Beekeeping 101

Mary Beth Henry
University of Florida IFAS, Polk County Extension, Bartow, FL

Many small farmers and backyard enthusiasts alike are interested in beginning a bee colony, yet getting started can be intimidating and even a bit confusing. New and potential beekeepers should become familiar with the equipment, vendors and resources for more information before beginning this new endeavor. Likewise, familiarizing one’s self with the biology as well as the pests and diseases of honeybees can prevent potential loss and discouragement with a new project. Finding a mentor through a local beekeeping association is perhaps the most powerful guidance available and many offer hands-on in the bee yard experiences to help beginners with a reality check. In addition beekeeping classes have been featured at Extension offices around the state and The University of Florida Honey Bee Research and Extension Lab offers in depth programs to build capacity in teaching and learning around the state.

Contact Information: Mary Beth Henry at mbhenry@ufl.edu or (863) 519-8677 x 110
**Capacity Building for Sustainable Living**

*Jennifer Taylor, PhD*

College of Agriculture and Food Sciences, Cooperative Extension Program, Florida Agricultural & Mechanical University, Tallahassee, FL

A recent USDA Census indicated that about 91% of all farms in the United States are small family farms. Small farms represent over 90% of all farms in Florida. Small farmers, resource poor farmers make up to 90% of the world’s farmers often they have not had equal access and participation in programs and training designed to assist large producers and agribusinesses.

FAMU StateWide Small Farm Program works with farmers and their surrounding communities to enable the capacity to thrive and change. As a result there are growing numbers of local small farms and garden leaders producing food sustainably using agroecological organic farming methods, and providing their produce directly to the community through local markets and community-supported agriculture operations (CSAs). Capacity building Workshops/Farm Tours provide relevant education and training, encourage organic management strategies, awareness of local food resources, enable community food networks, and enhance the role of small farmers in their communities.

The United Nations General Assembly endorsed a decision to accredit several organizations to the 2012 United Nations Conference on Sustainable Development. These accredited organizations were found to exhibit the necessary attributes of an organization demonstrating expertise in an area of sustainable development relevant to the UN Conference. FAMU Statewide Small Farm Programs was one of the organizations that received distinction and accreditation to participate in the global 2012 United Nations Conference on Sustainable Development.
A Comparative Evaluation of EM on Soil Quality and Fresh Yield of *Brassica oleracea* var. *acephala* Grown on Orangeburg Loamy Sand Soil

_Cassel S. Gardner, Alfredo B. Lorenzo and Bravo Brown_

Division of Agricultural Sciences, College of Agriculture and Food Sciences, Florida A&M University, Tallahassee, FL

Effective Microorganisms (EM) is a microbial inoculant designed to improve soil condition and to increase production while reducing the use of chemicals and other synthetic compounds. A field study was conducted to comparatively examine the effects of EM and traditional nutrient sources on fresh leaf yield of collard greens (*Brassica oleracea* var. *acephala*) and post-harvest soil chemistry. The study, a 4 x 4 RCBD was conducted on the Research and Extension Center Farm of Florida A&M University, Quincy, Florida, during Fall 2011. The treatments were 202 kg/ha of N as ammonium-nitrate fertilizer, mushroom compost, EM at 0.1 percent per hectare, and control. Seedlings were planted on raised beds covered with black plastic, and drip irrigated. The crops were harvested approximately 12 weeks after planting. Data collected includes plant height, plant weight, leaf length, leaf width, root length, and root weight. The fresh yield in kilograms per hectare was derived using aboveground plant weight. Approximately 2 weeks after harvesting, soil cores were removed at 0–15.24 cm and 15.24–30.5 cm and were processed and subjected to physical and chemical analyses. All data were statistically analyzed using SAS 9.3. Results showed fresh leaf yield was significantly higher in plots treated with ammonium-nitrate fertilizer and mushroom compost than those treated with EM and control. Preliminary analysis of soil chemistry showed no significant differences among the treatments in concentrations of P, NO$_3^-$, TKN; pH, OM, and CEC. This study will be continued to establish more accurate information.
Economic Assessment of Fruit and Nut Crops in North Florida and North Central Florida

