



Annual Performance Report
2008 Specialty Crop Block Grant Program
Florida Department of Agriculture & Consumer Services
USDA AMS Agreement Number: 12-25-B-0833

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Total Grant Funds Awarded - \$372,568.56
2008 Specialty Crop Block Grant Funding

Project (1) Activities to Expand Marketing and Promotion of Organic & Transitional Specialty Crops

FDACS Grant Contract #014689

Florida Certified Organic Growers and Consumers, Inc. - \$66,000.00

End Date: 9/30/2011

PROJECT TITLE

Activities to Expand Marketing and Promotion of Organic & Transitional Specialty Crops

PROJECT SUMMARY

This project collected the views of Florida specialty crop farmers, consumers, and grocery retailers about Florida specialty crop production and marketing, including as regards organic and transitional specialty crops, and synthesized findings into a final report published and disseminated to Florida specialty crop stakeholders and available from the Florida Organic Growers website.

The objectives of this project were to increase understanding about:

- Key production and marketing challenges experienced by Florida specialty crop farmers
- Farmers' views and important factors about transitioning to organic certification
- Possible barriers that impact farmers' viability and successful adoption of organic production practices
- Consumers' views about Florida specialty crop agriculture and produce, including retail marketing of organic and transitional produce
- Grocery retailers' buying practices, and views about market opportunities for Florida-grown specialty crops including transitional produce

IMPACT

A notable outcome of this work is a finding of significant concordance among views and concerns of the three primary stakeholder groups: farmers, consumers, and grocery retailers. This common ground, perhaps best evidenced in the public report's Discussion and Recommendations, suggests ways that specialty crop stakeholders, policymakers, State officials, and citizens can work to advance Florida's agriculture and food systems.

PROJECT APPROACH

Information was collected from Florida specialty crop farmers and Florida residents who purchase specialty crops. Research among farmers and consumers was performed using self-completed questionnaires and focus group meetings. FOG also met with representatives of four major grocery chains that together operate more than 860 supermarkets in Florida and more than 1,600 stores in the Southeast. FOG coordinated two consumer focus groups and collaborated with University of Florida IFAS Extension for two producer focus groups and one consumer group. All meetings were conducted and recorded by FOG staff. One producer focus group was conducted in Seffner (Hillsborough County) and the second was held in Live Oak (Suwannee County). A total of 15 specialty crop farmers participated in the two meetings. Three consumer focus groups were conducted by FOG staff involving 31 Florida residents that purchase fruits and vegetables. Meetings with Florida consumers were held in Seffner (Hillsborough County), Orlando (Orange County), and Jacksonville (Duval County).

A self-completed questionnaire was developed by FOG in order to increase understanding about Florida specialty crop growers' production and marketing experiences and views about organic production. The survey contained mostly multiple response and open-ended questions and was administered by FOG staff

at various specialty crop producer venues around the state, including agricultural conferences/trade shows, producer association meetings, and farmers markets in Tallahassee and Gainesville. Farmers also completed the survey online. A total of 86 surveys were received from Florida farmers, representing 35 of Florida's 67 counties in the southern, central, and northern portions of the state.

FOG developed a self-completed questionnaire to collect information on consumers' views about Florida specialty crop production and marketing. The survey included four Likert-type statements dealing with (1) the importance consumers place on different types of produce; (2) how frequently the consumer buys different produce types; (3) how the consumer identifies with concerns related to agricultural production, marketing, and policy; and (4) how often the consumer buys produce at various types of market outlets. Florida residents completed the survey online, at the City of Palatka's spring festival, and at farmers markets and natural food cooperative grocery stores. A total of 329 Florida residents submitted self-completed consumer surveys.

Results

I. Farmers

Survey

Almost half of the farmers participating in the survey were age 56 or older, while about 30% are between 46 and 55 years of age. Half of the respondents reported less than 10 years of farming experience, qualifying them as beginning farmers, according to USDA definition. Respondents grow an array of specialty crops, including annual vegetables and specialty herbs, berry crops, citrus, pecans, and chestnuts. Among 86 respondents, 21 farmers reported that part of their operation is certified organic.

Farming profitably was the biggest challenge reported, with farmers citing increasing input costs, land costs, the current state of the economy, and marketing challenges as factors. Strengths that farmers reported included the quality of their specialty crop produce, their direct contact with customers, and being certified organic or making a claim of no insecticide use. Growers indicated that other farmers are their primary source for production and marketing information, followed by extension agents, UF's Vegetable Production Handbook for Florida, internet resources, FDACS, and producer associations. Respondents said that more support from Cooperative Extension and more research is needed, especially with regards to organic production. A majority of survey respondents have considered transitioning to organic farming. The most common reasons given for not transitioning were difficulty controlling pests, weeds, and diseases organically, burdensome recordkeeping requirements, high organic certification costs, high costs of organic inputs, lack of knowledge on how to farm organically, and low yields in organic farming.

Focus groups

Farmers in the Seffner (central Florida) focus group reported operations ranging from 35 to 275 acres. The majority grew strawberries as their main crop. Participants in Live Oak (north Florida) reported growing vegetables and herbs, blueberries, blackberries, strawberries, and stone fruits on small acreages, ranging from ¼ acre to 4 acres. One participant in each group had experience producing certified organic crops and one farmer had active conventional/certified organic split production. Rising production costs, including costs associated with regulatory compliance, were a challenge cited by focus group participants. Specific water use and pesticide regulations were cited by one focus group. Another issue described as a —crisis|| for farmers was U.S. immigration policies and enforcement, and how they impacted labor. Farmers in north-central Florida also expressed challenges hiring labor due to the region's low population density and sparsely located farms. Farmers receive low prices for their produce that translate into low wages for farmworkers, which makes attracting workers difficult. Marketing challenges varied for farmers in different regions of the state. The lack of markets in north-central Florida was a significant challenge for small-scale specialty crop farmers who don't earn sufficient income at area farmers markets and who do not access larger markets, such as

Jacksonville. Central Florida strawberry producers emphasized numerous challenges they have selling to wholesale markets, and described the detrimental impacts they face from produce imports that saturate domestic markets and depress prices.

II. Consumers

Survey

A total of 329 Florida residents responded to self-completed consumer surveys developed by FOG. The descriptive information provided by the respondents was analyzed. In addition, because of the nature of the different survey venues, the surveys were separated into two groups and compared to assess differences and similarities. Group 1 consists of 180 responses collected at farmers markets and natural food cooperative grocers, and Group 2 consists of 149 responses obtained via the online survey and by intercept surveying at the Palatka Azalea Festival.

A large majority of respondents showed a preference for organic produce, especially organic produce that is grown locally. Consumer concern about pesticide residues was apparent from 52% of Group 1 responses and 31% of Group 2 responses that agreed with the statement —locally produced fruits and vegetables may have pesticide residues, unless they're organic.|| Government incentives to support Florida farmers to use organic practices were viewed favorably in 85% of Group 1 and 48% of Group 2 responses. In addition, respondents overwhelmingly agreed with the statement, —Floridians should support a label that identifies Florida produce grown without synthetic pesticides,|| possibly indicating support for transitional product labeling in the retail marketplace.

Nearly 75% of Group 1 and Group 2 survey respondents indicated the importance they place on the availability of fruits and vegetables labeled *Fresh from Florida* and the same proportion say Floridagrown fruits and vegetables are fresher than those from out of state or overseas. However, while consumers are overwhelmingly interested in fresh, local produce, 45% of Group 1 and 63% of Group 2 respondents said that locally produced fruits and vegetables are not labeled as such. The vast majority of respondents agreed that Floridians should strive to buy fruits and vegetables that are Florida-grown, and 90% of Group 1 and Group 2 agreed that Florida grocery stores should carry a wider variety of Florida-grown fruits and vegetables.

Focus groups

Pesticide residues on produce are a top concern. Groups also expressed common concern about knowing the origin of produce, adding that this information is not always made available to consumers in the retail marketplace. The need for public education about food and farming was a common theme and groups suggested that government should have a leading role. Informing the public about pesticide use in agriculture was one of the key areas groups suggested government should have a larger role in. Participants also saw a larger role for FDACS' *Fresh from Florida* program as important in helping to advance local agriculture in the state.

Groups showed a preference for organic produce, with most participants indicating that organic products are available where they shop and many stating that they make an effort to purchase organic items. Preference for organic was associated with concerns to avoid consuming pesticides, additives and genetically engineered food.

Focus groups indicated support for labeling that identifies transitional Florida specialty crops in the marketplace, while expressing some concerns about a transitional label, as well as some suggestions about how transitional produce could effectively be marketed. Groups cited the importance of educating the public about the meaning of organic and conventional agriculture.

III. Retailers

Three of four grocery chains reported that consumer demand for organic products is increasing. All the companies noted strong demand for local products, when such products are available. Companies expressed doubts about marketing specialty crops as —transitional|| while indicating interest in exploring marketing options that could increase transitional growers' income. Three companies expressed commitment to forming direct relationships with Florida farmers, and one which prefers to work through distributors said they would not rule out working directly with farmers.

Conclusions

We found common interests among farmers, consumers, and grocery retailers to develop Florida's organic agriculture industry and expand and enhance in-state markets for Florida-grown specialty crops. Smaller-scale conventional farmers who are inclined to start organic production need organic crop production and marketing information, and technical support, beyond what currently exists for Florida, especially organic methods of controlling crop pests and diseases and economic feasibility data for organic systems. Access to affordable organic production inputs is another limiting factor. Poor access to secure, viable markets, the cost-price squeeze, and challenges hiring farm labor are key factors limiting the success of Florida's small and mid-sized farms. Developing agroecological production systems that produce a diversity of marketable crops may be key to ensuring farmers' viability and sustaining the productivity of Florida specialty crop agriculture.

Pesticide use is a major concern of Florida consumers, in relation to food safety and environmental impacts. Grocery retailers are cognizant of consumers' desires to avoid pesticide residues. Consumers are inclined to support Florida farmers' transition to organic by purchasing transitional farmers' produce and view the possibility of government incentives to support farmers' transition to organic favorably. Grocery chains are not inclined to market transitional produce as such but expressed openness to exploring innovative marketing strategies with transitional farmers that could increase farmers' bottom lines. Grocery chains and wholesale superstores may benefit from establishing veritable partnerships with farmers, presenting opportunities to innovate and create retail produce sections that support Florida farmers, develop robust local supply chains, promote ||Fresh from Florida,|| and strengthen Florida's economy overall. Farm to School holds great market potential for Florida farmers that can also improve the health and nutrition of K-12 youth and build public awareness about Florida agriculture. Farmers markets that implement strategies to increase viability for grower-vendors, broaden the consumer base and expand roles educating the public about Florida agriculture will strengthen Florida agriculture. Numerous challenges and obstacles that limit specialty crop agriculture's benefits to Floridians can be overcome with policy commitments and close collaboration among Florida Agriculture's many stakeholders.

Recommendations

1. *Expand and enhance in-state markets for Florida-grown specialty crops.*

Strategy 1.1

Expand direct collaborations between farmers and grocery chains to develop *Fresh from Florida* retail produce sections.

Strategy 1.2

Explore possibilities for introducing an *Organic from Florida* promotional label campaign to join the Florida Department of Agriculture and Consumer Services (FDACS) *Fresh from Florida* Agricultural

Promotion Campaign.

Strategy 1.3

Develop policies and programs to make Florida's schools a reliable, profitable market for specialty crop farmers, including transitioning and certified organic farmers who may have higher production costs than conventional producers.

Strategy 1.4

Enhance farmers markets utilizing tested strategies to expand patronage and benefits to community members, and expand the role of markets as educational venues.

Strategy 1.5

Develop farmer-controlled production and marketing associations that can increase small and mid-size farmers' access to more and larger markets and reduce individual grower-members' business costs and risks.

Strategy 1.6

Expand trainings for farmers on marketing, business skills, and risk and credit management.

Strategy 1.7

Establish a platform by which producers, buyers, consumers, policymakers, and other stakeholders can convene and formulate policy recommendations that will promote sustainability of the state's food system and increase opportunities for in-state marketing of specialty crops, including organic and transitional crops.

2. Research, develop and implement state and local initiatives to increase the number of farms and total acreage in Florida certified to USDA National Organic Program standards.

Strategy 2.1

Expand long-term, multi-disciplinary organic farm system (agroecological) research encompassing production, marketing, and economics.

Strategy 2.2

Promote farmer to farmer networking to encourage learning and sharing that may increase organic farming knowledge, skills, and confidence among Florida's specialty crop growers, including beginner farmers.

Strategy 2.3

Establish an interactive networking platform for research applicable to Florida's organic farmers to better provide useful, easily accessible and current information.

Strategy 2.4

Enhance county- and state-level funding for Florida's land grant universities' sustainable and organic agriculture research and extension programs and activities.

