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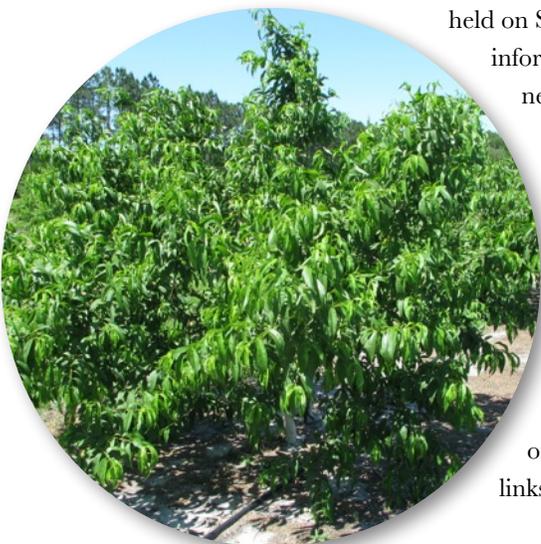
## ONLINE SURVEY

The online survey is still active, please follow the hyperlink below to complete the survey

We wanted to give you all the opportunity to help us better plan our Central Florida Peach Extension educational program. In the past few years we have tried to hold our meetings in multiple Central Florida locations. We feel this has enabled many of you to have the opportunity to meet with other growers within the Central Florida peach growing area. To this end it would be extremely helpful if you would go online and complete our simple survey. The results of this survey can help us to provide you with the most relevant, convenient and timely peach production information (survey link: <https://www.surveymonkey.com/s/5S7TTXM>).

Our Fall Central Florida Peach Grower Roundtable will be held on September 9, 2014. Agenda and registration information is located on the last page of the newsletter. The Roundtable program will begin at 10:00 am. and be held at BHG Auditorium at the UF/IFAS Citrus Research and Education Center in Lake Alfred. Lunch will be provided so please make sure you register before the deadline.

As always if you have any questions, comments or suggestions for us, simply click on the agent of your choice from the email links at the bottom of each page or give us a call.



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*"The Foundation for the Gator Nation"*

# PEACH

## Additional Information

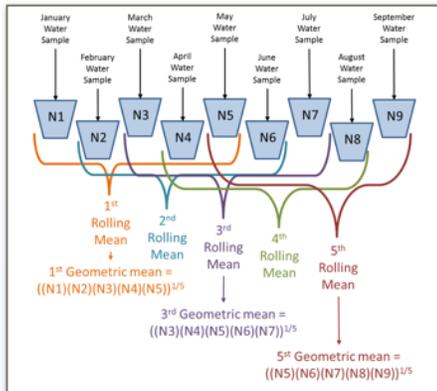


Figure 1. Agricultural Water - What is a Rolling Geometric Mean.

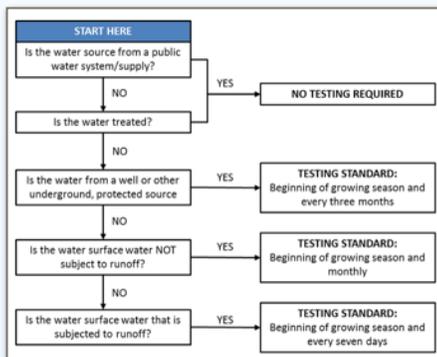


Figure 2. Agricultural Water - Proposed Frequency of Testing.



Surface water sources falling under this rule would have specific testing requirements.

## Proposed Water Requirements in the new Food Safety Modernization Act

Alicia Whidden  
Extension Agent Hillsborough County

As many of you know the FDA is writing a new national food safety policy which is called the Food Safety Modernization Act (FSMA). This new rule takes a “risk-based” approach to looking at the practices that are used in food production. One of the big areas of FSMA is the water requirements for agricultural water. The water rule was to have been published in mid-June, but it is still not out. This article is an overview of the proposed rule, but some numbers will probably change from what is stated in this article when the rule is finally adopted.

The first area proposed is that growers at the beginning of each season inspect the water sources and distribution system that is under their control. Testing is required for water that:

1. Is used to make treated agricultural teas,
2. Directly contacts the harvestable portion of the crop,
3. Directly contacts food contact surfaces, or
4. Is used for hand washing.

Water must meet certain microbial standards. The standards used are for potable water and there is no detectable *E. coli* in 100ml water sample.

If water is touching the produce pre-harvest, then the standards are somewhat easier. A 100ml sample of water must have a reading of <235 *E. coli* in a single sample and <126 *E. coli* in 100 ml in a 5 sample rolling geometric mean. These numbers will likely change. A geometric rolling mean (Figure 1) is complicated to understand but is to the growers advantage

over using an arithmetic rolling mean. If your water is out of compliance then you would be expected to stop using it, determine why the populations are high and alter your system and retest or treat the water. If water does not touch the produce pre-harvest, such as when using drip, there are no standards developed.

