

## FLORIDA EXTENSION INITIATIVE 1:

INCREASING THE SUSTAINABILITY, PROFITABILITY, AND COMPETITIVENESS OF AGRICULTURAL AND HORTICULTURAL ENTERPRISES

### STATEWIDE EDUCATIONAL PROGRAMS IN SUSTAINABILITY OF PRODUCTION SYSTEMS AND ALTERNATIVES

*Group 2: Food Systems | Small Farms and Alternative Enterprises | Food Safety*

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#### SITUATION

Priority Working Group (PWG) 1.1.2 has three signature programs: *Food Systems*, *Small Farms and Alternative Enterprises*, and *Food Safety*. This PWG is referred to as “Food Systems” for short because it accurately encompasses the scope of program activities within Initiative 1 supporting the overarching goal of producing, preparing, and delivering fresh, sustainable, nutritious, affordable, and safe food to all of Florida’s citizens as well as beneficiaries beyond the state’s borders. The target clientele include farmers, ranchers, processors, aggregators, distributors, technical service providers, county- and state-level decision makers, and allied agency and industry representatives.

*Overview of Florida’s Food System and Consumers:* Within the state of Florida, food systems exist at four scales: community, intrastate, interstate, and international. At each scale there are production inputs; production of specialty crops, row crops, livestock, and seafood commodities; post-harvest handling; value-added processing; and distribution of commodities to wholesale, retail, and food service markets. End users include consumers (such as those who consume fresh market oranges or orange juice) or other industry segments (such as processors who produce orange juice concentrate). Florida has an estimated 19.8 million permanent residents (U.S. Census) and had an estimated 97 million visitors in 2014 (Visit Florida). At community and state scales, end users are socially and economically diverse. 3.5 million Florida residents were food insecure, meaning “they lacked access to enough food for an active, healthy life for all household members,” including 1.1 million children, figures that are similar to the national average.

*The Status of the Florida’s Food System:* Historically, the state’s food systems were designed to support the national and international scales by leveraging Florida’s seasonal advantage in the fresh produce market, and Florida’s commerce and distribution infrastructure is well-established for specialty crops, seafood, and livestock products that are exported nationally and internationally for sale or additional processing. However, value-added processing, aggregation, and distribution infrastructure is limited for production and consumption within the state. The infrastructure effectively supports the state’s *large farms* (those having \$1M or more in annual sales as defined by the USDA) that are responsible for the bulk of agricultural production in Florida and typically export commodities out of state. These large farms account for a mere 3% of the total farms in the state. Conversely, more than 90% of Florida’s 48,000 farms are *small farms*, farms reporting gross annual sales of \$250,000 or less according to the Florida Agricultural Statistics Service (2013), and these farms are not receiving the support they need. These small farms, which include most urban farms, generate most of their revenue by direct to consumer sales, which are beneficial to both farmers and consumers, but many of Florida’s citizens lack opportunities to purchase fresh, nutritious food directly from a farmer, and many more lack access from any retail outlet in their communities. Food deserts force citizens to make food choices that do not meet their nutritional needs. Extension programming on market access and distribution strategies will facilitate success of small farms while contributing to Florida’s food needs to the fullest extent possible by providing fresh, nutritious food to food insecure populations in Florida.