Strategy 2.5

Explore local and state incentives to increase the number of organic farms in Florida and Florida's total certified organic acreage.

Strategy 2.6

Initiate policies and actions at state and municipal levels to promote the utilization of available resources and suitable wastes as feedstock materials for large-scale composting operations that can supply area farmers.

2009, Quarter 1:

- Development of specialty crop producer questionnaire.

2009, Quarter 2:

- Survey data collection among Florida specialty crop producers; development of consumer questionnaire.
- 2009, Quarter 3:
- Survey data collection among producers and consumers.
- 2009, Quarter 4:
- Survey data collection among producers and consumers.
- 2010, Quarter 1:
- First producer and consumer focus groups held in Hillsborough County, FL.
 - Meeting with Publix Supermarkets, Inc.
 - Producer focus group held in Suwanee County, FL.
 - Consumer focus group held in Duval County, FL.
- 2010, Quarter 2:
- Completion of producer, consumer survey data collection.
 - Consumer focus group held in Orange County, FL.
 - Meetings with Winn Dixie Stores, Inc. and Whole Foods Market, Inc.
 - Project outreach at Florida Small Farms and Alternative Enterprises Conference, Kissimmee, FL.
- 2010, Quarter 3:
- Meeting with Sweet Bay Supermarket.
 - Project outreach at numerous producer and consumer venues.
 - Drafting of final report.
- 2010, Quarter 4:
- Project outreach at AGRItunity Conference
 - Drafting of final report
- 2011, Quarter 1:
- Drafting of final report
- 2011, Quarter 2:
- Publication and mailing of final report's executive summary to approximately 400 Florida specialty crop stakeholders and availability of full report on FOG website.
 - Completion of performance and financial reporting for FDACS contract #014689.

GOALS AND OUTCOMES ACHIEVED

As described in FOG's 2008 SCBG proposal, project goals were:

- To increase awareness of relevant issues and needs of Florida's organic and conventional specialty crop producers and consumers, and to enable the institutions that serve these stakeholders to more precisely and effectively address Florida producers' and consumers' needs and priorities.
- To identify and propose viable solutions to the challenges that organic and transitional producers face.
- For Florida's specialty crop producers, retailers, processors and consumers to benefit from market differentiation of transitional produce and/or from fair pricing paid under mutually beneficial producer-processor agreements.

FOG's investigation of Florida specialty crop concerns not previously researched, the completion of a comprehensive public report with detailed recommendations, and dissemination of research findings during and after the project timeline attest to the project-related achievement of Goal 1 and Goal 2. However, the essential concerns of Goal 1 and Goal 2 may only be realized through long-term policy commitments and increased collaboration among diverse Florida specialty crop stakeholders. Similarly, Goal 3, has been advanced through this project but realization of aims will require ongoing stakeholder commitment. Regarding Goal 3, FOG planned to conduct second round meetings with Florida grocery retailers but these meetings did

not occur. It was our sense that follow up meetings with retailers would more productively be pursued subsequent to the project timeline. Also, FOG investigated and attempted meetings with organic/conventional food processors that it was thought could offer viable markets for transitional farmers but these meetings also did not occur.

The primary goals and outcomes achieved are the analysis, synthesis, publication, and dissemination of information collected from Florida specialty crop farmers, consumers, and large grocery chains. Project research has (1) increased understanding of production and marketing issues faced by Florida specialty crop producers; (2) increased understanding of Florida conventional producers' interests, considerations and concerns regarding transitioning to organic production; (3) shed light on regulatory barriers to farmers' viability and successful adoption of organic production practices; and (4) increased understanding of Florida consumers' views regarding organic and transitional agriculture and produce, including the marketing/labeling of transitional produce.

Project findings were disseminated to stakeholders during the project timeline through outreach using farmer, consumer, and retailer research summary briefs (Appendices 2A-2C), and a full-color informational brochure (Appendix 2D). At the conclusion of the project, a final report was completed and the report's executive summary (Appendix 3A) published and mailed to approximately 400 Florida specialty crop stakeholders (Appendix 3C). At mailing of the executive summary, the full-length report, —Organic Perspectives: Understanding the Views of Florida Consumers, Specialty Crop Farmers, and Retailers (Appendix 3B) was also made accessible to the public as a PDF available from the Florida Organic Growers website.

The project's final report can inform statewide efforts to remove barriers to the viability and success of Florida specialty crop farmers, expand organic farming and the use of sustainable agricultural practices statewide, improve consumer access to organic and transitional produce, and further the development of a statewide food system with enhanced economic potential and resiliency against external factors that impact production and marketing.

BENEFICIARIES

This project has generated information that can directly benefit Florida farmers, consumers, grocery retailers and other food system businesses. Findings may also benefit Florida policymakers, regulators, and agricultural service providers. To the extent possible, research findings were communicated to beneficiaries during the project timeline. However the project's potential impact may be realized after its completion, with dissemination of and continued outreach regarding its final report and recommendations, and initiatives that follow. Central to this work was the collection of information that can support committed development of resilient and sustainable farm and food systems and the expansion of transitional and certified organic farming and marketing throughout Florida. O'Hara (2011) and Swenson (2006) report on the capacity for revitalized local food systems to create jobs and expand local economies, while the U.S. organic industry's record of sustained impressive expansion further signifies the potential for local organic specialty crop farming, value-added processing, and marketing to bring significant economic benefits to Florida citizens now, and over the long-term.

LESSONS LEARNED

This project was designed to bring together perspectives of primary stakeholders in Florida's specialty crop farming and food systems, especially with regard to organic and transitional production and product marketing. While the potential positive impacts of such a comprehensive investigation were clear to us and are apparent in the findings and recommendations ultimately reported, we underestimated the scope of work and funding required to collaboratively develop and finalize research instruments, collect survey and focus

group data, and complete data analysis and the publication of a comprehensive final report that appropriately conveys a large amount of information while being engaging to stakeholders and the public*. Primarily because of these factors, completion of the public report with findings and recommendations was delayed. Further, during the initial stages of the project, we did not resolve parameters for the scope and design of the report, which allowed it to expand and evolve during its development and become the major focus of staff and resources for more than a year.

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ADDITIONAL INFORMATION

For additional information, please see the following appendices 1A – 4A.

Appendix 1A



Florida Certified Organic Growers & Consumers, Inc.
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Questionnaire

Florida Specialty Crop Growers' challenges and views about Organic Specialty Crops

Florida farmers who respond "Yes" to the following statement are eligible to complete this questionnaire:

I currently produce, or am considering producing, specialty crops, such as fruits and vegetables.

Yes No

1. Years Farming? _____ Years farming organically? (if applicable) _____

2. How many acres do you farm? _____ County (or counties) where farm is located? _____

3. List the top five income-generating crops that you currently produce:

4. Describe what you feel are your biggest challenges successfully producing your crops.

5. How would you describe your farm operation?

Organic _____ 3-year organic transition _____ Conventional considering organic transition _____

Conventional not considering organic transition _____

6. What are the most important reasons for converting to organic production?

- | | |
|---|--|
| <input type="checkbox"/> to increase farm income | <input type="checkbox"/> to encourage a thriving soil ecosystem |
| <input type="checkbox"/> to reduce production costs | <input type="checkbox"/> to protect the health of those on my farm |
| <input type="checkbox"/> to protect the environment | <input type="checkbox"/> to produce safe and nutritious foods |
| <input type="checkbox"/> to eliminate use of toxic pesticides | <input type="checkbox"/> to benefit from the increase in demand for organics |
| <input type="checkbox"/> other (describe): _____ | |

7. What are the most significant disadvantages of converting to organic production?

- | | |
|---|--|
| <input type="checkbox"/> yields in organic farming are too low | <input type="checkbox"/> record keeping for organic certification is too burdensome |
| <input type="checkbox"/> labor costs are too high | <input type="checkbox"/> managing pests, weeds and diseases organically is difficult |
| <input type="checkbox"/> high costs of organic inputs | <input type="checkbox"/> same market prices for transitional and conventional crops |
| <input type="checkbox"/> high costs of organic certification | <input type="checkbox"/> the National Organic Program is a government program |
| <input type="checkbox"/> Insufficient knowledge about organic farming | <input type="checkbox"/> other (describe): _____ |

8. Describe specific factors or circumstances which would cause you to consider transitioning part of your operation to organic production.

Appendix 1B

Farmer Focus Group Protocol/Topics

Objectives of the Focus Group (5 Min.)

Distribute and collect informed consent document.

Explain that:

Participation in this focus group is completely voluntary and you may withdraw at any time. At the end of the focus group session, you will receive a \$100.00 payment for your participation and assistance in this study.

For this project, the involvement of Florida Organic Growers and UF/IFAS Extension is a collaborative effort. Florida Organic Growers is a non-profit corporation based in Gainesville, Florida which supports sustainable and organic agriculture by educating growers, consumers, educators, media and the general public.

Our goal is to learn the most important production and marketing issues faced by Florida specialty crop producers. We also hope to learn which factors are most important to conventional producers in deciding whether to transition to [or expand into] organic management.

We hope that this project and, in-part, your participation, enables us to identify potential solutions and future priorities to address the needs and challenges of Florida specialty crop producers.

We encourage you to actively discuss the topics we mention among yourselves, and have a good time! My role as moderator is like the conductor of an orchestra – to try to guide the discussion and have everyone ‘play in harmony’ so that we receive your thoughts about four important topics. A colleague will be busily taking notes and Alicia Whidden from IFAS Hillsborough County Extension will also join us. Hopefully, our presence will not in the least impede or affect your discussions about today’s topics.

Topic One: Growing fruits and vegetables in Florida.

1. What would you say are the advantages you have growing fruits and vegetables in Florida?
2. How do you feel about the following statement?
Producing specialty crops in Florida is barely profitable.
3. What is the single greatest challenge you currently experience producing your specialty crops?



Appendix 1C

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Florida Fruit and Vegetable Consumer Survey

The purpose of this study is to better understand consumer attitudes about Florida-grown produce and agricultural production methods. This survey will take approximately 10 minutes to complete. This information will be used as part of ongoing research by Florida Certified Organic Growers and Consumers, Inc (FOG) and the Florida Department of Agriculture and Consumers Services (FDACS). This survey is voluntary and anonymous. No compensation is provided for your participation.

Sex: M F Marital Status: Single Married Age: _____ Occupation: _____

I reside in Florida. Yes No

What is the highest educational level you have achieved? (Check one)

- Primary School High School Some College 2-Year College Degree 4-Year College Degree
 Advanced College Degree

Which of the following best describes the total annual income for your entire household?

- \$0-25,000 \$25,001-50,000 \$50,001-100,000 Over \$100,000

Please indicate how important availability of the following produce is to you when deciding where to shop.

Type of Produce	Not Important	Neutral	Important	Very Important
Organic fruits and vegetables produced locally				
Fruits and vegetables produced without pesticides				
Fruits and vegetables labeled "Fresh from Florida"				
High quality fresh fruits and vegetables				
Organic fruits and vegetables, not necessarily from local producers				
Non-organically produced local fruits and vegetables				

Check all of the situations you experience when attempting to purchase locally produced fruits and vegetables.

- prices are too expensive
 fruits and vegetables are not labeled as locally produced
 locally grown fruits and vegetables are of poor quality where I shop
 the locally produced fruits and vegetables I want are unavailable where I shop
 locally produced fruits and vegetables may have pesticide residues, unless they're organic
 fruits and vegetables I want are not grown locally
 purchasing locally produced fruits and vegetables is not important to me
 locally grown fruits and vegetables I desire are easy to find

Appendix 1D

Consumer Focus Group Protocol/Topics

Objectives of the Focus Group (5 Min.)

Distribute and collect informed consent document.

Explain that:

Participation in this focus group is completely voluntary and you may withdraw at any time. At the end of the focus group session, you will receive a \$100.00 payment for your participation and assistance in this study.

Florida Organic Growers is a non-profit corporation based in Gainesville, Florida which supports sustainable and organic agriculture by educating growers, consumers, educators, media and the general public.

Our goal is to establish an understanding of Florida consumers' attitudes about Florida-grown fruits and vegetables, specifically concerning the agricultural methods used to produce them, and how the fruits and vegetables are marketed to consumers.

The information we gain could be used to educate producers, food retailers, policy makers and others so that Florida consumers' concerns and preferences are considered. We may also learn about future research priorities for addressing Florida consumers' concerns.

We encourage you to actively discuss the topics we mention among yourselves, and have a good time! My role as moderator is like the conductor of an orchestra – to try to guide the discussion and have everyone 'play in harmony' so that we receive your thoughts about four important topics. A colleague will be busily taking notes. Hopefully, our presence will not in the least impede or affect your discussions about the today's topics.