Sean R. McCoy¹, Pete C. Andersen², Robert C. Hochmuth¹, Linda B. Landrum¹, Lei Lani Davis¹, Jeffrey G. Williamson³ and Mercy A. Olmstead³

¹Suwannee Valley Agricultural Extension Center, University of Florida, Live Oak, FL
²North Florida Research and Education Center, University of Florida, Quincy, FL
³Horticultural Sciences Department, University of Florida, Gainesville, FL

Background: Agricultural sustainability of fruit and nut crops has been determined throughout North and North Central Florida. While the cultural sustainability has been assessed, profitability and economic feasibility remains a barrier to growth of these alternative enterprises.

Purpose and Scope: Enterprise budgets stand out as a good assessment of profitability for alternative enterprises. This method of analysis demonstrates to interested growers the standard costs, both variable and fixed, associated with the crop as well as expected returns and yields.

Methods: Input and experience with selected crops from fruit crop specialists within University of Florida/IFAS was used to analyze inputs and costs. These inputs were compared to commodity prices for each of the potential crops within the expected season for production to determine profitability. Profitability and risk were also assessed through the use of a price/yield sensitivity matrix.

Results: Enterprise budgets are created and maintained by a group of specialists. These budgets, once finished, are being developed into Electronic Data Information Source (EDIS) documents for use by extension professionals and clientele throughout North and North Central Florida.

Conclusions: The profitability and economic feasibility of these crops varies; however, for most crops the best profitability occurs when the opportunity for adding value through marketing or processing is present.

Recommendations: Economic assessment of potential fruit and nut crops for North and North Central Florida should be continued as new crops are looked into and practices change affecting profitability.

Contact information: Sean McCoy, Suwannee Valley Agricultural Extension Center, University of Florida, 7580 County Road 136, Live Oak, FL 32060; Phone: 386-362-1725, ext. 105; Email: srmccoy@ufl.edu
Evaluation of Bell Pepper (*Capsicum annuum*) Cultivars Grown Under an Open Shaded Structure


¹Madison County Extension, University of Florida, Gainesville, FL  
²Alachua County Extension, University of Florida, Gainesville, FL  
³Suwannee Valley Agricultural Extension Center, University of Florida, Live Oak, FL

**Background:** Many small and large farmers throughout Florida have adopted some type of protected agriculture production in the past five to ten years including greenhouses, but more recently, farmers are using high tunnels and open structures covered with shade material to extend the season.

**Purpose and Scope:** This trial was conducted to provide information regarding bell pepper cultivar selection for production under open shade structures in North Florida.

**Methods:** A randomized complete block design trial was conducted in Live Oak Florida during 2012 to evaluate seventeen bell pepper cultivars.

**Results:** Production of bell peppers in an open shade structure resulted in mostly US Fancy fruit, especially during the spring and summer harvests, but much less during the fall harvests. Total season marketable yields ranged from 1967 to 3315 boxes per acre (28-lb boxes), but yield differences among cultivars were not significant. The percentage of the total fruit graded as Fancy was typically over 95% among all cultivars during early season harvests, but decreased to typically 80% during mid season harvests, and only about 35% or less during late season harvests. This reduction in fruit size will be important in some markets requiring large fruit size throughout the season.

**Conclusions:** The trial results showed the best adapted varieties for Florida shade production using soilless culture and continued to demonstrate the usefulness of shade culture in extending the pepper season in Florida.

**Recommendations:** Continued effort needs to be made to provide specialized research based information to small protected agriculture producers in Florida.