*Small Farms and Alternative Enterprises in Florida:* Throughout the value chain, profit margins are limited, and three-quarters of small-farmers have such low profit margins that they are considered at risk by the USDA Economic Research Service (Hoppe). The majority of Florida farmers implement various strategies to reduce financial risk. These strategies include: utilizing innovative economic models, such as Community Supported Agriculture, and varying outlets, such as farm stands, restaurants, farmers markets; producing a variety of commodities and value-added products allowed by Florida's Cottage Food law; offering agritourism opportunities; participating in farm to school networks; hosting community fundraisers; and offering courses and internships. Consumer demand for freshness, nutrition, locally-sourced products, and product diversity (unique cultivars, value-based labeling, and value-added products) has required innovation and diversification of products and processes within the food system. Florida small farm operators are diverse ethnically. In 2014, Miami-Dade County had more Hispanic farmers than any other County in the country. Nationally and in Florida, all categories of minority-operated farms increased from 2007 to 2012. However, minority-operated farms have less farm income. In 2014, 2,696 Florida farmers (~18% of all FL farms) reported they were American Indian, Asian, Black or African American or more than one race. Nationally, female farmers make up 14% of principal operators while in Florida, 36% of principal operators are women. Successful small farm operators diversify into new processes, products, and/or practices, as market opportunities allow, but many small farm operators fail because they are not prepared for the realities of managing a business, lack product diversification, or are unable to locate an appropriate market. Barriers to diversification among value chain sectors include: lack of knowledge of new and improved varieties and production system technologies (alternative enterprises); limited access to value-added processing and cold-chain storage and distribution opportunities; lack of affordability of food system improvements; and, except for citrus juice, limited commercial food processing industries. At the community scale, significant obstacles exist to accessing indirect markets. Support is needed to help clientele develop new (or innovative) and diversified food enterprises that meet existing and emerging market demands and that are consistent with IFAS' commitment to resource conservation.

*Food Safety:* Food system participants from producers to processors are obligated to reduce risk of enteropathogens to ensure a trustworthy food supply. The Centers for Disease Control and Prevention (CDC) estimates 48 million cases of foodborne illness, 128,000 hospitalizations, and 3,000 deaths occur each year from foodborne microorganisms (<http://www.cdc.gov/foodsafety/cdc-and-food-safety.html>). The commodities that have led to the most outbreak-related illnesses were fruits and nuts (24%), vine and leafy vegetables (23%) and beef (13%). In response to these and other food safety risks, the federal government has enacted the 2011 Food Safety Modernization Act (FSMA), the most drastic change in food legislation since the 1936 Food, Drug, and Cosmetic Act. Beyond mere regulatory compliance, there is an expectation of food safety throughout the food system to significantly exceed standards defined by FSMA. The rule is expected to be fully implemented in 2016. An estimated 4,000 operations in Florida will have to comply fully with the relevant FSMA rules within two to four years (depending on size). Although many small farm operations are anticipated to be exempt from third party audits as required by FSMA, buyer-driven food safety demands are increasing pressure on all farmers to have food safety plans that exceed regulatory requirements. At all points in the Florida food system, support is needed to help clientele develop a strong food safety culture and an understanding of the new regulatory framework and overall market demands that relate to their products.

*How the Food Systems PWG Will Help:* Most importantly, IFAS can support farmers and the state's food systems by providing training and support for innovation and diversification of safe, nutritious and affordable products and processes. To enhance Florida's food system, leadership from the UF-IFAS Food Systems PWG is needed to support food system participants holistically by facilitating networking among partners; providing research-based recommendations to improve efficiency, quality and sustainability of system processes and products; increasing knowledge and awareness of food system activities among urban and environmental interests; guiding new food system business initiatives; as well as training new leaders to foster innovation from the private sector. Potential growth sectors within the state include

commerce networks of farm/processor to institution (farm to school, farm to hospital) and restaurant/tourism venues, value-added processing of agricultural commodities, and expanding export markets.

This Priority Work Group's overall goals are to:

- *Cultivate a robust and resilient Florida food system by strengthening food and value added industries,*
- *Support the development of a small farm industry that offers a diversity of commodities and utilizes innovative production and processing technologies,*
- *Ensure an abundant, sustainable, nutritious, safe, and affordable food supply for all,*
- *Assure consumer confidence in the quality, value, and consistency of Florida product, and to*
- *Facilitate a broader understanding, mutual respect and collaboration of urban, agricultural, and environmental interests.*

