



BMP Update

A production of the University of Florida, Institute of Food and Agricultural Sciences,
Agricultural Best Management Practices Program

Summer 2018

Volume 4, Issue 3

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How to Enroll in BMPs?

1. Schedule a meeting with an FDACS BMP coordinator, who will provide a free FDACS BMP manual and other BMP-related information
2. Participate with the coordinator in a free assessment of your operation to determine which BMPs apply to you
3. Fill out a BMP checklist and sign the Notice of Intent to implement the BMPs.
4. Keep a copy of the checklist and signed Notice of Intent in your records
5. Implement and maintain the applicable BMPs and keep adequate records to maintain a presumption of compliance with state water-quality standards

Volusia/Putnam County citrus, leatherleaf and cut foliage growers produce baseline samples of soil and tissue testing helping with smart decision making and cost share funding

Karen Stauderman, UF/IFAS Comm. Hort. Ext. Agent II, Volusia County

Lyle Buss, UF/IFAS Entomology Department

For three years, the Volusia County commercial horticulture program has been actively acquiring growers to become Best Management Practices (BMP) compliant throughout the county and surrounding areas. Once acquired, they are directed to the FDACS representative and enrolled in the program by signing a Notice of Intent (NOI). One benefit of being enrolled in the program entitles you to a better status when it comes to cost sharing programs and governmental funding. In order to maintain compliance, one of the practices mandated by the program is for growers to preform yearly soil and tissue sampling of their commodity in order to monitor nutrient, and pH on a yearly basis.

New and Revised BMP Manuals

FDACS revises BMPs about every 5 years. Two manuals currently under revision are for Poultry and Sod production. A new small farm BMP manual is under development. This manual will provide a wide range of information for small farmers that are not covered under current manuals



The FDACS maintain updated version of the BMP Rules, Manuals, and other Documents. Electronic copies can be downloaded from the [FDACS website](#)



Currently, there are no baseline guides for leatherleaf fern and cut foliage industry on field soil and tissue analysis for micro and macro nutrients in commercial production. This makes managing nutrient in tissue and soil challenging.

A FDACS BMP Grant was awarded to the Volusia County Commercial Horticulture program that issued the funding for the UF Soil and Tissue Tests to allow growers of cut foliage and citrus producers to voluntarily supply soil and tissue samples from their production fields in order to assay a preliminary baseline for the soil conditions in the central Florida area of Volusia and Putnam counties. The funding served as financial incentive by deferring the cost from the tests.

Contact Information



[Dr. Kelly Morgan](#)
Statewide BMP Coordinator
Soil and Water Science
Program
(239) 658 - 3413
conserv@ufl.edu

[Southwest Florida Research and Education Center \(SWFREC\)](#)

2685 State Road 29 North
Immokalee, FL 34142

What Are Agricultural Best Management Practices?

Agricultural **Best Management Practices** (BMPs) are practical measures that producers can take to reduce the amount of fertilizers, pesticides, animal waste, and other pollutants entering our water resources. They are designed to improve water quality while maintaining agricultural production. The Florida Department of Agriculture and Consumer Services (FDACS) has adopted BMPs for most commodities in the state. Each BMP manual covers key aspects of water quality and water conservation.



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This grant study targeted fern, foliage, flower growers, crop advisors and citrus growers. The commercial horticulture extension program rallied 16 commercial foliage producers to voluntarily supply 45 soil and 16 tissue samples from their production fields in order to assay a preliminary baseline for tissue and soil conditions.



Additionally, 7 citrus growers submitted 16 tissue and 47 soil samples for the study. In the Putnam/Volusia citrus advisory meeting, growers were presented the citrus tissue and soil results by Dr. Terrance Fullerton. Dr. Kelly Morgan (UF Soils & Water) targeted

the importance of preforming yearly soil and tissue tests especially when the citrus trees are mostly (90%) infected with HLB. Dovetailing that, Stauderman presented new psyllid data from a 2 year grove study that indicated promising results through the limited release of *Tamarixia radiata* (Waterston), a biological control agent that parasitizes the Asian Citrus Psyllid (ACP) which is the vector that transmits HLB, the causal agent of citrus greening.

25 attendees were present at the Foliage forum (Jan) and 14 attendees attended the Citrus Advisory meeting (April). A post survey revealed how many growers plan to make changes to their spring/summer 2016 fertilization practices as a result of the soil and tissue test results as presented in the workshop forum and advisory meeting. As evidenced from the post survey, 37% of the foliage attendees indicated amazement of the soil and tissue data from the survey presentation. An additional 6 growers requested their tissue and soil be tested as well to compare with the newly formed baseline.