**Contact Information:** Daniel K. Fenneman, Madison County Extension, University of Florida, 184 NW College Loop, Madison, FL 32340, USA; Phone: 850-973-4138 Fax 850-973-2000; Email: dfenneman@ufl.edu
Florida Small Scale Poultry and Egg Operation Rule Changes in 2013

Elena Toro\(^1\) and Dan Fenneman\(^2\)

\(^1\)UF/IFAS Suwannee Co. Extension, Live Oak, FL
\(^2\)UF/IFAS Madison Co. Extension, Madison FL

New rules for Florida small scale poultry and eggs operations will come into effect in late 2013. The Florida Department of Agriculture and Consumer Services (FDACS) Division of Food Safety proposed rule defines Limited Poultry and Egg Farm Operations as a food establishment and sets a minimal fee on such operations. The Proposed rule language establishes the minimum regulatory parameters for a Limited Poultry and Egg Farm Operation from operations that sell; specifies that for the purposes of this rule a “farm” has the same meaning as provided in section 823.14, Florida Statutes; exempts Limited Poultry and Egg Farm Operators from Food Manager Certification requirements; and, allows for recognition and use of regulatory exemptions granted by the United States Department of Agriculture (USDA), provided regulatory specifications are met as required by the USDA. Under the new rule, growers will be able to sell 30 dozen eggs and no more than 100 pounds of dressed poultry in any week. The classification of what constitutes a whole shell egg or dressed poultry product has been clarified to include domesticated chicken, turkey, duck, goose or guinea.

Contact Information: Elena Toro, Suwannee County Extension, etoro@ufl.edu
Fostering Agritourism: Statewide Effort Needed? Will 2013 Changes in Liability Law Help it Bloom?

Mary Beth Henry
University of Florida IFAS, Polk County Extension, Bartow, FL

Florida boasts both millions of visitors each year and thousands of highly productive agricultural acres at the same time, yet little connection between the two is currently promoted. Agritourism has the potential to connect the dots between the consumers’ desire to be closer to where and how their food is raised, and the need for agricultural operations to diversify their operations to hedge against market risk. While agritourism has not yet made a strong showing in Florida, many operations, such as U-picks and corn mazes currently offer unique, albeit disconnected, consumer experiences. Is there potential to package current agritourism sites into convenient tour itineraries to attract more visitors and foster additional development of the industry? Are there enough existing agritourism operations to foster the development of an industry? Will a recent change in law regarding liability for agritourism operations help farms to stick their neck out and consider adding value by incorporating agritourism into their business plans? What agencies are currently involved in agritourism? Are we making the best use of agency resources to foster the industry? Is statewide leadership needed in this effort, and if so what agency would be most appropriate to lead it?

This poster seeks to inform readers of the potential to develop the agritourism industry in Florida. A synopsis of recent changes in liability law pertaining to agritourism is provided and a series of questions to collect interested parties for future discussion and action regarding the development of statewide agritourism efforts are posed.

Contact Information: Mary Beth Henry at mbhenry@ufl.edu or (863) 519-8677 x 110
Florida’s climate is conducive to growing shiitake and oyster mushrooms. Mushrooms are grown by inoculating substrate materials with mushroom mycelium/spawn and providing appropriate environmental conditions for the mycelium to thrive in, and the substrate thereby producing mushrooms. The substrates commonly used are renewable resources such as cereal straws, cotton seed hulls, and hardwood logs, materials commonly available in Florida. Small-scale shiitake and oyster mushroom production provides an opportunity for small farmers to diversify their production and increase farm income while being environmentally sustainable. While a lot of information is available about large-scale mushroom production, very little is known about growing mushrooms with synthetic and natural log culture for small-scale operations. Therefore, the objectives of this program were 1) Develop educational materials, and annually deliver three small-scale shiitake and oyster mushroom production programs for farmers, Master Gardener volunteers, and gardeners 2) Annually, 100 farmers, Master Gardener volunteers, and gardeners will increase their knowledge by 50% on small-scale shiitake and oyster mushroom production 3) Annually, class attendees will produce 100 pounds of oyster or shiitake mushrooms. 516 small farmers and gardeners have attended a total of 14 workshops to increase their knowledge of small-scale shiitake and oyster mushroom production, processing and marketing. The average knowledge gain was 79%. Following completion of the workshops, attendees have grown around 1,050 pounds of oyster mushrooms and 3,740 pounds of shiitake mushrooms valued at $38,320 ($8/lb).
Gulf Coast Small Farms and Alternative Enterprises: 2013 Inaugural Spring Field Day