Topic One: Purchase of fruits and vegetables.

1. Who is the primary food shopper in your household?

What is the total number of people in your household?

2. Describe the types of places you shop now for fruits and vegetables. (e.g. natural food store, chain, etc)
3. How do you decide where to shop for fruits and vegetables? [Types of places you used to shop if different from now? What made you change?]



Appendix 1E

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Understanding Organic and Transitioning Specialty Crop Growers' Challenges and Expanding Markets for Transitional Produce

Specialty Crop Research Project

Supported by:
Florida Department of Agriculture & Consumer Services

Project objectives:

- Learn the most pressing production and marketing issues faced by organic and transitional specialty crop producers;
- Discern the factors most important to conventional producers in deciding whether to transition to organic management;
- Establish an understanding of Florida consumers' attitudes towards organic agriculture, 'transitional' agriculture and market recognition of transitional produce;
- Engage Florida-based retailers and nationwide food processors to consider the possibilities for creating viable markets for transitional produce;
- Identify possible regulatory barriers to successful adoption of organic production practices and farm viability

Background

The USDA National Organic Program (NOP) requires that land previously farmed using "prohibited" materials (e.g., synthetic fertilizers and pesticides) must be three years removed from application of such materials before harvest of a crop that can be represented as "organic," and that perennial crops must be maintained under a complete organic management system for no less than one year prior to harvest of a crop that can be represented as "organic." The period from the last application of a prohibited material to the date the parcel of land and/or perennial crop(s) is thus eligible for organic certification is frequently referred to as the 'transition' period, and the grower who has completely implemented NOP-compliant practices referred to as a 'transitional' grower. Common usage of 'transitional' connotes full compliance with NOP regulations, *except* that insufficient time has passed since application of a prohibited material to land and/or crops. It should be noted that the NOP does not use or recognize the term "transitional."

Appendix 2A



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Understanding Specialty Crop Growers', Consumers', and Retailers' Perspectives and Supporting Transition-to-Organic in Florida

Research conducted by Florida Certified Organic Growers & Consumers, Inc., through a grant from the Florida Department of Agriculture and Consumer Services

Summary: Florida Specialty Crop Farmer Research

Florida Certified Organic Growers & Consumers, Inc. (FOG) began a comprehensive specialty crops research project in March 2009. FOG's two-year project sheds light on the perspectives of Florida farmers, consumers, and food retailers about transitioning to organic farming and retail marketing of Florida-grown "transitional" specialty crops.

Specialty crops include fruits, vegetables, nuts, and flowers, among other agricultural products. "Transitional" agriculture refers to a production system that complies with the USDA National Organic Standards, except that land has not been under organic management for at least 3 years, a basic requirement for organic certification. A transitioning farmer who adopts organic management may experience increased production costs and decreased yields, while lacking markets that pay added value for transitional produce.

Research was conducted among Florida farmers through self-completed surveys and focus groups that attempted to:

- Learn about important production and marketing issues faced by Florida specialty crop growers;
- Learn about conventional producers' interests, considerations and concerns regarding transitioning to organic production;
- Identify possible regulatory barriers to successful adoption of organic production practices and farm viability

Farmer Surveys

Eighty-six Florida specialty crop producers responded to surveys conducted at agriculture conferences and workshops, producer association meetings, farmers markets, and online. Farmers representing 35 of Florida's 67 counties submitted surveys. Twenty-one respondents indicated that they are currently certified organic. Among 65 respondents that are not certified organic, more than 60% said they have considered or would consider transitioning to organic farming.

Among twenty-six respondents that indicated what they feel are challenges of organic production, including why some farmers would not consider transitioning to organic:

- 61% said that controlling pests, weeds, and diseases by organic methods is too difficult

Appendix 2B



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Understanding Specialty Crop Growers', Consumers', and Retailers' Perspectives and Supporting Transition-to-Organic in Florida

Research conducted by Florida Certified Organic Growers & Consumers, Inc., through a grant from the Florida Department of Agriculture and Consumer Services (FDACS)

Summary: Florida Consumer Research

Florida Certified Organic Growers & Consumers, Inc. (FOG) began a comprehensive specialty crops research project in March 2009. FOG's two-year project sheds light on the perspectives of Florida farmers, consumers, and food retailers about transitioning to organic farming and retail marketing of Florida-grown "transitional" specialty crops.

Specialty crops include fruits, vegetables, nuts, and flowers, among other agricultural products. "Transitional" agriculture refers to a production system that complies with the USDA National Organic Standards, except that land has not been under organic management for at least 3 years, a basic requirement for organic certification. A transitioning farmer who adopts organic management may experience increased production costs and decreased yields, while lacking markets that pay added value for transitional produce.

To learn about Florida consumers' views about organic agriculture and local/Florida-grown produce, including produce grown by farms transitioning to organic certification, FOG held focus group meetings and used self-completed surveys.

Consumer Surveys

Responses to more than 300 self-completed questionnaires were obtained from Florida residents through online submission and surveying conducted at farmers markets, cooperative grocers, and the City of Palatka's springtime Azalea Festival.

- More than 76% responded that availability of organic fruits and vegetables produced locally is "important" or "very important," while 37% said the availability of non-organic locally grown produce is important or very important.
- More than 80% responded that availability of fruits and vegetables produced without pesticides is important or very important. Also, 18% agreed and 58% strongly agreed that Floridians should support a retail label that identifies Florida produce grown without synthetic pesticides and fertilizers. This information may indicate consumer interest in purchasing specialty crops grown by Florida farms that are transitioning to organic certification.
- 70% responded that availability of produce labeled "Fresh from Florida" is important or very important.

Appendix 2C



Florida Certified Organic Growers & Consumers, Inc.
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Understanding Specialty Crop Growers', Consumers', and Retailers' Perspectives and Supporting Transition-to-Organic in Florida

Research conducted by Florida Certified Organic Growers & Consumers, Inc., through a grant from the Florida Department of Agriculture and Consumer Services

Summary: Produce Marketing Talks with Major Florida Food Retailers

Florida Certified Organic Growers & Consumers, Inc. (FOG) began a comprehensive specialty crops research project in March 2009. FOG's two-year project sheds light on the perspectives of Florida farmers, consumers, and food retailers about transitioning to organic farming and retail marketing of Florida-grown "transitional" specialty crops.

Specialty crops include fruits, vegetables, nuts, and flowers, among other agricultural products. "Transitional" agriculture refers to a production system that complies with the USDA National Organic Standards, except that land has not been under organic management for at least 3 years, a basic requirement for organic certification. A transitioning farmer who adopts organic management may experience increased production costs and decreased yields, and generally lacks markets that pay added value for transitional produce. To learn about potential, important market opportunities for Florida's transitional farmers, FOG organized meetings with major Florida supermarkets.

Meetings with Florida Food Retailers

FOG staff met with representatives of Publix Super Markets, Inc., Sweetbay Supermarket, Whole Foods Market, Inc., and Winn-Dixie Stores, Inc. between May and Nov. 2010. The objectives were:

- Increase understanding of companies' produce buying and marketing
- Learn about in-state marketing opportunities for Florida specialty crop growers, particularly farmers whose decision to go organic depends on receiving added value for transitional crops

Findings

- Retailers reported organic produce demand as "flat," "higher than it has ever been," and "increasing," respectively. A fourth retailer stated that many consumers seem more interested in buying locally grown produce than organic.
- Two of the retailers would like to form direct purchasing relationships with Florida specialty crop farmers, while a third indicated being open to exploring direct-sourcing of produce. One retailer prefers to work through a wholesaler, rather than directly with farmers.

Appendix 3C

Executive Summary Recipients- 2008 SCBG FDACS Contract #014689

Last Name	First Name	Title	Affiliation
Hochmuth	Bob	Small Farms Statewide Coordinator	UF/IFAS NFREC
Landrum	Linda	Marketing & Rural Development	UF/IFAS NFREC
Whidden	Alicia J	Extension Agent	UF/IFAS Hillsborough County Extension
Keith	Dr. Mary	Food, Nutrition and Health Agent	UF/IFAS Hillsborough County Extension
Rodriguez	Dr. Juan Carlos		
Katsvairo	Dr. Tawainga		BUC Technologies
McAvoy	Gene	Extension Agent - Director	UF/IFAS Hendry County Extension
Gran	Stephen		Hillsborough County Economic Development Department, Agricultural Industry Development Program
Putnam	Adam	Commissioner of Agriculture	Florida Department of Agriculture and Consumer Services
Wisehart	Marshall		FDACS, Bureau of Development and Information
Donald	Dr. Samuel Lee	Interim Dean and Director for Land Grant Programs	FAMU/CESTA
Payne	Dr. Jack	Senior Vice President Agriculture and Natural Resources	UF/IFAS
Hayes	Dr. John	Interim Dean for Research	UF/IFAS
Ferrer-Chancy	Dr. Millie	Interim Dean and Director for Extension	UF/IFAS
Obreza	Dr. Tom	Interim Assoc. Dean and Assistant Director for Extension	UF/IFAS
Dusky	Dr. Joan	Assoc. Dean for Extension	UF/IFAS
Burns	Dr. Jacqueline K.	Director	UF/IFAS Citrus Research & Education Center
Gilbert	Dr. Robert A.	Director	UF/IFAS Everglades Research & Education Center
Elliott	Dr. Monica L.	Director	UF/IFAS Ft. Lauderdale Research & Education Center

Appendix 4A



Florida Certified Organic Growers & Consumers, Inc.
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Understanding Organic and Transitioning Specialty Crop Growers' Challenges and Expanding Markets for Transitional Produce

FDACS Contract # 014689

Specialty Crop Block Grant Funding Year 2008

Final Financial Report (Project ending Sept. 30, 2011)

The total budget for this project is \$66,000.00. Total funding expended through the project ending date of Sept. 30, 2011 is \$66,697.53. Total funding received is \$55,603.81.

Budget Line Item	Approved Starting Budget	Budget After Amendment Approval	Expenses through Sept. 30, 2011	Budget Unexpended Sept. 30, 2011
FOG Staff	\$41,000.00	\$54,416.08	\$56,223.96	-\$1,807.88
Survey Development and Analysis	\$6,700.00	\$1,904.18	\$1,578.78	\$325.40
Focus Group	\$4,000.00	\$4,600.00	\$4,600.00	\$0.00
Travel Costs	\$7,500.00	\$2,434.74	\$1,649.79	\$784.95
Printing and Publications	\$6,800.00	\$2,645.00	\$2,645.00	\$0.00
Budget Total	\$66,000.00	\$66,000.00	\$66,697.53	-\$697.53

Project (2) Blueberry Variety for Harvesting and Fresh Pack

FDACS Grant Contract #014685

Florida Blueberry Growers' Association, Inc. - \$80,000.00

End Date: 12/31/2011

PROJECT TITLE

Blueberry Variety Selections for Mechanical Harvesting and Fresh Pack

PROJECT SUMMARY

Component 1: Breeding Program for Mechanical Harvest Berries

While machine harvesters are currently available to the industry, the current varieties of southern highbush blueberries do not withstand the process of machine harvesting while maintaining the quality necessary for fresh packing. As a result, with the current price structure, berries which are machine harvested are mostly sold as "process" berries, earning a market value of \$0.50 - \$1.20 per pound. In contrast, fresh packed Florida berries have earned an average market price of approximately \$5.00 per pound over the last several years (Straughn Farms).

The overall objective of Component 1 is to broaden the genetic base for firmness of blueberries. Berry firmness improves the quality of fresh packed blueberries that have been mechanically harvested. If the industry can identify varieties that maintain post-harvest quality, machine harvested berries could be sold on the fresh market at fresh pack prices. Discovering a variety that can maintain fresh pack quality through mechanical harvest would dramatically increase production efficiencies, and would revolutionize the industry.

Component 2: Analysis of the Efficiency of Machine Harvesting Selected Advanced Varieties

Machine harvesting techniques have not been utilized in the blueberry industry because the damage to the berries is too great, significantly decreasing the ability to fresh pack and reducing marketability and value. The objective of component 2 is to analyze and measure the success of varieties developed to withstand machine harvesting techniques while meeting fresh pack quality standards.

Component 3: Post-harvest Physiology of Selected Advanced Varieties

Fresh packed berries must maintain their quality over a long shelf life in order to remain marketable. If the berries quickly deteriorate after packing, they will not be marketable for fresh pack and machine harvesting will not be as successful or useful to producers. Identifying varieties which maintain postharvest quality is critical to a successful machine harvesting program. The overall objective of component 3 was to evaluate postharvest quality of fresh-packed, mechanically harvested blueberries during simulated commercial storage (14 days at 1 degree Celsius (34F))

IMPACT

This project contributed to a body of research which may enable Florida Blueberry growers to produce mechanically-harvested fruit with physical and physiological characteristics which make it suitable for fresh market sale. This will increase the value of the fruit and, accordingly, increase growers' revenue.