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## PROGRAM OBJECTIVES

### **Signature Program: Food Systems**

- **Objective 1.** At least 80% of program participants will accurately describe the main commodities, capital and programmatic infrastructure and the roles and responsibilities of key organizations of Florida's food system.
- **Objective 2.** At least 60% of program participants will report a better understanding of county, state and/or federal farm and food-related policies, and how those policies affect food systems.
- **Objective 3.** At least 20% of processors, aggregators and distributor participants in Extension programming will adopt new tools, technologies and/or equipment to increase operational efficiency and effectiveness.
- **Objective 4.** At least 5 programs/businesses from the private sector will be developed or enhanced that utilize alternative business models (food aggregation or distribution, cooperatives, or regulatory umbrella programs) for direct-to-consumer markets.
- **Objective 5.** Support at least 100 new, and enhance existing school and community gardens and alternative distribution networks that cater to food insecure households through production recommendations, networking, and fundraising.

### **Signature Program: Small Farms and Alternative Enterprises**

- **Objective 6.** At least 65% of beginning farmer and rancher participants will report increased knowledge of strategies to reduce common mistakes in production, management, and marketing.
- **Objective 7.** 65% of beginning farmer and rancher participants will develop a marketing plan.
- **Objective 8.** At least 20% of beginning farmer and rancher participants will develop a business plan.
- **Objective 9.** At least 30% of participants will report an increase the diversity of income-generating commodities and/or products at the farm level.

### **Signature Program: Food Safety**

- **Objective 10.** At least 80% of the program participants will report an increase in knowledge of Food Safety Modernization Act regulations.
- **Objective 11.** At least 80% of participants will complete farm food safety plans, including those who are exempt from FSMA, such as small farm/ranch operators and emerging clientele, such as and community and school gardens leaders.

- Objective 12. 100% of IFAS Extension’s faculty members working with plant or animal systems demonstrates knowledge of food safety regulations and is confident about recommending general strategies to mitigate biological risk.

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## EDUCATIONAL METHODS

The dynamic nature of the Florida food industry and diversity of its stakeholders require many different educational methods to reach all clientele effectively. The activities of this program are a coordinated effort by multi-disciplinary state and county faculty. Information, messages, and metrics are developed at a state level and distributed to counties. Because this is a new PWG, professional development among our own faculty is a primary goal. In addition to traditional clientele, training will also be targeted at the new generation of food system producers, processors, researchers, educators, and regulators, and is intended to integrate with current CALS curriculum. We aim to integrate extension programming with student teaching and mentoring, as well as new community leader mentorship.

Traditional extension education approaches will be used: curriculum development, EDIS/white paper publication, traditional and online educational presentations, group teaching, website and social media development, application development, webinars, hands-on training, certification programs, demonstration sites/hubs at county offices, farms, and other sites, information “kits” at all county offices, traditional and non-traditional workshops, field days, conferences and meetings, video conferencing, online training, and establishment of testing centers for certificate programs at county offices (similar to Sylvan learning centers). To ensure effective education of traditionally underserved clientele, the Food Systems PWG will also use innovative education approaches that do not require access to internet or transportation, such as informational text messaging campaigns.

Other activities include:

- Design and implement a statewide needs assessment to identify food system priority program needs
- Face-to-face workshops and presentations at community organizations with traditionally underserved clientele.
- Develop and implement a leadership training program for Extension and food systems professionals that will strengthen the skills necessary to foster food systems collaboration, innovation, and impact.
- Conduct feasibility studies, enterprise/business plans and case studies of successful/profitable local food distribution chains, and create decision tools for farmers/ranchers to expand into new markets.
- Develop new and support existing statewide teams and programs on alternative enterprises and systems, including Urban Farm Academy.
- Partner with campus university initiatives that focus on farm and food systems to develop new models of scholarly education that integrate teaching and extension and provide new opportunities for research and development of new products and processes.
- Facilitate establishment of new farms in urban areas that cater to the needs of local buyers.
- Recognize innovative farmers and ranchers, and share those models with others.
- Advance our understanding of innovations in agriculture, and learn new and effective approaches of Extension education and evaluation.
- Offer face to face in-depth training and web-based updates on food safety.
- Develop an electronic hub for all internal and public food safety information that aggregates consumer food safety information (Solutions for Your Life website), small farm food safety information (Small Farms and Alternative Enterprises website) and farm/processor food safety information (Food Science and Human Nutrition/UF-IFAS Food Safety Extension’s website).
- Continually improve IFAS’ educational methods and evaluation strategies to ensure internal efficiencies, and to ensure that agricultural enterprises and consumers are increasing their knowledge and are changing behaviors important to food safety.