B. Thaxton\textsuperscript{1}, J. B. Unruh\textsuperscript{2}, M. Meharg\textsuperscript{3}, L. Johnson\textsuperscript{3}, W. Wendt\textsuperscript{4}, P. Powell\textsuperscript{5}, R. Mizell\textsuperscript{6} and J. Brown\textsuperscript{7}

\textsuperscript{1}Extension Agent, UF/IFAS Extension – Santa Rosa Co., Milton, FL
\textsuperscript{2}Associate Director, UF/IFAS WFREC, Jay, FL
\textsuperscript{3}Extension Agents, UF/IFAS Extension – Escambia Co., Cantonment, FL
\textsuperscript{4}Specialty Crop Program Manager, UF/IFAS WFREC, Jay, FL
\textsuperscript{5}Horticulture Courtesy Agent, UF/IFAS Extension – Walton Co., DeFuniak Springs, FL
\textsuperscript{6}Professor of Entomology, UF/IFAS NFREC, Quincy, FL
\textsuperscript{7}Crop Monitoring Specialist, Irrigation-Mart, Ruston, LA

Gulf Coast Small Farms and Alternative Enterprises (GCSFAE) is an initiative created in 2013 by the extension faculty from the Northwest District and the Faculty of UF/IFAS WFREC. It was created to better utilize the WFREC resources by developing relevant hands on training for small farms and alternative enterprises in northwest Florida. The spring field day was the kickoff event for the initiative.

Objective: The event will attract a minimum of 30 small farmers or interested participants. Producers will gain knowledge on topics of drip irrigation, food safety, trap cropping, construction of a floating garden, and protected agriculture. The events evaluation will gather valuable information considering future training topics for GCSFAE.

Methods: The field day began with WFREC faculty and extension faculty laying out the goals of the initiative for the attendees. The field day was a half-day training that consisted of field stops with an emphasis on demonstration. The stops were drip irrigation, trap cropping, floating garden construction, food safety, and protected agriculture.

Results: A total of 87 people attended the event. The evaluation indicated 76% gained knowledge on drip irrigation, 81% gained knowledge of trap cropping, 76% gained knowledge of floating garden construction, 78% gained knowledge on food safety regulations, and 73% gained knowledge of protected agriculture techniques. 23 suggestions were mentioned as possible future training topics on the evaluation.

Conclusions: The attendance and success far exceeded the expectations of the GCSFAE group. The field day will be a catalyst for future events held by the GCSFAE team.
Meeting the Educational Needs of a Growing Industry

J. Bosques¹,², J. Cohen¹,², M. Shuffitt¹,², J. Walter², Y.C. Newman², M. Brew², A. Fluke², D. Mudge², S.F. Gamble², M. Warren², E. Jennings² and J. Ullman³

¹UF/IFAS Extension Marion County, Ocala, FL.
²UF/IFAS Central Florida Livestock Agents Group.
³UF/IFAS Department of Agricultural and Biological Engineering, Gainesville, FL.

Situation: The 2007 Agriculture Census ranked Marion County number one in small ruminant production, housing twenty-four percent of the state’s 2,001 farms. Throughout Florida, the growing demand of alternative red meat sources for health-conscious consumers has increased substantially. Other cultures including: Muslims, Hispanics, Caribbean Islanders, etc., have increased demand for sheep and goat meat. Escalating feed costs have made small ruminants a more economical option due to their ability to generate more cash-flow per acre, when compared to other large livestock.

Methods: The Central Florida Livestock Agents Group (CFLAG) developed a one-day educational conference focusing on small ruminant production. Topics discussed ranged from small farm pasture management and fencing and round-table sessions to health and parasite control. The FAMACHA® parasite management certification was also offered. A farm tour and a chute-side animal handling demonstration were conducted during the conference. An evaluation was carried out to determine further educational needs for this demographic.

Results: Survey response rate was thirty-nine percent (n=24). Ninety-six percent (n=22) indicated the information was useful. Eighty-seven percent (n=21) would consider implementing new farm management practice changes. Examples of practice change include: pasture management (n=8), improved parasite management (n=4) and herd nutrition (n=1).

