

Citrus Notes



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 for
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 Counties

IMPORTANT DATES

JUNE 12 - 14, 2016

ANNUAL MEETING OF THE FLORIDA STATE HORTICULTURAL SOCIETY

Hutchinson Island Marriott Beach
 Resort and Marina
 555 NE Ocean Blvd
 Stuart, FL 34996

AUGUST 17 - 18, 2016

CITRUS EXPO

Lee Civic Center
 11831 Bayshore Rd
 North Ft. Myers, FL 33917

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129th Annual Meeting of the Florida State Horticultural Society



This year will mark the 129th Annual Meeting of the Florida State Horticultural Society. Back on

April 18, 1888, eighteen horticulturalists met for a horticulture convention during the semi-annual meeting of the Florida Nurserymen's Association. "In the parlors of the Ocala house" they formed what today is the Florida State Horticultural Society. Interestingly, the first subject of discussion by this group of Society horticulturalists involved navel oranges. Other fruit growing topics were also discussed, but citrus was the first.

The Society is comprised of six sections: Vegetable, Krome Memorial (tropical and tempered fruits), Natural Resources, Ornamental Garden and Landscape, Handling and Processing and Citrus. Each year authors submit abstracts for manuscripts in one or more of the afore mentioned sections. This year we have over 120 paper and poster presentations as part of the program. This includes a full Citrus Section program. Many of you, I know, have been members of the Society in the past, and I encourage you to go online at fshs.org and take a look at past copies of the Proceedings, join the Society or register for the Annual Meeting. It is all right there on the website. A listing of abstracts to be presented at the Annual meeting can also be found at the

following web site: <http://fshs.org/wp-content/uploads/2013/01/program-abstracts-160422-v2.pdf>.

Presentations from the 2016 Florida Citrus Growers' Institute



Videos of the 2016 Florida Citrus Growers' Institute presentations are now available at the UF/IFAS Citrus Agents website (<http://citrusagents.ifas.ufl.edu>). This is the latest installment of Institute presentations that date back to our 2008 meeting.

The citrus agents also have their current and past newsletters available on the website for reading or downloading at your convenience.

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CITRUS LEAF AND SOIL SAMPLING:

A KEY TO CITRUS TREE HEALTH

Soil and leaf sampling is a basic key component to the evaluation of a citrus nutrition program. Annual sampling and the subsequent analysis will give you an broad picture of nutritional trends that have been occurring in the grove from year to year.

The analysis results of soil samples will need to be compared to a calibrated scale of nutrient deficiency or excess based on the extraction method used. It is important to understand that, although the reported values can vary based on the extraction method, the calibrated range for that specific extraction method should be used to interpret the results. Leaf samples are reported in percent or parts per million (ppm), and therefore are not subject to adjustments based on the type of analysis performed.



Citrus Soil and Leaf

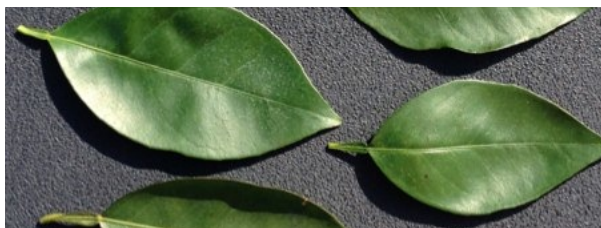
Sampling

It is approaching the optimum time of the year to collect citrus soil and leaf samples for analysis. As a quick review, I have included the basics of soil and leaf sampling for citrus trees.

Select representative trees from an operational unit that you intend to manage nutritionally the same. Typically 15 to 20 trees are selected over this management unit for sampling. Collect your leaf and soil samples from these trees. You could further reduce the year to year variability in interpreting your analysis results by sampling the same trees from one year to the next. Today, GPS technology is everywhere, from a portable unit in your truck to most smart phones. Even handheld units have become very affordable over the past few years. Use this technology to sample the same areas (trees) year after year.

Soil analysis is limited to providing very specific information that you, as a grove manager, can use in your production decisions. This information includes soil pH, phosphorus, calcium, magnesium and copper (if you specifically request the copper analysis). From these 15 to 20 trees, take a single soil core of an 8 inch depth from within the irrigation pattern of each tree. Place the cores in a clean bucket for collection. When you have collected all the necessary cores from a production unit, thoroughly mix the sample cores together. Take approximately one pint of the soil from the mixed sample for analysis. Also, don't forget that not all soil testing laboratories use the same extraction procedures to determine soil nutrient levels. Make sure, if you change soil testing labs from one year to the next, that you understand how to interpret the results.