Water testing: The frequencies of testing will depend on the water source you are using (Figure 2). Ground water is tested at the beginning of the season and every 3 months. Surface water that receives runoff is tested every week and uses the rolling geometric mean. If you treat your water with a sanitizer, then no testing is needed as long as you provided documentation of tests that the system is working properly.

Record-keeping will be a big component of the new rule. Records of systems inspections, test results, and water treatment SOPs/treatment monitoring results, if treating the water, will need to be kept.

The big issue has been when will this go into effect, and growers will need to be in compliance. The dates are based on when the rule goes into effect, and right now they are saying fall of 2015 for the rule but it may be even later than that. Compliance dates will be based on the size of the operation. Very small farms (< \$250,000) will have 6 years from the date of the final rule. Small farms (< \$500,000) will have 5 years and large farms will have 4 years.

References used:

Water Requirements in the Proposed Produce Safety Rule of the Food Safety Modernization Act. Danyluk, M., S. Ahn, R. Goodrich and K. Schneider. Vegetarian Newsletter, Oct. 2013. No. 587.

Proposed Produce Safety Rule-Water Requirement Powerpoint presentation. M. Danyluk and A. Whidden. 2014 Agritech, Aug. 5, 2014.

## PEACH

## Symptoms of Manganese Deficiency in Peaches



Figure 2. Gradient showing increasing levels of manganese deficiency, healthy leaf (top left), most deficiency leaf (bottom right) (USDA 1976).



Figure 3. Manganese deficiency symptoms on a peach leaf, bands along main veins remain green. (Johnson 2008).



Figure 4. Shothole in peach leaves associated with a severe manganese deficiency (USDA 1976).

## Manganese Nutrition for Peach Trees

Chris Oswalt  
Extension Agent Polk County

Elemental manganese (Mn) is not considered very mobile in our sandy Florida soils. Due to this limited mobility, soil manganese is only slightly available to peach trees. The availability of soil manganese is further affected by soil pH.

In high pH soils, manganese becomes insoluble and unavailable to peach trees.

Manganese is considered a micronutrient and only small amounts are required by peach trees for proper growth and development. Manganese is important in plant photosynthesis, nitrogen and carbohydrate metabolism. If manganese is not adequate in the older foliage, then the deficiency symptoms will first appear on the new foliage (figure 1).

Symptoms of manganese deficiency in peach trees include dull yellowish-green leaves that are darker in the veinal areas of the leaf (figures 2 & 3). Also young leaves are more severely affected. Deficiency can result in the stunting of terminal shoot growth. In severe deficiency, manganese

can be associated with a malady known as shothole (figure 4).

Manganese deficiency can be commonly seen on new growth, especially early in the spring when soil temperatures are low or under dry soil conditions. Symptoms due to these issues will typically be transient in nature and do not need treatment. If deficiency symptoms become persistent then treatment will be necessary. Unless the symptoms are severe tree

growth and yield are not affected.

Correction of manganese deficiency can be easily and quickly remedied by foliar applications of manganese. Two to four pounds of manganese sulfate applied as a foliar spray in 100 gallons of water can be applied during the early summer after harvest.



Figure 1. Manganese deficiency develops on younger leaves first. It shows as yellowing between veins. Veins remain green. Soil pH may be high, reducing availability of manganese.

(Sources: Johnson and Urin. Mineral Nutrition. Univ. of Ca. <http://ucanr.org/sites/nm/files/76718.pdf>, Lockwood, Ferree and Myers. Nutrition. Univ. of Ga. <http://www.ent.uga.edu/peach/peachhbk/cultural/nutrition.pdf>. Photo credits: [http://www.clemson.edu/extension/peach/faq/peach\\_nutrition.html](http://www.clemson.edu/extension/peach/faq/peach_nutrition.html)).

# PEACH

## Considerations for Glyphosate Use in Peach

Gary K. England  
Extension Agent Lake County

One of the biggest challenges of producing peaches in Florida is maintaining a relatively weed-free strip within the tree row throughout the majority of the year. Maintaining this weed-free strip is important since weeds compete with peach trees for water and nutrients, can interrupt the pattern of low-volume irrigation systems and potentially serve as an alternate host for insects and other pests that may infest the crop.