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## RESULTS

## Signature Program: Food Systems

- **Objective 1.** At least 80% of program participants will accurately describe the main commodities, capital and programmatic infrastructure and the roles and responsibilities of key organizations of Florida's food system.
  - **Outcome:** Increased knowledge of Florida's food system.
  - **Indicators:**
    - Quantitative increases in knowledge gained in program evaluations, including online educational presentations and webinars.
    - Participant success stories about accessing food systems resources to support their objectives.
- **Objective 2.** At least 60% of program participants will report a better understanding of county, state and/or federal farm and food-related policies, and how those policies affect food systems.
  - **Outcome:** Decision makers and food system leaders will make informed decisions based on documented evidence.
  - **Indicators:**
    - Quantitative increases in knowledge of policies recorded in program evaluations.
    - Participant success stories of implementing programs that make use of policies in response to information from workshops and presentations at community organizations.
- **Objective 3.** At least 20% of processors, aggregators and distributor participants in Extension programming will adopt new tools, technologies and/or equipment to increase operational efficiency and effectiveness.
  - **Outcome:** Operations increase efficiency and effectiveness.
  - **Indicators:**
    - Quantitative measure of purchases of new materials, tools, and/or equipment.
    - Decreased cost of initial investment relative to projected return.
    - Quantitative decrease in inputs, fuel, energy, water, labor or other costs following adoption.
    - Quantitative increase in the number of value-added products for inter and intrastate trade
    - Quantitative increase in the number/capacity of processors dedicated to alternative crops or new food/beverage products
    - Participant success stories of entrepreneurship and innovation following demonstrations, workshops, and field days.
- **Objective 4.** At least 5 programs/businesses from the private sector will be developed or enhanced that utilize alternative business models (food aggregation or distribution, cooperatives, or regulatory umbrella programs) for direct-to-consumer markets.
  - **Outcome:** Synergy among food systems partners creates exemplary innovative food systems programs.
  - **Indicators:**
    - Quantitative increase in the number of farming operations selling direct to consumer
    - Quantitative increase in the number of consumers reached in direct-to-consumer markets
    - Participant success stories of market penetration of FL foods
    - Quantitative cost savings to consumers who buy Florida commodities
    - Positive press reports highlighting collaboration and outcomes
- **Objective 5.** Support at least 100 new, and enhance existing school and community gardens and alternative distribution networks that cater to food insecure households through production recommendations, networking, and fundraising.
  - **Outcome:** Access to affordable, nutritional food increases for students and families that need it most.
  - **Indicators:**
    - Quantitative evaluation of the equivalent retail value of harvested produce from gardens.
    - Documentation of the number of community sites where produce is distributed or sold.
    - Increased number of children and adults participating in the programs.
    - Increased number of community partners that are supporting food production and distribution efforts.