Of the Foliage Forum attendees surveyed, 17 of the 25 were commercial foliage growers. The remaining were government workers, employees of growers. The responses from the 17 growers were analyzed because it was deemed that they were directly impacted with the BMP certification as property renters/owners. The data indicated that:

- 44% of the growers attended for the CEUs provided in the program
- 65% were already BMP certified and 18% wanted to be.
- 94% will be making changes to their soil or pH as a result of the program
- 82% yearly test their crop for micronutrients and pH
- 76% felt that the information they gained from the program will most likely save them money.
- 99% of the attendees agreed that there was value in attending a Foliage Forum given by the program agent.

According to payout records through emails from FDACS, SJRWMD, NRCS and Farm Service Agency in 2015 and 2016:

- SJRWMD = paid 2 fern growers through Agriculture irrigation cost share \$47,198.03
- NRCS = paid 26 Volusia County growers cost share program \$70,487 (4749.4 acres)
- EQIP = paid VC growers \$17,248.16 (806 acres)

These payouts are the direct result of enrolling in the BMP program by the efforts of the Volusia County commercial horticulture program in the sum total amount of \$134,933.20 in 2014-2016.

Of the 17 Citrus Advisory attendees surveyed, all 9 of the citrus growers were BMP compliant the remaining were government workers. The data indicated that:

- 89% of the growers preformed yearly soil tests already. One rotates every other year.
- 67% preformed yearly tissue tests.
- 89% were making applications based on their test results.
- After this meeting, 67% were making decisions based the tabulated data.
- When asked if they would seek funding from TAP, 22% responded no, 44% already had and 56% were planning on seeking the cost sharing source.

According to Farm Service Agency payout records in 2015 and 2016:

- TAP = paid Volusia and Putnam County citrus growers \$43,097 (4850 trees planted) with 12 pending applications in 2016.

These payouts are the direct result of enrolling in the BMP program by the efforts of the Volusia County commercial horticulture program in the sum total amount of \$43,097 in 2014-2016. The cumulative economic gain from both cut foliage in Volusia County and citrus in both Volusia and Putnam County efforts, was \$178,030.20 in 2014-2016 monitory crop assistance.

One goal of this grant is to encourage growers to become compliant in the BMP program in order to participate in cost share funding to offset costs with irrigation inefficiencies, water body impairment or natural disaster crop assistance. The second goal is to encourage growers on creating a habit with yearly tissue and soil tests so that they will routinely implement them, reducing excess nutrient, and phosphorous usage and make sound decisions. By practicing habitually with yearly testing it will result in improved nutrient awareness within their crop, avoiding excess fertilizer usage resulting in a lower impact on the environment.





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Using soil moisture sensors to improve irrigation efficiency: A hands-on workshop and demonstration for row crop farmers in Jackson County, FL

Ethan Carter, UF/IFAS Extension RSA in Agriculture, Jackson County
Dr. Andrea Albertin, UF/IFAS Extension RSA in Water Resources, NFREC, Quincy
Dr. Ian Small, UF Assistant Professor in Plant Pathology, NFREC, Quincy
Dr. Michael Mulvaney, UF/IFAS Assistant Professor in Cropping Systems, WFREC, Jay

Introduction

Jackson County is the largest producer of peanuts and cotton in Florida, and a substantial amount of these crops is grown under irrigation. In 2014, 41,500 acres of peanut were planted with 30% under irrigation, and 38,700 acres of cotton were planted, with approximately 25% under irrigation (NASS 2014; Marella and Dixon 2015). Farmers can improve irrigation decisions (scheduling and amounts) by monitoring soil moisture. Knowing when to apply water and how much to apply is key in maintaining moisture and nutrients in the root zone, leading to increased water use efficiency, improved nutrient management, increased profit and potentially higher yields.

Effective irrigation management can also reduce nutrient leaching to ground and surface water. This is critical in Jackson County. Jackson Blue Springs, a first magnitude spring in the southern part of the county is classified by FDEP as an impaired water body due to high nitrate concentrations primarily from agricultural activities in the contributing spring basin. A Basin Management Action Plan (BMAP) has been adopted to reduce nitrate loads to the spring, and farmers within the basin, which encompasses 90,000 acres, have the choice to either implement BMPs or be subjected to on-farm water quality monitoring by FDEP.