PROJECT APPROACH

Component 1: Breeding and selection of clones with crisp berry texture

Two clones, one a cultivar (Sweetcrisp), the other an advanced selection (FL98-325), both of which originated as seedlings in the Florida breeding program, have a novel character, “crisp”, which makes their berries qualitatively different from most other highbush cultivars. The anatomical and physiological basis of this character are not understood, nor the manner of inheritance, but the ripe berries have an extremely firm texture that contributes to a long postharvest berry life. Previous crosses between these two clones have produced seedling populations in which a high percentage (between 20 and 50%) of the seedlings have the crisp berry texture. Because both parents are highly heterozygous, the bush and berry qualities of seedlings from this cross are highly variable, but in general, the plants from this cross tend to be vigorous, with a spreading growth habit and below-average number of flower buds, and the berries tend to be dark, somewhat small, either sweet or bland, and low in acid. Because the crisp texture has been popular in organoleptic tests at the University of Florida, and because it seems likely to contribute to the machine harvest qualities of the berries, we want to move the characteristic into a wide diversity of genetic stocks that can be used as parents. This will allow us, in the future, to produce crisp textured seedlings with improvement in the numerous other bush and berry qualities that are important for growers.

In February and March, 2009, twenty crosses were made, each of which had one crisp parent (Sweetcrisp or FL98-325) and one unrelated parent (cultivar or advanced selection) that had high horticultural value. The crosses were made using potted plants, which were chilled and placed in a bee-proof greenhouse. One hundred flowers on each plant used as female were emasculated at or before anthesis, and pollen from the male parent was applied to the stigma by hand. When the berries ripened, the seeds were extracted and dried. These were planted in seedling trays in November 2009. One hundred seedlings from each were transplanted to a test field nursery during 2010 where the seedlings fruited and were evaluated for the first time in April and May 2011. Seedlings with desirable characteristics for firmness and mechanical harvest will be available as parents for future breeding, and will serve as the conduits through which the crisp characteristic will be spread widely throughout the Florida breeding stocks.

Sensory Evaluation of Blueberry Firmness

Prior to fruit evaluation of this large group of seedlings, we have attempted to better understand the anatomical differences leading to a crisp fruit texture, as well as develop a common set of descriptors that align sensory evaluation of fruit texture with instrumental measures that could be used for quantitative measurements during breeding selection. Sensory panel evaluation of crisp and firm-texture fruit was conducted in 2010 and 2011, in cooperation with the USDA-ARS research group in Winter Haven, FL. A trained panel was given fruit from cultivars and selections with varying degrees of firmness and/or crispness and asked to evaluate the fruit based on five texture descriptors: flesh firmness, flesh mealiness, overall juiciness, skin toughness, and bursting energy. In 2011, descriptors for grittiness and flavor were added. In both years, evaluators were able to clearly distinguish cultivars and selections ranked during breeding evaluations as crisp fruit. These genotypes clustered with higher positive values for flesh firmness, skin toughness, and bursting energy. Notably, most of the cultivars previously released from UF scored poorly when compared to the firm fruit texture exhibited by the advanced breeding selections, many even being rated as a mealy and undesirable texture (Figure 1).

commercial packing line the next morning. After the harvester passed over a block, all dropped berries beneath the tagged plot bushes were collected for later classification; ripe berries left on these bushes were hand-picked and placed directly into clamshell containers. The same day of harvest, ground dropped and the hand-harvested fruit were returned to the Postharvest Horticulture Laboratory in Gainesville, where the ground drops were sorted by color stage and weighed. These and the hand-picked, ripe berries were stored at 1 °C (34 °F).

Tables 1 – 8 compare the percentages of marketable, immature, and soft berries collected at the packing line from hand and mechanically harvested southern highbush blueberry plants. Packout for all three cultivars averaged together was 94% marketable fruit for hand harvested plants versus 81% marketable fruit for mechanically harvested plants (Table 1). The lower percentage of marketable berries from the mechanically harvested plants was due primarily to a greater percentage of immature (red and green) berries removed at the packing line from mechanically versus hand harvested fruit. A greater percentage of soft berries was removed by mechanical versus hand harvesting but the difference was small by comparison to differences in immature fruit harvested.

When each cultivar was evaluated individually, immature fruit picked by the mechanical harvester remained a major factor that reduced the picking efficiency of mechanically harvested blueberry plants (Tables 2 – 8). Although this study was not designed to make direct comparisons between cultivars, some observations are noted. ‘Sweetcrisp’ had the greatest (21%) and Meadowlark had the lowest (12%) percentage of immature fruit from mechanical harvesting. For ‘Meadowlark’ and ‘Farthing’, the percentage of immature berries harvested mechanically noticeably declined from the first to third harvest date (Tables 6 and 8). However, for ‘Sweetcrisp’ the percentage of immature fruit was similar (about 20%) at all harvest dates (Table 4). When the percentage of soft fruit was averaged across the three harvest dates, there was no difference due to harvest method for ‘Sweetcrisp’ but there were more soft fruit when plants of ‘Meadowlark’ and ‘Farthing’ were mechanically harvested.

Fruit detachment force (FDF) was determined at two harvests, on full-sized green, red, and blue fruit for the three cultivars. Individual fruit were detached (20/color stage) using a handheld, digital force gauge fitted with a dual wire, curved probe. For each reading, the stem adjacent to the pedicel was secured with one hand and the probe was inserted on either side of the fruit pedicel to contact the stem-end of the fruit. The gauge was then pulled out with uniform motion and maximum FDF was recorded upon fruit detachment. FDF for all measurements ranged from 1 to 3 N (0.23 to 0.68 lb-force) (Figure 3). There were no differences in FDF when harvest maturity is compared between cultivars or for harvest time. However, for Harvest 1, ‘Meadowlark’ and ‘Farthing’ fruit at blue stage were more easily removed from the bush than those at green stage. This shows promise that, at least for early-season harvest, green fruit would be less likely to be detached with a properly adjusted harvester.

The major inefficiencies for mechanical harvesting were berries dropped on the ground and immature (green and red) berries picked by the mechanical harvester. When averaged across cultivars and harvest dates, packout for hand harvesting was about 94% vs. about 81% for machine harvested berries. The primary reduction in percent packout for the mechanically harvested berries was from immature berries harvested. There appear to be differences among cultivars in fruit detachment force. Overall, Sweetcrisp had lower detachment force than the other two cultivars tested. Meadowlark and Farthing showed differences in detachment force based on berry maturity at the earliest harvest date. However, these differences are often small, and were non-significant later in the season.

Table 1. Overall seasonal packout for ‘Sweetcrisp’, ‘Meadowlark’ and ‘Farthing’, 2010.

Harvest Method	Marketable	Immature	Soft
Hand	93.9	4.8	1.3
Machine	80.7	16.6	2.7
Significance	0.0001	0.0001	0.0008

Means are expressed as percent (by weight) of total graded fruit.

Table 2. Overall seasonal packout for 'Sweetcrisp', 'Meadowlark' and 'Farthing' by harvest date, 2010.

Method	Harvest 1			Harvest 2			Harvest 3		
	Marketable	Immature	Soft	Marketable	Immature	Soft	Marketable	Immature	Soft
Hand	96.6	2.1	1.3	93.5	5.0	1.4	91.4	7.5	1.0
Machine	79.2	19.1	1.7	78.7	19.2	2.2	83.9	13.2	2.9
Significance	0.0041	0.0040	0.2230	0.0033	0.0060	0.3289	0.0404	0.1077	0.0608

Means are expressed as percent (by weight) of total graded fruit.

Table 3. 'Sweetcrisp' seasonal packout, 2010.

Harvest Method	Marketable	Immature	Soft
Hand	95.3	3.7	1.0
Machine	77.4	20.6	1.9
Significance	0.0030	0.0006	0.0682

Means are expressed as percent (by weight) of total graded fruit.

Table 4. 'Sweetcrisp' packout, 2010, by harvest date

Method	Harvest 1			Harvest 2			Harvest 3		
	Marketable	Immature	Soft	Marketable	Immature	Soft	Marketable	Immature	Soft
Hand	95.7	3.3	0.9	95.6	1.9	1.0	93.9	5.0	1.2
Machine	76.9	22.0	1.1	79.9	18.7	1.4	76.5	20.6	2.9
Significance	0.0018	0.0015	0.64	0.0004	0.0017	0.046	0.0023	0.0018	0.126

e			6			7			2
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Means are expressed as percent (by weight) of total graded fruit.

Table 5. 'Meadowlark' seasonal packout, 2010

Harvest Method	Marketable	Immature	Soft
Hand	92.1	6.2	1.7
Machine	84.1	11.9	4.0
Significance	0.0058	0.0133	0.0005

Means are expressed as percent (by weight) of total graded fruit.

Table 6. 'Meadowlark' packout, 2010, by harvest date

Method	Harvest 1			Harvest 2			Harvest 3		
	Marketable	Immature	Soft	Marketable	Immature	Soft	Marketable	Immature	Soft
Hand	92.3	7.2	0.4	93.8	4.5	1.6	89.8	5.0	6.6
Machine	81.7	17.5	0.8	86.4	10.3	3.3	83.9	9.5	5.1
Significance	0.0058	0.0047	0.2336	0.0097	0.0187	0.0081	0.1020	0.1063	0.1536

Means are expressed as percent (by weight) of total graded fruit.

Table 7. 'Farthing' seasonal packout, 2010

Harvest Method	Marketable	Immature	Soft
Hand	94.3	4.5	1.2
Machine	80.5	17.3	2.2
Significance	0.0039	0.0051	0.0356

Means are expressed as percent (by weight) of total graded fruit.

Table 8. 'Farthing' packout, 2010, by harvest date.

	Harvest 1			Harvest 2			Harvest 3		
Method	Marketabl e	Immatur e	Soft	Marketabl e	Immatur e	Soft	Marketabl e	Immatur e	Soft
Hand	96.6	2.1	1.3	93.5	5.0	1.4	91.4	7.5	1.0
Machine	79.2	19.1	1.7	78.7	19.2	2.2	83.9	13.2	2.9
Significanc e	0.0041	0.0040	0.223 0	0.0033	0.0060	0.328 9	0.0404	0.1077	0.060 8

Means are expressed as percent (by weight) of total graded fruit.

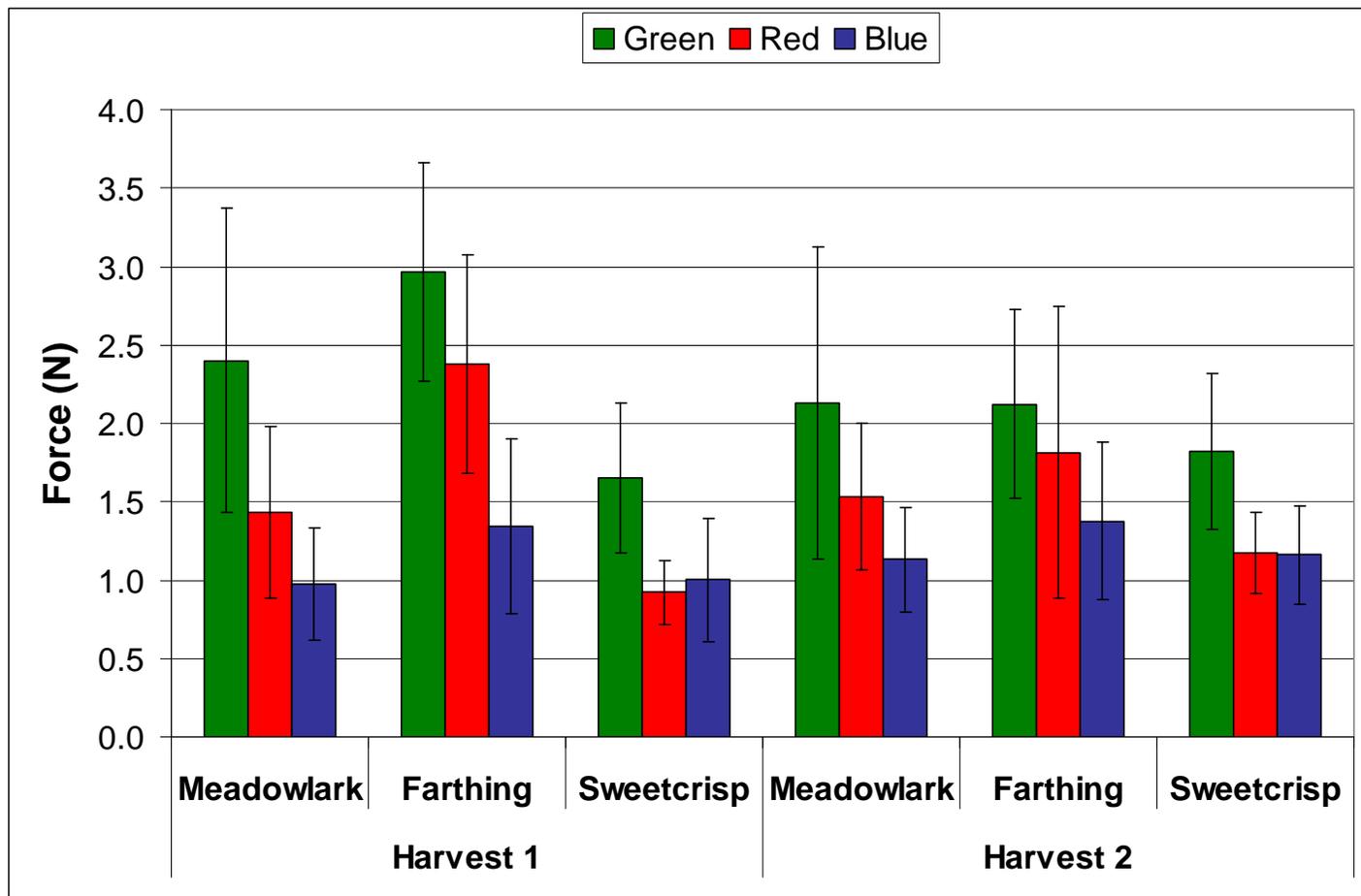


Figure 1. Detachment force of blueberry fruit based on fruit color for Harvests 1 and 2. Spring 2010.