### **Signature Program: Small Farms and Alternative Enterprises**

- **Objective 6.** At least 65% of beginning farmer and rancher participants will report increased knowledge of strategies to reduce common mistakes of production, management, and marketing.
  - **Outcome:** Beginning farmers and ranchers make better decisions about their operations.
  - **Indicators:**
    - Quantitative increase in the number of operations that have adopted best practices.
    - Farm operator success stories detailing how increased knowledge gained from hands-on training, workshops, field days, and conferences reduced mistakes.
    - Quantitative increase in participant reports of self-efficacy in science and technology
- **Objective 7.** 65% of beginning farmer and rancher participants will develop a marketing plan.
  - **Outcome:** Beginning farmers and ranchers utilize appropriate messaging and relevant markets.
  - **Indicators:**
    - Quantitative increase in the number of farmers and ranchers using enterprise budgets to set product prices.
    - Quantitative increase in number of alternative crops or new value-added products.
    - Farmer success stories of increasing consumer confidence and trust.
    - Quantitative increase in participant profit margins
- **Objective 8.** At least 20% of beginning farmer and rancher participants will develop a business plan.
  - **Outcome:** Beginning farmers and ranchers have a business plan.
  - **Indicators:**
    - Farmer and rancher success stories of improved financial health as a result of developing a business plan based on guidance provided via traditional and non-traditional workshops.
    - Quantitative measure of number of successful loan applications reported to Extension faculty.
- **Objective 9.** At least 30% of participants will report an increase in the diversity of income-generating products and/or services offered to customers.
  - **Outcome:** participants reduce financial risk due to a diversity of offerings
  - **Indicators:**
    - Quantitative increase in small farm market share.
    - Quantitative increase in the percentage of farms engaged in entrepreneurial activities.
    - Quantitative increase in number of new or alternative crops and new value-added products.
    - Quantitative increase in the number of value-added products for inter and intrastate trade.
    - Participant success stories of new market opportunities as a result of new products/services.

### **Signature Program: Food Safety**

- **Objective 10.** At least 80% of the program participants will report an increase in knowledge of Food Safety Modernization Act regulations.
  - **Outcome:** Producers, processors, packers and distributors are compliant with FSMA.
  - **Indicators:**
    - Quantitative increase in number of current certifications and compliant exempt operations
    - Quantitative increase in the number of participants having successful third party audits.
    - Success stories from participants who make use the face to face training and web-based updates on food safety.
    - Quantitative decrease in cases of food borne illnesses, recalls of Florida products and the number of food related health risks related to Florida's food system evidenced by CDC data
- **Objective 11.** At least 80% of participants will complete farm food safety plans, including those who are exempt from FSMA, such as small farm/ranch operators and emerging clientele, such as and community and school gardens leaders.
  - **Outcome:** Farm operations have adopted best practices to mitigate biological risk.
  - **Indicators:**
    - Quantitative increase in the number of participants with a completed Farm Food Safety Manual.

- Participant success stories of improved consumer confidence in Florida agricultural commodities- especially those purchased directly from the farmer or with “buy local” labels (i.e. Fresh from Florida)
- **Objective 12.** 100% of IFAS Extension’s faculty members working with plant or animal systems demonstrates knowledge of food safety regulations and is confident about recommending general strategies to mitigate biological risk.
  - **Outcome:** Confidence in IFAS Extension is high
  - **Indicators:**
    - Quantitative increase in the number of stakeholders who refer to IFAS faculty for advice
    - Participant success stories detailing the use of EDIS documents in adopting practices that mitigate risk and support food safety compliance

## NEEDS

- Statewide food systems needs assessment
- Statewide evaluation plans for Food Systems, Small Farms and Alternative Enterprises, and Food Safety
- Program support, program assistants
- Web-based program delivery support
- Extension specialist or add FTE in ABE in processing and packaging engineering
- Food systems state and county faculty
- Evaluation faculty

## SUPER ISSUES

This priority work group activity relates to “Awareness and appreciation of food systems and the environment”.

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**PWG 1.1.2: Food Systems | Small Farms and Alternative Enterprises | Food Safety**

