain certification to compete with other producers throughout the U.S. in USDA’s Commodity Procurement Program for School Lunch and Needy Family Program’s. Alabama tomato, sweet potato, satsuma and blueberry growers will likely be the target of producers who benefit during the period of funding distribution.

This project could had a significant economic impact in that those producers who obtain certification would be able to safeguard their current market and expand their future markets into areas not currently being served. In additional, those producers who are GAP/GHP certified may find that they are able to achieve premium pricing on their product, while building a stronger relationship with the retail establishment.

LESSONS LEARNED:

The cost of getting a Good Agricultural Practices and Good Handling Practices GAP/GHP audit is still out of reach for most of Alabama's farmer.

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