Conclusion: The survey results indicated a significant need for more educational programs targeting sheep and goat ranchers in the State of Florida. Educational needs identified were; reproduction (n=4), herd health (n=3), financial management (n=3), nutrition (n=2), value added products (n=2). Based on this producer feedback, CFLAG will conduct an annual Small Ruminant Production Conference.
Small Farms Academy Hydroponic Short Course Moves to Vertical Horizon Farm in South Florida

Fred H. Burkey¹, Ed A. Skvarch², Chris F. Miller³, Robert C. Hochmuth⁴, Sean R. McCoy⁴, Wanda L. Laughlin⁴, Sarah E. White⁴, Natalie Parkell⁵ and Kevin Osburn⁵

¹Martin County Extension, University of Florida, Stuart, FL
²St. Lucie County Extension, University of Florida, Ft. Pierce, FL
³Palm Beach County Extension, University of Florida, W. Palm Beach, FL
⁴Suwannee Valley Agricultural Extension Center, University of Florida, Live Oak, FL
⁵Vertical Horizon Farm, Hobe Sound, FL

Background: Interest in starting a hydroponic business in Florida is at an all-time high, largely due to the increased demand from consumers for locally grown fruits and vegetables.

Purpose and Scope: The University of Florida initiated a two-day, hands-on hydroponic short course in 2009 which was so popular it has been offered twice each year at the Suwannee Valley Agricultural Extension Center near Live Oak, Florida. Over half of the attendees came from Central and South Florida.

Methods: Attendees in 2010 included Kevin Osburn and Natalie Parkell of Vertical Horizon Farm in Hobe Sound, Florida. This farm has most of the crops and production systems used in the course and its owners had experience teaching hydroponics to other farmers. The course was implemented in January 2013 at Vertical Horizon Farm and was co-taught by the farmers and UF Extension faculty.

Results: The course hosted a total of 47 attendees over two days. Course evaluations showed a high level of satisfaction with the delivery of the course and great appreciation for the value of offering the course at an operating farm.

Conclusions: The combination of the infrastructure of a course offered through the UF/IFAS Small Farms Academy, the unique farm location and skills of the farmers, and the commitment of UF Extension to meet the needs of clientele resulted in a very successful educational experience.

Recommendations: The evaluation results indicated the course should continue to be offered at this location and plans are being made to offer the course there again in December 2013.

Contact Information: Fred Burkey, Martin County Extension, University of Florida, 2614 SE Dixie Highway, Stuart, FL 34996, USA; Phone: 772-288-5654; Email: fburkey@ufl.edu
Small Farm Opportunities with the Florida Farm to School Program

Amy Warwick¹, Zach Glorioso², Maxine Floyd³, Beth Alexis⁴, Christina Walmer⁵, Anna Prizzia⁶, Chef David Bearl⁷ and Danielle Treadwell⁸

Florida Farm to School District Coordinators for the

¹Central UF-IFAS Extension District, Florida Farm to School District Coordinator
²South Central UF-IFAS Extension District, Florida Farm to School District Coordinator
³Northeast UF-IFAS Extension District, Florida Farm to School District Coordinator
⁴South UF-IFAS Extension District, Florida Farm to School District Coordinator
⁵Northwest UF-IFAS Extension District, Florida Farm to School District Coordinator
⁶Statewide Coordinator-Procurement and School Gardens
⁷Visiting Associate in Local and Regional Food Systems Education
⁸Associate Professor Horticultural Sciences, University of Florida-IFAS and the Florida Department of Agriculture and Consumer Services Florida Farm to School Partnership

Situation: Over the last 30 years, approximately 12.5 million children and adolescents have been classified obese as the U.S. obesity rate has tripled to 17%. The Florida Farm to School Program is a Partnership of the Florida Department of Agriculture and Consumer Services (FDACS) and the University of Florida IFAS Extension. The Florida Farm to School Program staff and IFAS Extension faculty are working to achieve positive outcomes for children by educating them on the source of their food, the importance of healthy food choices, and increasing opportunities for farmers and school food service providers to serve fresh, locally-sourced foods.