Component 3: Postharvest evaluation of mechanically harvested blueberries

Subsamples from machine and hand-harvested fruit were evaluated the day of packing (the day following harvest) for amount of soft and/or mechanically injured berries and frozen at -30°C for future analysis. Four clamshells per cultivar were stored at 1°C for 14 days. Initial and final weights were measured for each clamshell per storage period to calculate percent moisture loss. After 7 and 14 days fruit were evaluated for total fruit quality including shrinkage, firmness, mold, and general

appearance. After 14 d storage the fruit were frozen at -30°C for future analysis (soluble solids content (°Brix), acidity, pH).

Following 7 days of storage, weight loss for fruit from all treatments ranged from 1.56% to 3.15%, and it roughly doubled after 14 days storage (Table 9). 'Meadowlark' was generally more susceptible to weight loss during storage than either 'Farthing' or 'Sweetcrisp', irrespective of harvest method. The hand harvested berries lost slightly less weight than mechanically harvested berries.

'Sweetcrisp' was generally the highest rated cultivar for all appearance categories (Table 10). 'Meadowlark' was consistently rated lowest for overall appearance, which was due to higher shrivel. The effect of harvest method became apparent during storage when visual quality of the fruit was determined. Mechanically harvested fruit were much softer than hand harvested fruit after 7 and 14 days of storage. These fruit were also rated slightly lower in visual appearance after 14 days storage, and tended to show more shrivel than hand harvested fruit, particularly for Harvests 1 and 2. Blueberries from the late-season harvest (3) tended to be softer than those from the previous harvests.

Blueberry flavor (Table 11) was estimated first by determination of soluble solids content (SSC, in °Brix) and total titratable acidity (%), then by calculation of the sugar/acid ratio. 'Sweetcrisp' had the highest initial sugar content and acidity of the three cultivars, followed by 'Farthing' then 'Meadowlark'. Although sugar content increased slightly for 'Meadowlark' for mid- or late-season harvests, it did not change for the two other cultivars during the season. Fruit acidity at Harvest 3 was lower than that for Harvests 1 and 2 for all three cultivars. There was essentially no effect of harvest method on sugar content or acidity for any of these cultivars.

The main differences in the sugar/acid ratio occurred at Harvests 1 and 2, in which 'Meadowlark' and 'Farthing' ratios were higher than that for 'Sweetcrisp'. This was primarily due to lower acidity for the former cultivars. Only mechanically harvested 'Farthing' and 'Sweetcrisp' fruit from Harvest 1 had lower ratios than hand harvested.

Blueberry quality parameters measured in these tests revealed that 'Sweetcrisp' and 'Farthing' had the best overall quality of the three mechanically harvested cultivars. These cultivars maintained the highest quality during 14 days of storage by retaining moisture fairly well; this reduced the incidence of shrivel. The greatest challenge to mechanical harvest of blueberry is the increase in the number of soft fruit during storage. During storage hand-harvested fruit remained firmer than mechanically harvested fruit for all cultivars and harvest times, and they softened little from 7 to 14 days, whereas mechanically harvested fruit softened significantly during this period.

Table 9. Percent weight loss of blueberry fruit mechanically or hand harvested after 7 and 14 d of storage at 1° C for Harvests 1, 2 and 3. Spring 2010.

Weight Loss (%)

Harvest 1

Cultivar	Mechanical		Hand	
	7 day	14 day	7 day	14 day
Meadowlark	2.29 a ^z	4.47 a	1.93 a	3.94 a
Farthing	1.86 b	3.81 b	1.56 b	3.01 c
Sweetcrisp	2.03 ab	3.83 b	1.77 a	3.31 b

Harvest 2

Cultivar	Mechanical		Hand	
	7 day	14 day	7 day	14 day
Meadowlark	3.15 a	5.47 a	2.22 a	4.57 a
Farthing	2.14 b	4.38 b	1.90 b	3.84 b
Sweetcrisp	2.11 b	4.21 b	1.85 b	3.89 b

Harvest 3

Cultivar	Mechanical		Hand	
	7 day	14 day	7 day	14 day
Meadowlark	2.79 a	5.01 a	2.52 a	4.87 a
Farthing	2.25 b	4.67 ab	1.95 b	4.32 ab
Sweetcrisp	2.10 b	4.08 b	1.95 b	3.82 b

^zMeans (n=4) followed by the same letter within a column for each harvest

method are not significantly different according to Duncan's Multiple Range

Test (P<0.05).

Table 10. Visual quality and firmness of blueberry fruit hand or mechanically harvested then stored for 14 d at 1°C. Spring 2010.

Harvest 1

Cultivar	Hand Harvested and Stored						Mechanically Harvested					
	7 days			14 days			7 days					
	Appearance	Soft %	Shrivel %	Appearance	Soft %	Shrivel %	Appearance	Soft %	Shrivel %	Appearance	Soft %	Shrivel %
Meadowlark	4.0	15.0	30.0	2.0	10.0	90.0	4.0	25.0	37.5			
Farthing	4.0	10.0	17.5	3.0	30.0	27.5	4.0	25.0	5.0			
Sweetcrisp	4.0	10.0	10.0	2.9	15.0	50.0	4.0	42.5	15.0			

Harvest 2

Meadowlark	2.6	20.0	55.0	3.0	5.0	72.5	2.0	37.5	72.5			
Farthing	3.5	10.0	20.0	2.6	20.0	20.0	3.0	47.5	37.5			
Sweetcrisp	4.0	0.0	20.0	3.5	7.5	22.5	3.0	50.0	42.5			

Harvest 3

Meadowlark	3.6	35.0	32.5	2.4	27.5	100.0	3.5	37.5	37.5			
Farthing	4.0	12.5	7.5	2.5	12.5	92.5	4.0	10.0	5.0			
Sweetcrisp	4.0	7.5	17.5	2.3	30.0	77.5	4.0	22.5	2.5			

Table 11. Fruit quality (soluble solids content (SSC, °Brix), total titratable acidity (TTA), and Brix/TTA ratio at harvest and after 14 d storage at 1°C for Harvests 1, 2, and 3. Spring 2010.

Harvest 1

Cultivar	Initial			Mechanical (14 d)			Hand (14 d)		
	SSC	TTA (%)	SSC/TTA	SSC	TTA %	SSC/TTA	SSC	TTA %	SSC/TTA
Meadowlark	7.73	0.47	16.55 a B ^y	7.75	0.32	24.48 a AB	8.20	0.42	19.72 b A
Farthing	10.83	0.66	16.31 a C	10.75	0.51	20.88 a B	11.30	0.44	25.70 a A
Sweetcrisp	13.53	1.01	13.39 b B	13.60	0.99	13.71 b B	13.75	0.82	16.86 c A

Harvest 2

Cultivar	Initial			Mechanical (14 d)			Hand (14 d)		
	SSC	TTA %	SSC/TTA	SSC	TTA %	SSC/TTA	SSC	TTA %	SSC/TTA
Meadowlark	8.48	0.48	17.50 ab A	8.25	0.44	18.64 a A	8.73	0.38	23.18 a A
Farthing	10.50	0.75	14.04 b A	10.78	0.72	14.92 a A	10.63	0.72	14.67 b A
Sweetcrisp	14.08	0.78	18.11 a A	14.25	0.69	20.63 a A	14.23	0.68	21.06 a A

Harvest 3

Cultivar	Initial			Mechanical (14 d)			Hand (14 d)		
	SSC	TTA %	SSC/TTA	SSC	TTA %	SSC/TTA	SSC	TTA %	SSC/TTA
Meadowlark	9.13	0.29	30.97 a A	8.13	0.31	26.21 a A	8.90	0.30	29.67 a A
Farthing	10.80	0.47	23.10 b A	11.45	0.46	24.69 a A	11.55	0.45	25.62 a A
Sweetcrisp	14.20	0.69	20.58 b A	14.90	0.64	23.37 a A	14.78	0.65	22.90 a A

^yMeans (n=4) followed by the same lower case letter within a column or upper case letter within the same row are not significantly

different according to Duncan's Multiple Range Test (P<0.05).

GOALS AND OUTCOMES ACHIEVED

Component 1: Breeding and selection of clones with crisp berry texture

Crosses were made using crisp-fruited parents with other advanced selections to broaden the genetic base for the crisp-fruited phenotype. Seedlings were grown in a high-density nursery and evaluated during their first fruiting year in 2011. Seedling with promising characteristics will be evaluated further and used as parents for development of additional crisp-fruited blueberry clones. Due to their crisp fruit characteristic, future cultivars selected from populations generated from these crosses may be well suited for mechanical harvesting for the fresh market.

Progress has been made in associating sensory evaluations of fruit textural characteristics with quantitative measurements from various laboratory instruments thus simplifying the selection process for the crisp-fruit characteristic when screening large populations of seedlings.

While development of blueberry cultivars that are suited for mechanical harvest for fresh markets is a long-term process (often 15 or more years from the time the initial cross is made until a cultivar is named and released), significant progress toward development of firm-fruited cultivars with a broader genetic base for mechanical harvest has been made as summarized above and described in more detail under “Project Approach – Component 1”.

Components 2 and 3: Evaluation of southern highbush cultivars for mechanical harvesting and postharvest evaluation of mechanically harvested berries

Existing blueberry cultivars with potential for mechanical harvest for fresh market were evaluated. Major points of inefficiency in mechanical harvest of current cultivars were identified. Unintentional harvest of immature berries represented a major source of yield loss. Additionally, fruit softening during storage was a major cause of unmarketable berries. Differences in fruit detachment force (FDF) were noted among the cultivars evaluated thus illustrating the importance of this characteristic for efficient mechanical harvesting. Cultivars that had lower FDF for blue fruit than for red or green fruit tended to have less yield reduction due to unintentional harvest of immature fruit. Differential FDF between mature and immature fruit was identified as an important characteristic for cultivars that are suited for mechanical harvesting.

The high incidences of moisture loss, shrivel, and fruit softening of mechanically harvested berries during storage illustrates the importance of developing or identifying firm-fruited cultivars with postharvest characteristics suitable for mechanical harvesting. Berry firmness and epidermal thickness appear to be characteristics of primary importance.

Farthing, Meadowlark and Sweetcrisp were identified as cultivars with limited potential for mechanical harvest for fresh markets. Evaluation of these and other advanced selections for mechanical harvest meets the original goals of this component.

Dissemination

An article on the mechanical harvesting grant results was published in the winter 2009, Blueberry News newsletter – 500 copies were printed, the circulation is 350 to 400. The remainder are made available to growers at blueberry grower meetings and through the Florida Blueberry Growers’ Association website, where it remains available. Additionally, the research was featured in *Florida Grower Magazine*, volume 104, issue 10.

Talks were given on the research at the following statewide and regional blueberry meetings:

- Fall Blueberry Short Course – October 13, 2009 – attendance approx. 300 – 350.

- Spring Blueberry Meeting - March 3, 2011 – attendance approx. 400.
- Southeast Regional Fruit and Vegetable Conference – January 8, 2010 – attend. approx. 150.

BENEFICIARIES

Accomplishments in Component 1 will primarily benefit plant breeders of blueberry and possibly other small fruits as they develop and select for cultivars suited for mechanical harvest for fresh fruit markets.