Participants also heard from a farmer who used soil moisture sensors with positive results on his farm last year, conserving water and reducing costs associated with running the pivot. Finally, attendees learned about how relating soil moisture data, local weather data and irrigation practices can be used to manage diseases in row crops. Due to heavy rains, we had to modify our agenda and move our activities indoors, which provided some challenges but we were able to make it work.

Using soil moisture sensors to inform irrigation decisions is a recommended BMP for row crops, and FDACS offers a cost share program to help farmers defray the cost of the sensors and their maintenance. Despite this incentive, few farmers in Jackson County have taken advantage of the program. This

Using Soil Moisture Sensors as a BMP

Using soil moisture sensors to inform irrigation decisions is a recommended BMP for row crops, and FDACS offers a cost share program to help farmers defray the cost of the sensors and their maintenance. Despite this incentive, few farmers in Jackson County have taken advantage of the program. This

may be due to a lack of familiarity among farmers about how to use soil moisture sensors and their potential benefits in terms of crop water and nutrient management. If farmers perceive a potential benefit from using this technology, they may then decide to adopt this BMP on their farms.

Soil Moisture Sensor Workshop

We held a 1/2 day soil moisture sensor workshop at the Jackson



County Extension Office in Marianna on June 21, 2017 geared towards row crop farmers. Twenty-six people attended, including producers and FDACS staff. The workshop focused on familiarizing participants with three soil moisture sensors (Sentek, Watermark and the hand-held FieldScout), and how the data produced can be used in crop water and nutrient management.

Prior to the workshop, cotton and soybean were planted in field plots at the Jackson County Extension Office and Sentek and Watermark sensors were installed in these plots. Data was downloaded from the sensors and presented at the workshop. Staff from the FDACS Office of Water Policy discussed irrigation BMPs, and the Mobile Irrigation Lab elaborated on services they provide.



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We received good feedback after the workshop. Fourteen attendees responded to a survey. Eleven (79%) indicated that they felt more confident in being able to interpret soil sensor information after attending, and 11 (79%) stated they were now more likely to use moisture sensors on their operation.



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Hurricane Preparation for Your Farm

by [Doug Mayo](#), UF/IFAS Jackson County Extension Director -
Livestock & Forages Agent.

Farmers in Florida worry every fall about potential damage from a hurricane. Most of the media attention focuses on families in coastal communities, but not as much attention is provided for farmers and ranchers. Emergency responders are also likely to target their efforts immediately after the storm comes ashore on coastal areas hardest hit by storms. Every farm and ranch in Florida must have an emergency plan for the impact of a hurricane. The main thing is to prepare to be self sufficient for a more than a week. The following are ideas that may prove helpful as a checklist to prepare ahead of a major storm.

Resource People

After a major storm large areas in the path are in chaos. It is important to have a good list of current contact information for important people. While most of us rely on the phone numbers loaded on a smart phone to do our daily business, it is a good idea to develop a printed list, just in case your cell phone becomes damaged. Make sure you have current phone numbers for:

- **Extended family** – Everyone will want to know you are ok after the storm, and you will want to do the same.
- **Employees** and their families – it is good to be able to
- **Veterinarian** – not just the office number but a cell phone number as well
- **Neighbors** – in rural areas neighbors helping neighbors are the first responders
- **[Farm Service Agency Office](#)** – Damages should be reported within 15 days after the storm.
- **Insurance provider**
- **Utility Company** – Report downed power lines and power outages so your farm can be added to their response list.
- **[County Extension Offices](#)**– Agricultural Extension Agents serve as the ESF 17 Coordinators for each county emergency team. It is their role to assist farm and livestock owners after the storm. Extension Agents are also part of the State Agriculture Response Team lead by the Florida Department of Agriculture, so they are your local contact in each county for assistance for farms and livestock owners following a disaster.

Loss of Power

At the very least, farmers in rural areas can expect power outages following a hurricane. In rural areas, power may not be restored for 1-2 weeks. This can cause some real problems for farmers.

- **Order fuel** to top off farm fuel tanks for tractors and equipment. Fuel deliveries may be disrupted following the storm.
- **Fill farm** and family **vehicles** with **gas**. Local gas stations may not be open for several days after the storm passes.