One of the most common herbicide active ingredients used in tree crops in Florida is glyphosate. Glyphosate is included as the active ingredient in a number of commercial herbicide formulations and is commonly associated with the various Roundup® brands. The UF/IFAS Extension Publication, HS93 entitled “Weed Management in Peach” (<http://edis.ifas.ufl.edu/wg020>), indicates that sprays consisting of glyphosate containing herbicide products are to be directed to the base of the tree to avoid contact with desirable vegetation. The product label of one formulation of glyphosate (Roundup Weather Max®) indicates that “extreme care” must be exercised to prevent any component of the spray solution from contacting foliage or green bark of trunk, branches, suckers, fruit or other portions of the tree. The product label also indicates that suckers and low hanging limbs should be removed at least 10 days before application, and that application near recently pruned or otherwise mechanically injured trees should be avoided. Furthermore the product must not be applied to trees that have been established in the orchard for less than 2 years.

There have been reports of glyphosate injury in Florida peach orchards over the past few years. One report from Canada indicated that glyphosate toxicity can lead to a gumming of the trunk affecting the flow of water and nutrients in the trunk (<http://sprayers101.ca/wp-content/uploads/2014/04/2006-Herbicide-Injury-in-Fruit-Trees-and-Grapevines.pdf>). This same symptom has been observed in Florida and seems to advance to a symptom similar to fungal gummosis as it progresses in orchards where glyphosate injury has been suspected (Figure 1). Clemson University has published a list of 5 recommendations for those that decide to utilize a glyphosate herbicide in their orchard (<http://www.clemson.edu/hort/peach/index.php?p=117>).

If glyphosate herbicide products are utilized in Florida peach orchards, all instructions on the product must be understood and followed to prevent potential crop injury. Even when a peach orchard is deemed to be in a dormant stage, especially with our low-chill cultivars, there is a possibility that there still could be susceptible plant tissue which could be affected by a spray solution containing glyphosate. For growers wishing to avoid potential crop injury from glyphosate, HS93 lists some alternative products to consider.



Figure 1. Gumming of the trunk potentially associated with a glyphosate application made the previous fall. Photo Credit: Gary K. England 8/14.



NC State glyphosate injury picture: <http://wolfpackweeds.com/php/herblnjury-photo.php?photo=PeachGlyphosate2.jpg&crop=Peach&at=Glyphosate>

## PEACH



## New Variety: UFGem

**Cami Esmel-McAvoy**  
Extension Agent Sumter County

UFGem is a new variety that was released in 2013 from the University of Florida Stonefruit breeding program. Relatively little is known about this new release as it was not included in the updated UF Stonefruit variety publication released in May 2013.

Based upon the Florida Foundation Seed Producers website, this variety would be a good fit for south Central Florida peach producers as it requires approximately 175 chill units. UFGem is characterized by yellow-fleshed with an almost 100% red skin coloration (blush) over yellow ground color. It is a non-melting peach with medium to large fruit that lacks the red pigmentation near the pit that is characteristic of other UF cultivars.

In terms of fruit development period, it is closest to UFGold at approximately 80 days from bloom to fruit maturity. When contrasted to UFSun, UFGem sets in the early to mid-season with a regular heavy crop load. UFGem has a semi-upright growth pattern, therefore maintaining the open center during pruning will be key management strategy for this variety.

If you have experience with this new variety, we (the Central FL Stonefruit Extension Agent team) would appreciate hearing from you.

## Central Florida Peach Grower Roundtable

Our fall Central Florida Peach Roundtable will be held at the BHG Auditorium, UF/IFAS Citrus Research and Education Center in Lake Alfred. The meeting will be on Tuesday, September 9, 2014, beginning at 10:00 a.m. and will conclude with lunch. Our sponsor for this Roundtable will be Florida Farm Bureau. The following is the agenda for our meeting:

- 9:30 a.m. Check-in
- 10:00 a.m. Introductions
- 10:05 a.m. **4 R's of Nutrient Management**  
Dr. Cami Esmel-McAvoy

UF/IFAS Pasco County

10:30 a.m. **Cost Share Opportunities and Benefits of Best Management Practices**  
Jessica Stempien  
FDACS, Office of Ag Water Policy

10:55 a.m. **Break**

11:05 a.m. **Peach Tree Fertilization and Impact of Nitrogen Rates**  
Dr. Mercy Olmstead  
UF/IFAS Stonefruit Extension Specialist

11:30 a.m. **Soil Water Relationships and Irrigation Scheduling for Peaches in Sandy Soils**  
Dr. Kelly Morgan  
UF/IFAS Southwest Florida Research and Education Center

Noon **Lunch**

Sponsored by Florida Farm Bureau

To attend we will need you to preregister by calling Gail Crawford at 863-519-1042 or email her at: [dorothy@c@ufl.edu](mailto:dorothy@c@ufl.edu). We will need to have this done by Friday, September 5, 2014. The address of the UF/IFAS Citrus Research Center is 700 Experimentation Station Road, Lake Alfred, FL.

We hope to see you on the 9<sup>th</sup>,

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