Accomplishments in Components 2 and 3 will benefit growers who are interested in mechanically harvesting existing blueberry fields, growers who are planting new blueberry farms with mechanical harvesting in mind, and researchers (including plant breeders) who are conducting studies to improve efficiency of mechanical harvesting operations.

The relative performance of the tested cultivars gives growers a general idea of what to expect in terms of harvest efficiency and postharvest storage quality with existing cultivars. Cultivar characteristics such as fruit detachment force and berry firmness will help provide direction to plant breeders and others searching for suitable cultivars for mechanical harvesting of blueberries for fresh markets.

LESSONS LEARNED

Blueberry plants must be properly pruned and trained from a young age to develop a plant architecture that minimizes loss to fruit dropped by the harvester. This may be a problem if growers transition an existing field from hand harvesting to machine harvesting.

Many cultivars that might otherwise be suited for mechanical harvesting do not exhibit large differences in fruit detachment for between immature and mature berries. This complicates efficient machine harvesting with the unintentional harvest of immature berries.

The postharvest shelf life of mechanically harvested blueberries is much shorter than hand-harvested berries due to rapid softening and moisture loss during storage. This may pose challenges for marketing mechanically harvested fruit on the fresh market.

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Project (3) Florida Sweet Corn

FDACS Grant Contract #014686

Florida Sweet Corn Exchange. - \$100,318.56

End Date: 9/30/2010

PROJECT TITLE

Buy Local Marketing/Promotion-Florida Sweet Corn Exchange

PROJECT SUMMARY

The Florida Sweet Corn Exchange conducted a statewide promotional campaign to focus on Florida producers and to reinforce the message for Floridians to buy Florida Sweet Corn. The program theme was “Our Family to Yours” factors.

The program included the images and voices of Florida farmers to leverage a consumer desire to connect with where their food comes from, and to remind consumers, retailers, and the media that Florida is the nation’s largest grower of fresh sweet corn. This led to greater awareness, larger store displays and increased sales of Florida Supersweet corn.

IMPACT

With rising fuel costs and increased interest among consumers to buy more local food, it was the ideal time to increase promotional activity in Florida. Many Floridians were unaware that they lived in the number one state for growing fresh sweet corn. This program helped them connect with growers and neighbors to support state agriculture and eat more vegetables.

PROJECT APPROACH

An integrated program was executed that included the production and airing of new radio ads featuring FSCE members, working with Florida grocery retailers to stimulate sales of FL corn, and outreach to print media to build awareness of the local spring corn season and the Sweet Corn Fiesta.

The program generated 32,777,800 impressions through radio advertising and over 20 million more through print and online media placements. Additionally, supported retail programs showed a lift in sales including a 20% increase in sales over 2 weeks at Publix, Florida’s largest grocery retailer.

Project partners included Burns Media, which helped produce the new radio ads, Direct Results Media, a media buying firm, MidState Printing and ACLS, our fulfillment house, and CRT/tanaka and its food & beverage division, Lewis & Neale.

Development of New Radio Ads

Two radio ads were produced to support the messaging of the Buy Florida program. The ads featured two Florida growers, John Scott Hundley and Tommy Holt, Jr., and spoke to the multiple generations their families have grown fruits and vegetables in Florida. Digital audio files of the ads were provided to retailers for in-store use. Updates to the ads were made for the 2011 campaign, including recording new voice overs at the end to drive traffic to the website and accommodate new capabilities for an online ad spend that the FSCE funded separately.

Develop & Print New POS

New price cards were designed, printed and distributed to retail partners featuring Florida growers and families. "From Our Family To Yours" was created to help consumers identify with the families behind their food and help make a connection from the farm to the table. In addition to Florida grocers, chains receiving this new POS include Tops Friendly Markets, Wakefern Food Corporation, SuperValu, Roundy's, Dahl's, King Kullen, King's Supermarkets and Four Seasons Produce. Additionally, reprints were ordered of the price cards and other collateral including recipe brochures and balloons that retailers utilize in-store to draw attention to Florida sweet corn and promote sales.

Florida Retail Visits

A merchandising representative was contracted to meet with produce buyers and executives at Florida chains. She visited Publix, Winn Dixie and Sweetbay to arrange in-store promotions for Florida Supersweet Corn. During the visits, crop projections and promotional plans were discussed, and resources offered for chains to buy and sell more Florida sweet corn.

Florida Retail Promotions

Promotions were set up with Publix and Winn Dixie in May 2010 to feature Florida corn in store ads and at the point of sale. Publix ran a series of ads, and sampled a Mexican-flavored topping for grilled corn as part of its Apron's program. The ad also ran in the store circular. Winn Dixie featured Florida farmer Joe Thompson in a series of print ads, and utilized the radio ads produced in year-one on its in-store radio. In-store promotions are an effective way to move large amounts of volume, and in the week of May 6 alone, Publix purchased 78,088 cases of Florida sweet corn. It was on ad that week 8 ears for \$2.

Florida Radio Ad Buy

The radio ads produced for this grant program featuring Florida growers aired in the following markets:

- Gainesville
- Jacksonville
- Miami
- Orlando
- Tampa
- Tallahassee
- West Palm Beach

A total of 1011 30-second spots aired achieving gross impressions of 32,777,800. In addition, stations in Tampa and Tallahassee delivered additional live on-air promotions for listeners.

Print Media Outreach

Releases and one-on-one pitches were executed to generate coverage for the crop and season, and to provide recipe and usage ideas for Floridians. One release featured two Florida chefs, Michelle Bernstein of Miami and Chris Ponte of Tampa/St. Petersburg. Print and online coverage was achieved at major Florida

publications including the Miami Herald, Orlando Sentinel, Tampa Tribune, Sun Sentinel and Palm Beach Post, as well as publications such as The Villages magazine.

Florida TV Placements

A spokesperson was hired who delivered local television appearances in Tampa and Miami, as well as an appearance on Daytime, a Tampa-based show that is broadcast nationally on over 100 stations.

Sweet Corn Fiesta Support

L&N has helped to promote the annual Sweet Corn Fiesta in Palm Beach County. This has included alerts to local media and usage of social media to highlight competition events and activities. Coordination with the sponsors of the Sweet Corn Fiesta and organizers of the corn eating competition helped in promoting the event to the local media. B-roll footage from a previous Fiesta was placed and broadcasted on a local PBS station promoting events in the area in lead up to the 2009 Fiesta, and local television appearances by professional eaters competing in the competition also helped raise awareness of the event.

GOALS AND OUTCOMES ACHIEVED

The goals stated in the proposal were:

- To increase sales of Supersweet corn in the state of Florida
- Build awareness of Florida-grown Supersweet corn among consumers, retailers and media
- Strengthen connection between Florida consumers and Florida farmers

Increase Sales: We are unable to obtain state-wide sales data for the season, and any time you are dealing with fresh produce, there are influences outside of the marketplace that heavily impact price and volume. When we look at the 20% lift at Publix, Florida's largest retailer, and combine it with reports from Winn Dixie that the promotion was "incredibly successful" we feel confident in reporting that this goal was met.

Build Awareness: Promotional activity was up in the state of Florida over previous years. Two of the largest retailers, Publix and Winn Dixie, ran strong promotions that included store ads, cooking demos, in-store radio and signage. Both saw increases in sales of Florida sweet corn as a result. These kinds of activities not only engage retail partners, but also raise awareness among consumers, as evidenced by the increased sales. Additionally, there was greater media coverage in the state of Florida, raising awareness of not only the writers, but also their readers. Finally, with over 32 million impressions through radio advertising in Florida, we feel the grant helped FSCE to achieve that goal. Awareness studies were not funded by the grant, and would be the most reliable measure.

Strengthen Relationships: All parts of the program helped to support this goal, but there were three main tactics that really showed success. First, the 32 million radio impressions garnered were people that heard from farmers growing sweet corn in Florida for generations. The Winn Dixie in-store radio spot also included an actual grower speaking directly with customers. Second, the new POS price card designed, printed and distributed to stores featured 3 families showing the present and future of Florida's agriculture industry. The third highly impactful activity was support of the Sweet Corn Fiesta. The event had never received more

attention or attendance than in recent years, including a visit from Adam Putnam (then a U.S. congressional representative running for state Agriculture Commissioner) and participation in the corn husking contest.

BENEFICIARIES

The main beneficiaries are the growers and shippers that make up the Florida Sweet Corn Exchange, including the thousands of people they employ and the counties in which they reside. Additionally, Florida grocery companies including Publix, Winn-Dixie and Sweet Bay, benefited from promotional support and increased sales in their produce departments.

LESSONS LEARNED

The timing of our message was able to leverage current consumer trends and help establish a stronger connection between Floridians and the state's agriculture, particularly sweet corn. Many residents in the state do not realize the size of the state's sweet corn industry, and particularly transplants from the north have a misconception on the season.

As the newspaper industry changes, writers at larger newspapers must often consider an audience beyond their city with the prevalence of wire services to pick up the slack for staff cutbacks. A story from the Miami Herald may end up in a few hundred newspapers, so seasonality and outdated perceptions can still be a roadblock. We would have liked to see even more support from some of the Florida newspapers.

In future proposals, we plan to include a budget for stronger monitoring and measurement of print and online media, as well as social media conversations to better gauge the impact of these programs.

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Report submitted by Lewis & Neale (L&N) on behalf of the Florida Sweet Corn Exchange (FSCE)

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Project (4) Florida Vine Improvement and Distribution Phase II

FDACS Grant Contract #014690

Florida Agricultural and Mechanical University, Center for Viticulture and Small Fruit Research - \$51,250.00

End Date: 9/30/2011

PROJECT TITLE

Florida Vine Improvement and Distribution, Phase II

PROJECT SUMMARY

The Florida Vine Improvement and Distribution Project II located at the Center for Viticulture and Small Fruit Project and administered in partnership with the Division of Plant Industry, Florida Department of Agriculture and Consumer Services will expand the scope of the original vine improvement and distribution project. This project will upgrade the foundation nursery to include additional muscadine and bunch grape cultivars and produce certified disease free quality planting materials to Florida nurseries and grape growers who will use these planting materials as mother vines to establish their own nurseries to produce new vines for the industry.

Participating nurseries will be inspected periodically to ensure that they abide by established phytosanitary standards and that their vines are disease free.

The implementation of the Florida Vine Improvement and Distribution Project II is expected to have a significant impact in restricting the spread of latent diseases and enhancing vineyard productivity and economic competitiveness of the grape growing in Florida.

IMPACT

Florida and all southeastern grape growers enjoy a special niche in growing muscadine grapes and Florida hybrid bunch grapes. Increasing numbers of vineyards in the state are experiencing disease and pest problems that are affecting vine growth and productivity. The absence of certified clean planting material makes it extremely difficult to control and prevent the spread of vine diseases. The problem if allowed to continue will have serious consequences for Florida and the southeastern United States. Viticulture is still an underdeveloped agricultural enterprise in Florida. Jointly sponsored by FDACS and VAC Increased Acreage Program has placed serious effort to facilitate and speed up the growth and development of the Florida grape growing industry. Florida legislators during their spring 2010 session released "House Resolution 9131: Recognizing Florida's vineyards and wineries for their valuable contributions to Florida's rich history, culture and economy."

Our research effort to address the burning issue for the ready available quality planting stock and to secure the further development of Florida grape growing industry started in 2007 thanks to the financial support of the Viticulture Advisory Council (VAC) and FDACS 'Specialty Crop Block Grant.'

PROJECT APPROACH

Using our existing Best Management Practices (BMP) vineyard as the "Source Block" for selection of 1st generation super elite planting material. Research materials and data have been collected for continuation of the phyto-sanitary evaluation of these vines. The land clearance (phytosanitary requirement dictates the clean site, never planted before with grapes to be used) for the 'Foundation Vineyard' and the pre-planting site operations including soil sterilization were completed. The in vitro meristem's single origin planting stock was prepared and planted

this season. The mandatory fencing, trellises, irrigation on the site were completed. Thanks to the financial support of the USDA Specialty Crop Grant Program the developing of the Foundation Vineyard of disease free and superior quality planting stock for muscadine grapes, Florida hybrid varieties and rootstock was established. Our research is a seed grant effort to developed capacity for production of improved grape stock material in Florida and to secure Florida's position as the regional clean plant center for southeastern U.S.

Due to the lack of preliminary scientific data for the viruses in muscadine the mother plants from the source block of 14 varieties were initially tested for total of 21 viruses (18 by ELISA, 3 viruses by RT-PCR) *Agrobacterium vitis* and PD's by selective media, *Eutypa* by RT-PCR in the beginning and at the end of the growing season. Two of the muscadine varieties 'Magnolia' and 'Supreme' tested positive for Grape leafroll virus 1. This is the first report for the occurrence of economically important virus in commercial muscadine variety. Suspected vines were marked and are subject of additional evaluations.