Leaf analysis can be used for all essential elements including those determined in the soil analysis. As mentioned above, leaf samples can and should be collected from the same trees as the soil samples. One hundred healthy leaves from the 15 to 20 trees should be collected. These leaves should be 4 to 6 months old from non-fruiting twigs. This time frame will generally be between the months of July to September. In handling the leaf samples, keep the collected leaves out of the heat. If they can not be sent out immediately, place in a refrigerator for overnight storage. For macronutrient analysis, the leaves need not be washed. If micronutrient analysis is desired, then the leaves will need to be washed to remove surface contamination. Washing of leaves can be done by soaking the leaves in a mild detergent solution and rubbing them between your thumb and forefinger. The washing of leaves should be done as soon as possible after collection. Some micronutrients are exceedingly difficult to remove (copper, manganese and zinc) through surface washing. One final thought on leaf analysis, as it relates to enhanced nutritional spray programs, is that it may be exceedingly difficult to make judgements using leaf analysis if you are applying frequent nutritional sprays to your trees.





IMPROVING ROOT HEALTH:

IN HLB INFECTED CITRUS TREES

Last month at the 2016 Florida Citrus Growers' Institute held in Avon Park, there were two presentations on improving root health in HLB infected citrus trees.

The first presentation by Dr. Jim Graham, from the UF/IFAS Citrus Research and Education Center (CREC), looked at methods to sustain citrus root density. The second by Dr. Evan Johnson, again from the CREC, was on the effect of rootstock and *Phytophthora* management. Below I have tried to summarize the key points of both presentations.

Methods to Sustain Citrus Root Density Of HLB Infected Trees

Let's start off with a couple of observations on root damage on HLB infected trees. There is a 30% to 50% root loss before any symptoms appear in the tree. This loss increases to 70% to 80% as the canopy thins. These infected trees produce off cycle root flushes in response to the root loss caused by HLB. This off cycle and faster root replacement turnover is at a considerable cost to the tree in producing new vegetative growth and fruit production. Over time infected trees develop calcium and magnesium deficiencies.

HLB damaged citrus roots are more susceptible to *Phytophthora* infection. Under the presence of this heavy disease pressure recommended fungicides for the control of *Phytophthora* become less effective. Roots will also begin to exhibit biennial growth patterns. One year the tree expends energy to produce roots at the expense of fruit production and vice versa the following year.

Bicarbonates play a role in increasing the stress on a compromised and infected root system. High bicarbonates will reduce root uptake of calcium, magnesium, potassium and iron. As soil pH elevates, availability of calcium and magnesium becomes nearly nonexistent. There are differences in a rootstock tolerance to bicarbonates. Sour orange and Cleopatra mandarin are more tolerant than Swingle, Carrizo or the *Poncirus trifoliata* hybrids. The root losses to bicarbonates is in addition to the loss cause by HLB. This loss is estimated at 20% reduction in root density and can be managed, unlike HLB root loss. The time to consider action is when soil pH levels are above 6.5 pH and bicarbonates are greater than 100 ppm in the irrigation water.

Managing this root loss can be done through the following practices: fertigation or spoon feeding trees, by lowering the soil pH in the wetted irrigation zone (with elemental sulfur), acidify the irrigation water, reducing bicarbonates to below 100 ppm and

reducing any additional root stresses such as high salinity (in the soil or water).

By reducing bicarbonate stress, *Phytophthora* populations decline with the presence of healthier roots. This allows for the recommended fungicides to become more effective. Reducing bicarbonates, along with the subsequent reduction in soil pH, also increases the availability of calcium as measured by foliar analysis.

Citrus Rootstocks and *Phytophthora* Management

Citrus root growth is not inhibited by HLB. In early infection root production increases, but in advance decline it is significantly reduced. At this point root growth becomes more sporadic and not strongly cyclic during the growing season. Infected trees will still produce a major fall root flush even with this sporadic root growth pattern.

HLB causes a reduction in the production of plant carbohydrates which
(continued on page 6)

Agricultural Tax Planning Meals and Lodging Provided to Farm

Workers (By Thomas J. Bryant
CPA & Ryan Beasley CPA)

Almost all farmers and growers on a regular basis or on occasion will hire workers, maybe for one or two days or longer periods. Larger farms will have permanent workers (employees). Whether large or small, the question of how to handle the providing of meals and lodging to workers on site, for tax purposes, is a question that will arise. Under current law, employer provided meals and lodging as a tax free fringe benefit is generally only available to an individual who is an employee of a C corporation. Owners of other entities do not have access to this fringe benefit, although they may provide meals and lodging to workers. This article discusses the tax aspects of employer provided meals and lodging in very general terms from the employer's perspective. Items or practices discussed in this article are generally based on C corporation provided meals and lodging except as otherwise noted. Generally, meals and lodging provided to a non C corporation employee cannot be treated as a tax free benefit and are income to the worker. Under Code Section 1372, a 2% or greater S-corporation shareholder-employee is considered a partner and therefore ineligible for this fringe benefit.