Objectives: Two objectives of the Florida Farm to School Program are to connect schools and local producers to serve fresh and nutritious Florida commodities in school cafeterias as well as to educate students, teachers, and parents on making healthier food choices.

Methods: The key to success of a Farm to School Program begins with local growers. Florida’s 47,000 farms lead the nation in production of oranges, green beans, sweet corn, and watermelon – food kids love to eat. The cornucopia of Florida food creates opportunities to enhance school menus so that healthy and nutritious choices are desirable by kids. The opportunities for small farmer involvement include selling directly to schools, participating in FDACS Statewide bids, recommendations for distribution channels to schools, hosting Farm tours, visiting classrooms and school, assisting with school gardens, and/or partnering with a larger grower for support with food safety certification, processing, and distribution.

Contact Information: Anna Prizzia, Horticulture Department, University of Florida, Po Box 110690, Gainesville, FL, 32611, USA; 352-273-4783; Email: aprizzia@ufl.edu
The current demand for goat meat in the USA is twice the amount that is being produced domestically. The demand for this product in Florida is reflected in increasing production which is driven mainly by a growing ethnic population that consumes goat meat. This has led to interest and investments in meat goat production. Most of these small farms are part-time operations but making a profit remains a priority, regardless of size. The availability of imported goat meat from countries with low costs of production tends to place a ceiling on the price paid for goat meat in Florida. Producers in Florida must be able to compete successfully with imports from outside of the USA. Consequently, investors need to be trained to measure their cost of production through which they can identify efficient production practices needed to reduce input costs. An enterprise budget was developed for meat goat operations. The main objective of this effort is to increase the knowledge and numbers of producers who can use an enterprise budget. The knowledge they gain would influence them to make changes to their production practices that are conducive to productive and profitable enterprises. The enterprise budget is available electronically, as a Microsoft Excel spreadsheet formatted to be used on any meat goat enterprise to calculate costs of production. Producers need only to input their own farm financial and production information on the spreadsheet to determine costs of production and profit margins.

Contact Information: Basil Bactawar at basilbactawar@ufl.edu or (386) 496-4264
The Vegetable Producers Round Up: Expanding Markets and Improving Production in NW Florida

B.R. Thaxton\textsuperscript{1}, J. D. Atkins\textsuperscript{1}, M. Meharg\textsuperscript{2}, L. Johnson\textsuperscript{2}, R. C. Hochmuth\textsuperscript{3}, R. S. McCoy\textsuperscript{3} and W. Wendt\textsuperscript{4}

\textsuperscript{1}Extension Agents, UF/IFAS Extension – Santa Rosa Co., Milton, FL
\textsuperscript{2}Extension Agents, UF/IFAS Extension – Escambia Co., Cantonment, FL
\textsuperscript{3}Extension Agents, UF/IFAS Extension – SVACEC, Live Oak, FL
\textsuperscript{4}Specialty Crop Program Manager, UF/IFAS WFREC, Jay, FL

Growing vegetables for profit is making a resurgence in Northwest Florida as the “local foods” movement grows. Many of the small vegetable producers have had trouble identifying new emerging markets they have not worked with in the past. The farmers also need to receive training to improve their crop production. New local extension agents can aid in marketing, IPM, food safety, and post harvest if and when contact is made with the producers.

Objective: The new Extension Agents will make contact with the producers in order to provide necessary training. Producers will gain knowledge on topics of marketing, food safety, and IPM. Producers will network with local vegetable buyers.

Methods: The Vegetable Producers Round Up was a half-day training that consisted of educational, networking, and demonstration sessions. The educational components were presentations on marketing, food safety, and IPM. There was also a panel of local produce buyers that answered questions for the growers, followed by a time of networking for the growers and the buyers. Demonstration consisted of showcasing a new build it yourself produce cooling trailer.

Results: A total of 61 people attended the event. The evaluation indicated that 78% of attendees met their local extension agent. It also indicated 65% gained knowledge of fresh produce marketing strategies, 69% gained knowledge of IPM techniques, and 50% gained knowledge of food safety regulations.

Conclusions: The Vegetable Producers Round Up was very successful from an evaluation stand point. It also enhanced extension/producer and producer/buyer relationships.