- Purchase **batteries** for **flashlights** and lanterns. Have enough flashlights ready for each employee.
- **Stock up on feed** for animals receiving supplemental feeds. Don't forget the cats and dog food. Have enough hay, feed and health care supplies on hand for 1-2 weeks. Feed stores may not be open for business for a week or more after a storm.
- **Move animals** to pastures with ponds so well filled water troughs are not the only source of water.
- Dairy farms should have enough **generator power** so that cows can be milked each day.
- For operations that rely on **electric fencing**, have a generator ready to keep the fence hot, or at least move animals to interior pastures so they have multiple fences to help keep them in.

High Winds

Coastal areas normally receive the highest winds as a hurricane comes ashore, but even 50-70 mile per hour winds can create some real problems for livestock producers. Barns and fences are very susceptible to fallen trees and limbs from even tropical storm force winds. Tornadoes are also common in rural areas as storms move through.

- Make sure **chainsaws** are in good working order and **stock up on mixed fuel**.
- Locate **chains** and **come-a-long** for limb and tree movement off of fences and buildings.
- Stock up on **fence repair materials**: wire, posts, and staples for repairing fences damaged by limbs and trees.
- Move **animals** and valuable **equipment out of barns**. Most agricultural barns are not made to withstand more than 75-100 mile per hour winds with out some damage. Metal roofing material falling and flying around can be deadly. Normally open fields or pastures are much safer for both animals and equipment. Animals out in the open have a way of avoiding danger most of the time.
- Move animals to **interior pastures** so there are multiple fences between animals and the highway or neighbors.
- **Identify cattle and horses** so that if they do wander out of your property, you can be notified of their whereabouts. Halters or collars and luggage tags can be used for horses. If nothing else is available, spray paint your name and phone number on cattle or horses, so they can be returned to you following a storm. Do not include Coggins number on any identification, because that would allow the animal to be sold at auction.
- **Pick up debris** that might become high-wind hazards. Strap down feeders, trailers and other items that might blow around and injure animals or cause damage to facilities.



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Be prepared to remove and clean up broken limbs and uprooted trees on cowpens, fences and buildings following a storm. Photo credit Doug Mayo

Flooding

Tropical storms and hurricanes can generate 3-15 inches of rain in just a few hours.

- Move tractors, equipment, hay, or other stored items to highest ground.
- Move animals out of low lying pastures, or at least tie the gates open so they can move to higher ground if need be.
- Have enough hay on hand to feed for two weeks in case grass runs short from low areas being flooded.
- Make sure drainage ditches are clean without blockage.



Photo credit: USDA Archive

Clean Up and Damage Assessment

Notification and documentation are the keys to getting financial aid following a major storm.

- Beware of **downed power lines**. Treat them as if they are charged even if they are damaged or knocked down tree limbs. If you drive up near a downed power line, stay in your vehicle, and contact emergency personnel or the utility company.
- Contact **insurance agencies** as soon as possible after the storm passes for buildings that are insured.
- **Report major damage** to the local Farm Service Agency within 15 days of the storm to be eligible for federal disaster aid.

- **Document damage** and repair expenses. Photographs of damages and receipts for services and materials will be very important when applying for insurance claims and federal disaster aid. Any purchased feed, supplies or veterinary expenses related to storm damage should be recorded as well.



Equipment shed in Hardee County destroyed by a tornado associated with Hurricane Charley in 2004. Photo credit: Doug Mayo

Other Resources available to aid with Farm Disaster Preparedness and Recovery

- ✦ [National Hurricane Center](#) for latest storm track and forecast
- ✦ [Hurricane Preparedness & Recovery Farmers and Ranchers](#)
- ✦ [FDACS Disaster Preparedness for Livestock](#)
- ✦ [FDACS Disaster Preparedness for Horses](#)
- ✦ [Emergency Considerations for Beef Cattle](#)
- ✦ [Assessment and Management of Hurricane Damaged Timberland](#)
- ✦ [UF Disaster Handbook Hurricane Chapter](#)
- ✦ [USDA Disaster Assistance Programs](#)
- ✦ [County Emergency Management Directory](#)
- ✦ [Farm Service Agency Office Directory](#)



Author: Doug Mayo - demayo@ufl.edu

Lead Editor for Panhandle Ag e-News - Jackson County Extension Director - Livestock & Forages Agent. My true expertise is with beef cattle and pasture management, but I can assist with information on other livestock species, as well as recreational fish ponds. Follow him on Twitter @UFCowman, or Facebook <https://www.facebook.com/UFJacksonCoFL/> <http://jackson.ifas.ufl.edu>

Source: <http://nwdistrict.ifas.ufl.edu/phag/2017/09/07/hurricane-preparation-for-your-farm/>