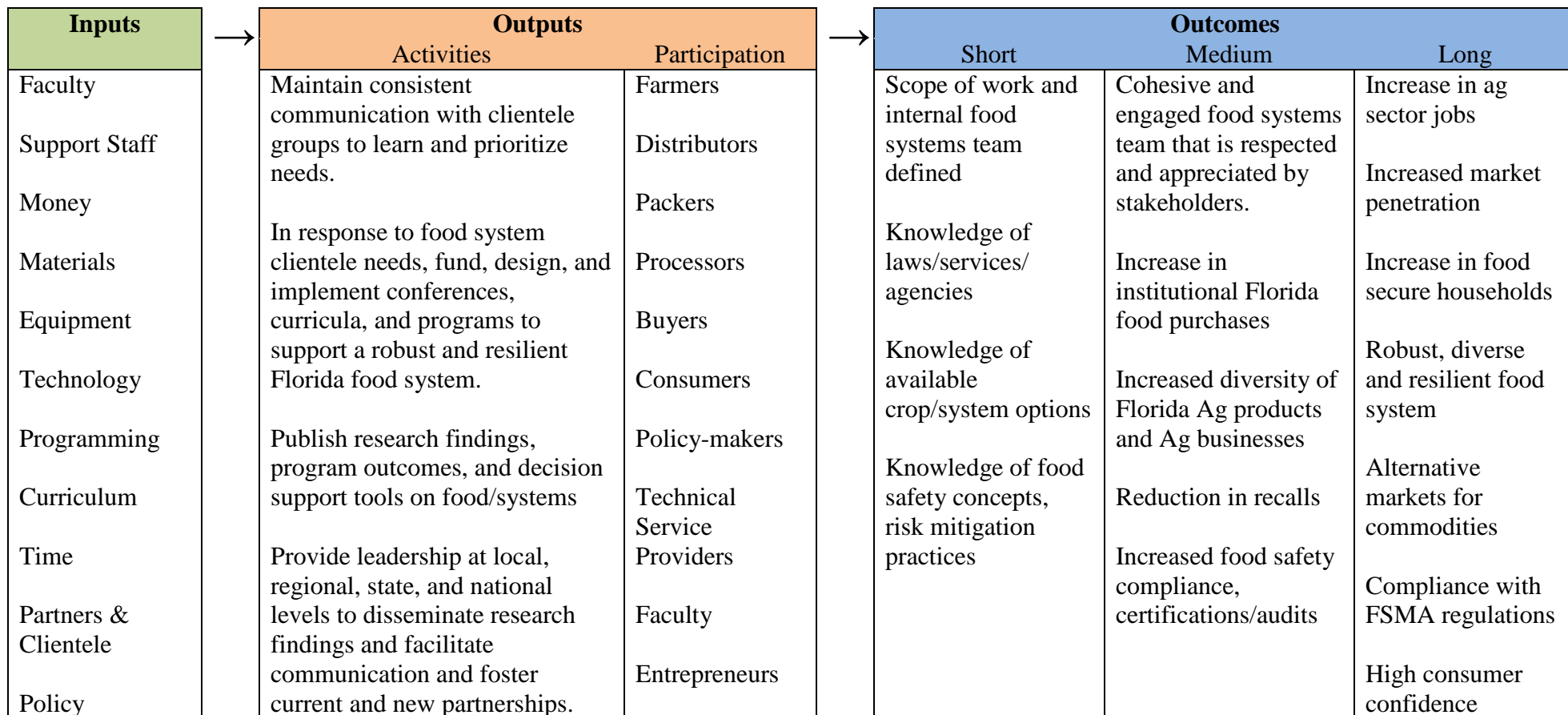
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**Program:** Group 1.2: *Food Systems / Alternative Enterprises and Systems / Food Safety*

**Situation:** Food systems, food safety and food security are terms that collectively describe the goal of producing, preparing, and delivering fresh, sustainable, nutritious, affordable and safe food to all of Florida’s citizens and beneficiaries beyond the state’s borders. Extension can help increase food systems, safety and security within Florida by offering programming aimed at increasing the knowledge and attitudes stakeholders have in regards to sustainable agriculture so they are better able to make informed decisions on agricultural issues.



Assumptions
<ul style="list-style-type: none"> <li>• Need for extension faculty training in food systems</li> <li>• Extension can play a leadership role at many food systems scales</li> <li>• Stakeholders will be engaged with food systems programming</li> </ul>

External Factors
<ul style="list-style-type: none"> <li>• Climate and market conditions on production/distribution</li> <li>• Continued and new support for programs is available</li> <li>• Competing social and political influences on food systems</li> </ul>