Employer-Provided Meals

Meals provided without the furnishing of lodging must be furnished for substantial non-compensatory business reasons to meet the fringe benefit requirements (IRS Code Section 119). There are several examples of qualifying situations in the regulations:

- a. Emergency call situations that require on-the-job meals to workers.
- b. Employer business activity that permits only a short meal

break, requiring on - premises meals, as an example, pickers.

- c. Insufficient eating facilities in the vicinity of the farm or grove.
- d. The meals generally must be provided during working hours.

Growers and farmers may discriminate and provide meals and lodging to key or supervisory employees only, and not to other employees. Small food items and soft drinks are considered nontaxable de minimis fringe benefits. It should be noted that this is an exclusion from employee income and not an employee deduction.

Groceries purchased by an employee are not a deduction under Section 119. When lodging is also provided for employer business reasons, meals provided to the workers spouse and dependents, as well as meals provided on non-working days also qualify for the exclusion. Groceries purchased at corporation expense and then prepared by corporate employees into meals qualify for the exclusion. Generally groceries purchased directly by an employee are not a deduction under Section 119. However, a farm corporation was allowed the deduction under Section 119 when corporate employees (farm wives) purchased groceries, prepared them into meals and served the meals to employees on the farm premises.

Employer-Provided Lodging

The statutory criteria of "on the business premises" requires that the lodging be an integral part of the business property, or be premises on which the corporation conducts its business activities. However, the court determinations on this subject have been non-agricultural cases. As an example, the residence furnished to a hotel manager across the street from the corporate hotel was considered to be on the business premises.

(continued on page 5)

FLORIDA CITRUS ROOTSTOCK SELECTION GUIDE: NEW CUSTOM QUERY OPTION

The Third Edition of the Florida Citrus Rootstock Selection Guide was recently released online at frootstockselectionguide.org and has now been expanded to include an expert system to aid growers in rootstock selection. The expert system was developed as a collaborative effort of Drs. Steve Rogers, Bill Castle, Steve Futch, and Mr. Andrew Persaud. This newly added function allows the users to provide information about their proposed site (horticultural, tolerances, and pest and diseases of concern) to generate rootstock suggestions. From the grower supplied information, the expert system analyzes the 900 factors in the rootstock selection guide to generate a ranked list of the best rootstocks for that site based on the user's criteria. This expert system does not store or archive any data that is supplied by the user, but allows the user to print a copy of suggested rootstocks. The program can be found at www.crec.ifas.ufl.edu/extension/citrus_rootstock/templates/guide/.

For more information please contact Steve Futch at shf@ufl.edu or Andrew Persaud at apersaud@ufl.edu or by phone at 863-956-1151.

Meals and Lodging Provided to Farm Workers (from page 2)

However, a residence housing provided to a motel manager located two blocks from the motel was held not to meet the criteria. Employer provided housing can include household utilities as well as the structure itself.

Caution: The IRS Code Section 179 expensing cannot be claimed on any household furnishings provided as a part of employee lodging. Also, under IRS Code Section 262(b) the deduction for the first telephone line to any residence is disallowed as a deduction.

Prior Court Cases

Some prior court cases and IRS private letter rulings have resulted in victories on the application of Section 119 involving farm situations, others have not. I have included a few of these cases in the article as examples of favorable and unfavorable decisions.

- a. A California grape and farming corporation provided housing to employees, even though residential areas providing available housing were located two and six miles from the farm site. An upper court reversed an earlier Tax Court ruling and declined to overrule the corporate officers' business judgment as to the need to locate personnel on the corporate premises. The upper court agreed with the corporate officer's judgment in this case.
- b. A corporation conducting a wholesale nursery and landscaping business was allowed to depreciate residential improvements for the benefit of its sole stockholder. The improvements included the addition of a swimming pool and pool house for about \$70,000 and other

remodeling of about \$100,000. Among other reasons, the court noted that the business required someone on the premises for the security of its 500 acre nursery, valuable equipment, and for shipping after normal business hours during the harvest season.