The diagnostic work was done in house and from an accredited outside facility. In our case we have been cooperating with Cornell University as the diagnostic facility for grape. Disease elimination was utilized by isolation of meristem cultures from the single source at 0.3 to 0.5 mm size of the explants. The single source offspring's were retested at the end of the 1st year in the greenhouse after developing of the woody tissue. Again any suspected vine was marked and discarded.

There is an absolute lack of scientific data for the presence of economically important viruses in muscadine grapes. Our group is the first one to register the presence of leafroll virus (GLRaV -1 in "Supreme" and "Magnolia" muscadine varieties (Fig.1). Our viticulture research program is focused on plant genotype – environment interaction and quality improvement of American native grapes. As a research strategy we are positioning ourselves to integrate the emerging molecular information and tools with our capacity as gene transformation facility for grape and small fruits into practical applications such as using genomics sequences to improve American native grapes.

GOALS AND OUTCOMES ACHIEVED

Component 1: Establishment and Expansion of Foundation Vineyard

To expand the foundation vineyard at the Center for Viticulture and Small Fruit Research that will produce phytosanitary and superior quality planting materials of superior clones of muscadine and Florida hybrid bunch grape varieties.

The positively selected (summer of 2010, the initial Source Block) for healthy status and superior qualities 10 vines from 15 muscadine grape varieties and 5 new bunch grape varieties were examined and subjected to clonal selection for yield and growth performance during the 2011 growing season. Collection of research materials was done to complete the phytosanitary evaluation of these vines.

Activities completed for the 1st year:

- The site was identified and the layout of the extension block is in progress.
- The land clearance was completed and the site preparation is ongoing.
- The protocols for phytosanitary evaluation of the source block are under evaluation.
- Additional protocols for in vitro micropropagation of more cultivars were developed.

Activities Performed for the 2nd year:

- The protocols for phytosanitary evaluation of the extension block were completed.
- Additional 15 new varieties undergone disease elimination via in vitro meristem culture.
- The in vitro plantlets in 10 copies of each variety were adapted to non-sterile conditions under controlled environment growth chamber.
- Total of new 120 vines were prepared and planted in the extension block.

Component 2: Training Program

To create a pool of expertise in grape vine production by sharing new information and knowledge about principles of vegetative propagation, phytosanitary standards and disease management to nurseries, grape growers and the public who are interested in growing and propagating grapes through outreach and extension.

Activities Performed for the 1st year:

- Initiated preliminary discussions with participating nurseries
- Secured the logistic for the workshop training.

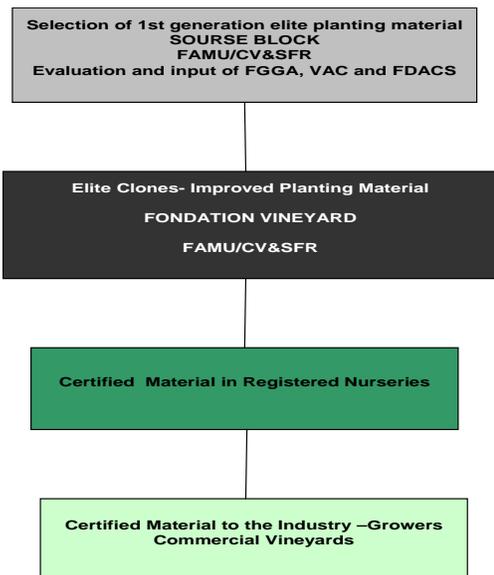
Activities Performed for the 2nd year:

- Site visit and on site assistance -vineyards with disease symptoms in Leon, Jefferson, Putnam and Orange County, FL and Experimental plots in Alabama.
- On site workshop and demonstration on disease control BMP during dormant pruning in Putnam county and at the FAMU /Center for Viticulture in cooperation with the UF/IFAS/ Extension Office in Quincy, FL.
- Dormant Pruning Workshop –February 2010, 2011.
- Clean Vine Propagation workshop training on May 25, 2011 and August 27, 2011.
- Educational brochures for the “Florida Vine Improvement and Distribution Project”
- Invited presentations: “Florida Vine Improvement and Distribution Project” at the National Clean Plant Network for Grape Meetings in Davis, CA.

Expected Measureable Outcomes

1. *Availability of certified true-to-type disease free planting materials for muscadine grapes and Florida hybrid bunch grapes from in-state and out-of- state nurseries.*

Our proposal was aimed at preventing the spread of grapevine diseases such as pierce’s disease (PD), Eutypa, crown gall, and leafroll viruses through regular testing and providing source of clean vines for growers and nurseries which they will use as mother plants to established source blocks for propagation . Our study served as a seed grant effort for further development of Vine Improvement Scheme and state accepted “Standard” for producing improved (certified) planting material. In this particular study we used the following scheme:



Certified, disease-free varieties now available in the foundation block at FAMU/CV&SFR include Tampa, Florilush, Black Spanish, Lenoir, Herbermont, Blanc du Bois, Stover, Cynthiana, Lake Emerald, Suwannee, Carlos, Conquistador, Magnolia, Fry, Supreme, Welder, Darlene, Noble, and Ison.

2. *Increase in grape acreage and wine production in the state.*

We have built capacity for clean vine distribution in the state. Our program was part of and in concert with the Florida Increased Acreage Program, administered by FDACS and the Viticulture Advisory Council. Florida has reported a 400% increase in muscadine grape production over the past decade. While we by no means claim credit for the whole of this increase, part of this increase was due to the work of the FIAP. We expect in the coming years to see our contribution of increased availability of certified, disease-free vines to increase growers' control over the composition of their wines, and by extension an improvement in quality and sales of the finished product. Our work is the first step towards minimizing economic losses by implementing clean planting stock and pest and disease "best management practices" for American native grapes.

We worked closely with the industry through vineyard site visits, workshops, field days, lectures and demonstrations at the growers meetings in Florida. We trained extension personnel and developed a grape community of practice for clean planting material for the extension program. The ability to detect pathogens and diagnose disease early and sensitively is the cornerstone for effective prevention strategies.

The primary objective of this seed grant effort was to enhance and strengthen research, teaching, and extension programs at FAMU in plant science by focusing on a comprehensive screening and diagnosis of grapevine diseases to ensure that our Certified Mother Block is maintained disease-free for propagation, and clean planting materials are distributed to growers for the sustainability of the wine grape industry in the state of Florida. Maintaining the sanitary status of certified clean plants in the state of Florida offers competitive advantage to nurseries in the southeast region in terms of enhanced reputation of the quality of planting materials and increased sales of planting materials to growers within and outside Florida, which will lead to increased production and maximized profits.

States with more than 500 acres of muscadine grape production include: Arkansas -747 acres , Florida -1,000

acres, Georgia -1,646 acres, Mississippi - 652 acres, North Carolina -3,185 acres and Texas -3,835 acres (USDA 2007). Muscadine grapes show great economic potential for wine, fresh market, juice and value-added products.

In regards to increasing production within the state of Florida, muscadine green cuttings were provided to Sirvent Vineyards, St. Jon's Vineyard, Bradley Farms and other individual small growers in Florida. On a wider scale, dormant cuttings and potted plants from Florida hybrid varieties were also produced for Sirvent Vineyards, Seven Ranch Vineyard in Texas and for extension experimental plots in Auburn University, Alabama.

3. Facilitate grape breeding and related research throughout the nation.

We have been working with the breeding programs at Florida A&M University and University of Florida to undertake phytosanitary evaluation and disease elimination and to include in the mother block the newly released muscadine varieties "Majesty" and "Southern Jewel". Between 20 and 30 participants attended each of our workshops in the Center for Viticulture and Small Fruit Research. Our research results were distributed to the 113 grower-members of the Florida Grape Growers Association. Additionally, results of this project were presented to the National Clean Plant Network in May 2010 in Davis, CA, and in July 2010 at Auburn University in Alabama.

Problems and delays:

There were not any significant delays and the activities were executed in a timely manner and according to the working plan of the project.

BENEFICIARIES

Our project has been helping the local grape and wine industry to grow and sustain itself, and has contributed to the development of national clean plant standards for muscadines and for Florida native hybrid varieties . By providing high quality clonally-propagated grapevines, regionally adapted muscadines, and plant-disease-tolerant American natives hybrids free of targeted, transmittable, diseases our project is addressing the USDA Priority "Pest Management": to minimize and prevent damage to the U.S. food supply caused by plant pest and diseases. By diversifying the entrepreneurship opportunities for sustainable rural economies in Florida and Southeastern United States and advancing the competitiveness and growth of the regional grape and wine industry the proposal is in alignment with the USDA Priority "Rural Community Support".

LESSONS LEARNED

Thanks to the success of the work under this project our Center for Viticulture was designated as a regional grape clean plant center to serve the unique PD's red zone (Pierces's disease limited) of the Viticulture South East.

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Fig. 1. *In vitro* regenerated vines adapted to non-sterile conditions under controlled environment growth chamber.



Fig.2. *In vitro* regenerated vines in the foundation block-Fall 2011



Fig. 3. Viticulture Propagation Workshop - May 2011



Fig .4. Viticulture Dormant Pruning Workshop – February 2010.

Project (5) Watermelon Promotional Campaign

FDACS Grant Contract #014690

Florida Agricultural and Mechanical University, Center for Viticulture and Small Fruit Research - \$51,250.00

End Date: 9/30/2011

PROJECT TITLE

Watermelon Promotional Campaign

PROJECT SUMMARY

The project's purpose is to inform the general public of the health benefits of eating watermelon, and to highlight the economic benefits of supporting local farm family agriculture. Watermelon crops in Florida generate \$ 152 million dollars worth of revenues each year for the state of Florida. Additionally, the by products of the crop (fertilizer sales, equipment sales, fuel, maintenance, ect), add considerably to the overall economic foundation for the state. In these difficult economic times, it is imperative that the public is aware of the statewide benefits from the production of Florida Watermelons'. Along with the knowledge of the health benefits that watermelons offer.

IMPACT

This project allowed us the opportunity to develop ads and videos that can be displayed in local and regional markets informing the public of all things that watermelons can offer both health wise and economic value. Our spokesperson the Florida Watermelon Queen did an outstanding job at informing the consumer of all the goodness of Florida Watermelons. With this additional budget she was able to increase the public's awareness of all that watermelons offer and thereby the revenues from the crop were increased, allowing a stronger economic foundation for the state of Florida.

PROJECT APPROACH

- New website designed
- Video footage from farm to consumers
- Appearances made by the FWA Queen
- Promotional banners printed
- Development of ads & video

GOALS AND OUTCOMES ACHIEVED

A new web site was been designed and completed. Members can join FWA on line; this feature has increased our membership so far by 12 members since the first of March. Also product available information and other links to Watermelon related industry were added to the web site and will be an on going informational tool.

Video footage was shot from farm to packing housing across the state of Florida and was inserted into our web page, Video was also done showing how to pick a ripe watermelon which is available to the general consumer. Ads featuring Florida Fresh Watermelons were also developed from this video footage and were seen through the state of Florida during peak season. A new Florida Watermelon Association logo was also developed. See our project at www.flfwa.com.

Thirteen schools were visited by the Florida Watermelon Queen and over 1800 hundred students were informed of the nutritional values of Florida Watermelons. A school lunch room conference was also attended where 1200 lunch room managers from across the state of Florida were also informed of the health benefits of watermelons and how to pick a ripe watermelon.

Thirty eight grocery stores were visited which included three stores in Canada, and three stores in Maryland. Thirty two of the stores were done in December and these stores reported the following increase in sales due to promotional activity. According to the local sourcing buyer for Wal-Mart, in the state of Florida, it was stated that 43% of the inventory that was received into their stores sold during FWA's promotional period during the first 13 days in December 2009. Wal-Mart also stated that sales numbers for 2008 were 32.61% sold during the in store promotion during the first 13 days in December 2008. This indicates a 10.39% increase of sales due to ongoing promotional activity. One store was also done on the Navy base in Virginia.

Two Florida welcome centers, one in Jennings & one in Jacksonville were visited and watermelon samples from local growers were handed out to visitors coming into Florida. This promotion allowed us to give samples to our winter visitors who maybe otherwise would not have purchased Florida watermelons without tasting this delicious fruit.

Four relay of life events were attended by the Florida Watermelon queen along with some staff of the FWA and the National Watermelon Queen. These promotions were very successful as they were attended by local families that suffered the loss of a loved one from cancer and are involved with the growing of local watermelons. With this promotion we were able to show these families the support and appreciation that the Florida Watermelon growers has for these families that work in this industry. This promotion alone over 3,000 lbs of watermelons were given as samples.

Two Ronald McDonald House events were attended by the Florida Watermelon Queen. The share – a –light event in Altamonte Springs and High heel hike for Autism, both of these events were very successful. Watermelon Queens from all states and the National Queen also attended making this promotion a highly visible event that brought a lot of attention to Florida watermelons.

Banners featuring Florida Watermelons were printed to be used at all promotions. These will be a great asset to be used over and over again showcasing Florida Watermelons.

BENEFICIARIES

Clearly the Florida Watermelon growers were the ones who benefited from these additional monies. Without these funds demands for Florida Watermelons would have not been increased as stated by the retailers. According to the National Watermelon Promotion Board Florida Watermelon sales saw an increase in sales of 9% from 2008 to 2009 season. We also feel the children in our public school systems have benefited from our promotions by bring to the attention of the School lunch managers the health benefits' of Florida fresh fruits & vegetables.

LESSONS LEARNED

The most important lesson the FWA feels we have learned is that to increase our sales and thereby our profits for our industry, advertising and consumer knowledge is the key to our survival as a profitability industry. We must continue to educate the public on the health and economical benefits of the Florida Watermelon.

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Project (6) Small Farms Conference

FDACS Grant Contract #014697

University of Florida Institute for Food and Agricultural Studies, in cooperation with Florida Agricultural and Mechanical University - \$25,000

End Date: 12/31/2009

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PROJECT SUMMARY

The first ever Florida Small Farms and Alternative Enterprises Conference was implemented August 1 and 2, 2009 at the Osceola Heritage Park, Kissimmee, Florida. The Conference was hosted by the two Florida Land Grant Universities, University of Florida and Florida A&M University. The planning process for the event spanned 18 months and incorporated the guidance of a Conference Stakeholder Advisory Committee. The overall planning committee structure included well over 100 individuals with representatives from throughout the agricultural industry. The Conference web site was hosted on the UF and FAMU Small Farms web site (<http://smallfarms.ifas.ufl.edu>). This site had received an average of 70,000 hits monthly from 2005 to 2009. However, during the months leading to the Conference, the number of hits was over 200,000 per month. The Conference surpassed initial expectations with 800 total attendees and an exhibition area with 80 participants. The overall educational program included 30 sessions. The funding from this grant supported the implementation of those tracks and sessions related to specialty crops. Those tracks specifically included: Business and Marketing, Horticulture, Alternative Enterprises, Policy and Regulation, Organic and Sustainable Farming, and Alternative Energy.

Background. The vast majority of Florida's nearly 44,000 farms are classified as small farms. Calculated on an area or on an economic basis, 80-90% of all Florida farms are small farms. Recent increased efforts to meet the educational needs of small farmers in Florida became visible through the work of the University of Florida/IFAS and Florida A&M University Small Farms Focus Team. Efforts have included the development of an extensive website specifically targeted at small farmer needs. The website (<http://smallfarms.ifas.ufl.edu>) receives over 70,000 hits monthly and includes a calendar of small farms events. A series of regional small farms conferences were initiated in 2006. At least a dozen regional conferences are held annually and in addition, many other county or local programs are being held now. These programs are being attended by a few thousand people annually.

As the success of the local and regional meetings, became very apparent, a common question has also emerged from the small farmers. That question is how can we get more information and get to the "next level"? Although the regional educational programs have been successful in satisfying many educational needs, all Florida small farmers are faced with similar challenges of (economics: land, gas, inputs) increasing regulatory pressures, challenges of marketing, etc. so that by coming together as a diverse group, solutions

can be identified. This brought us to the “fact finding” stage of starting a statewide small farms event for Florida.

Previous work/preliminary activities. To ensure the planning process reflected the expected beneficiaries, a diverse stakeholder committee was formed and a face-to-face meeting was arranged in a central part of the state. A 31-member stakeholder group met on August 20, 2007 at the Osceola County Extension Office. The group consisted of farmers, ranchers, research and extension faculty from UF and FAMU, leaders from community-based organizations, specialty crop distributors, and national non-profit organizations with a programmatic activity in food systems. An additional 15 stakeholders who were unable to attend the meeting provided input via telephone conversations and email prior to the meeting to Bob Hochmuth, Danielle Treadwell and Linda Landrum. The group reviewed the mission and vision of a state event, potential venues, time of year the event should take place, duration and cost of the event, and marketing strategies. The group decided that farmers should be the primary beneficiary. The group discussed several potential objectives of the event:

I. Increase awareness of issues unique to small farms by educating our legislators: An organization of a small farm coalition could help strengthen the farm bill since a united voice can have more influence on legislative issues, and suggested a small scale conference might be more effective initially. Legislators should be invited to attend and speak.

II. Increase awareness of Federal and State regulatory issues for small farmers: The country of origin labeling (COOL) is an important piece of legislation that will strongly influence how small farms operate. All small farmers should be aware and kept advised of current regulations, and be implementing the necessary record-keeping to satisfy Federal and State regulations and maintain consumer trust, especially regarding food safety issues. The massive restructuring of the organic industry was creating huge demands on small farms, and both financial and regulatory infrastructure would benefit farmers. The lack of slaughter facilities and meat processors for small ruminants was impeding the industry, despite the huge potential for growth.

III. Improve small farm financial planning and financial management: Training could be provided to strengthen business plans of small farms, and help small business plan for retirements and unexpected expenses. Some commented that farmers are excellent producers, but do not always know how to sell. Farm Credit is a member cooperative, and lending risk is shared among members. This model helps producers to identify risks to economic sustainability when they have the opportunity to review other farm models. Lack of liability insurance for small farmers is an impediment to success. The conference could help producers learn how to put their own cooperatives together so they can purchase liability insurance.

IV. Increase local foods market share in FL mass market retailers/restaurants: Introduce small farmers to collaborative models used by small farmers in other states to better meet the buying needs of mass market retailers like Publix, especially for organic products. Publix is expanding its Greenwise markets in the state (3 new ones opening), plus Whole Foods and the independent natural foods retailers. A strong marketing component and opportunity to prepare producers to develop good working relationships with chefs including have chefs discuss what they need in terms of product, would be beneficial.

V. Educate producers about equipment, alternative energy and other new technologies appropriate for small farms. Many wonderful farm implements and tractors were available in Europe but were difficult to purchase here. Would be great to have representation from these companies at the trade show.

VI. Increase awareness of sustainable development. Although only a few sustainable developments existed in FL, the event might provide opportunities for developers, city and regional planners and related stakeholders to explore opportunities for encouraging/preserving small farms, especially at urban/rural interfaces. In the months that followed the face to face meeting, monthly meetings were established among the various committees formed to execute various planning activities, and stakeholders were utilized for advice and input along the way. Stakeholders also received regular updates on the planning process via email.

PROJECT APPROACH

Activities. To achieve our learning objectives a complex of activities would be needed. The group selected the Osceola Heritage Park (OHP) in Kissimmee, FL as the conference site location because it has sufficient capacity for attendees, an air-conditioned livestock arena, capacity to serve hot lunches, and four breakout rooms. An additional 2 rooms were available in the neighboring Osceola County Extension office, and were an easy walk for attendees wanting to move from session to session in different buildings. The stakeholders, faculty, and administration supported the idea of hiring the University of Florida's Office of Conference and Institutes (OCI) to coordinate the event, and they proved to be an excellent partner, and ensured the event was executed very professionally. OCI offered registration services, contract negotiations with the OHP and area hotels, designing and printing the conference program, and their experience in managing the details was very helpful to the planning committee.

The planning committees were as follows: Executive, Core Stakeholder, Educational Program (consists of subcommittee- Livestock, Horticulture, Business and Marketing, Alternative Energy and Alternative Enterprises, Policy and Regulations, and Organic and Sustainable Farming), Exhibitor, Publicity, Local Arrangements, Food and Beverage, Registration, Labor Pool and Fundraising. All committees were very active successfully met planning goals. Except for the personnel at OCI, all committee members were volunteers.

GOALS AND OUTCOMES ACHIEVED

Almost 800 clients attended Florida's first ever Small Farms and Alternative Enterprises Conference in August of 2009 at the Osceola Heritage Park in Kissimmee, FL. To provide feedback to the planning committee, an evaluation survey was completed by 214 attendees at the end of the conference with about half reporting that they were existing farmers/ranchers. Interestingly, another 52 completing the survey were prospective farmers and when considering this and that 80 exhibitors were also present, it indicates this program was heavily supported by all levels of the small farms industry. A majority of respondents indicated that they were very confident that they would be able to apply the knowledge gained immediately and could now locate additional information, supplies and technology needed for their farm or organization. Networking seemed to be the biggest positive for the conference as an overwhelming majority rated this high in several questions. Helping small farmers understand challenges and identify opportunities was also successful as over 50% of respondents felt like they now understood what lay ahead for those in small scale production and marketing. Almost 100% felt like this statewide conference should be held at least every other year but would prefer a yearly event. Activities that respondents would do differently on their farms as a result of attending covered the waterfront from adopting a new enterprise such as hydroponic production, improve sustainability by better water and soil management, complying with regulations, become more active politically, embrace organic production, developing a business plan and better record keeping activities, get to know their local extension service and eat more locally grown food. There was a very long list of suggested programs for the next conference which indicates that the attendees are hungry for a lot more in-depth programming and were very vocal in wanting many of the classes offered twice as "they didn't want to miss anything."

The top five most valuable experiences indicated by participants were hearing from knowledgeable and passionate farmers rather than only those from academia, sampling nontraditional locally produced foods, being able to visit with vendors who are interested in small farms, attending the wide diversity and high quality of educational presentations and learning about possible new enterprises that could be added to their farm.

As with any conference, there were some suggested changes noted by respondents. The three least beneficial things about the conference were that there was too much time allotted for lunches, insufficient descriptions were provided for sessions which made it challenging for attendees to select their classes, and more in-depth advanced classes were preferred which fits with the high number of existing farmers/ranchers in attendance. Overall, the majority of respondents felt that the conference was very valuable and would likely be attending future conferences.

A second evaluation instrument was provided to the exhibitors. Although the exhibitor evaluation was not specifically supported by funds from this grant, it is important to mention the overall results because the exhibitor area is a very important component to the success of such a conference. Approximately two-thirds of the 80 exhibitors were commercial suppliers and one-third educational or non-profit in nature. Of those exhibiting 57% were highly satisfied and 31% were satisfied with the conference meeting their expectations. Nearly all exhibitors indicated they were able to see and meet the clientele they wanted. Over 90% of the exhibitors indicated they plan to exhibit again in 2010. This is a very positive indicator for the overall strength of the conference. The evaluation results have been shared with the 2010 Conference stakeholders and Committee Chairs and Members and will be used to improve future conferences in the most meaningful way possible.

As a result of this grant, specialty crop growers gained knowledge in the following areas:

- Supplying specialty crops to intermediate markets
- Producing and marketing specialty crops in hydroponic systems
- Using protected culture to extend the season
- Growing and marketing specialty cut flowers and foliage
- Expanding production of stone fruits and topical fruits
- Growing blueberry and strawberry
- Selecting organic inputs for organic specialty crop production
- Utilizing low volume irrigation for small acreage specialty crops
- Beekeeping as an alternative enterprise and for specialty crop pollination
- Strengthening local food systems
- The new farm bill's opportunities for small growers in Florida
- Producing high value vegetables and herbs
- Increasing cash flow and reducing risks
- How to conduct your own on-farm research
- Improving business and marketing skills for direct marketers

The FDACS Specialty Crop Block grant was instrumental to the success of the 2009 Small Farms Conference by providing financial support to specialty crop sessions, and supported the overall goals of the conference organizers. Committee leads and members spent a considerable amount of time reviewing details and ensuring major decisions were inclusive of our stakeholders, and we believe these two items in particular were very important to the success, and fostered a sense of community, ownership and broad-base support for the event.

BENEFICIARIES

A number of groups benefitted from the event through knowledge gain, relationship-building, awareness of partners in the small farms industry, and the recognition that the small farms industry was a very real industry. Although farmers were identified as the primary beneficiary, we also recognize that state agencies such as NRCS, industry partners, faculty not directly involved in small farms or extension, university administrators,

and a diversity of farmers including underserved, small farmers, new and beginning farmers, and heritage farmers.

LESSONS LEARNED

In summary, this FDACS Specialty Crops Block Grant undoubtedly was critical to the successful implementation of this first ever conference. The funding provided an opportunity for specialty crop small farmers to increase their knowledge in many important areas and to improve their long term success. In addition, the funding support helped in meeting the overall goals of the conference planners by bringing together farmers, allied industry representatives, researchers, educators, institutional members, policy-makers, commodity association, foundations, and others interested in strengthening the small farms community in Florida.

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