- c. In a private letter ruling (PLR) in 1991, the IRS rejected an examiner's assertion that forming a farm corporation and adopting use of the Section 119 fringe benefit represented the prohibited use of a corporation for evasion or avoidance of federal income tax by securing the benefit of a deduction not otherwise available.
- d. (Unfavorable) Four South Dakota C corporation farms failed to show that meals and lodging furnished to shareholder corporate employees were furnished for the convenience of the corporation and were therefore denied Section 119 benefits. In all four cases, the corporation's business activity consisted of holding farm real estate and leasing the real estate to an active farm proprietorship conducted by the owner of the corporation. The corporation conducted no active grain or livestock farming operations.

Summary

The furnishing of meals and lodging to employees and subsequent treatment as an excludible fringe benefit requires some thought and planning. Corporate minutes should contain authorization for the providing of meals and lodging and the reasons why corporate employees are required on the premises 24 hours a day. Employee contracts written or otherwise should also contain the requirements of on-premises living and the express duties

of preparing and furnishing of meals by company employees. The residence must be available to the corporation, although there are certain negatives to this including the possible loss of the gain exclusion on a sale of a personal residence. However, as a practical matter, the providing of an occasional meal to a worker that is not part of the farmer's normal operations should not be a problem. This is clearly a situation that should be discussed with your tax professional or our accounting firm.

For information on this topic and other tax planning for farming, please contact me at (863) 640-2008 or Tom@beasleybryantcpa.com and /or Ryan Beasley at (863) 646-1373 or Ryan@beasleybryantcpa.com. Please visit our website at www.beasleybryantcpa.com for information on other relevant topics.

We at Beasley, Bryant & Company, CPAs, P. A. are experienced in agricultural business problems, tax issues or concerns, and are here to help you. Thomas J. Bryant, CPA is Senior Tax Partner, and Ryan Beasley, CPA is Tax & Business Management Partner; Beasley, Bryant & Company, CPAs, P. A., Lakeland, Florida (863) 646-1373.

Syngenta Receives Approval for Broadworks Herbicide

The folks at Syngenta recently received Federal and State approval for the use of Broadworks herbicide in Florida citrus. They see the main use for Broadworks to be as a tank-mix partner with Gramoxone 2.0 SL, in fall through spring applications. When utilized with Gramoxone, Broadworks will expand the post-emergence spectrum of weed control, especially with difficult to control broadleaf weeds. Broadworks will also provide short term residual control of mainly broadleaf weeds following the application. In addition, it brings a new mode of action to the Florida citrus herbicide market.

CITRUS ECONOMIC PUBLICATIONS

Dr. Ariel Singerman, Assistant Professor of Agricultural Economics at the UF/IFAS Citrus Research and Education Center, has updated a number of citrus economic publications.

Central Florida (Ridge) Summary Budget Costs 2014-2015 is available at the following link: http://www.crec.ifas.ufl.edu/extension/economics/pdf/2014_15%20Ridge%20Costs%20.pdf

Average Packing Charges for Florida Fresh Citrus 2014-2015 at: <http://www.crec.ifas.ufl.edu/extension/economics/pdf/Packing%20Charges%20Report%20201516.pdf>

Estimated Average Harvesting Charges 2014-2015 at: http://www.crec.ifas.ufl.edu/extension/economics/pdf/Estimated_Average_Picking_2014-15.pdf

Ridge, Indian River and South Florida Custom Citrus Caretaker Rates for 2015 at: <http://www.crec.ifas.ufl.edu/extension/economics/pdf/2015%20Caretaker%20Rates%2020160307.pdf>

Additional citrus economic information can be found at Dr. Singerman's web site: <http://www.crec.ifas.ufl.edu/extension/economics/>

Phytophthora

Management (from page 6)

become limiting to plant growth and fruit production. This results in an unbalanced competition between roots, shoots and fruit production for a limited supply of plant carbohydrates. Increasing root growth will not reverse this, since root growth is not affected by HLB. It is the longevity of roots that are affected and practices that will reduce stress and encourage root longevity should be implemented.

Growers should consider stress reducing treatments that have the greatest potential for a financial return. Treatments for *Phytophthora* should be considered when propagules exceed 20 propagules per cm³ of soil. This treatment should be timed and coincide either just before, or during, a root flush.

In evaluating 14 citrus rootstocks, most of which are planted in the St. Helena trial, revealed some performance differences when compared to traditional rootstocks. Early indications are a few (minority) of the new rootstocks initially had greater root densities. A couple of examples were two of the UF series rootstocks. One specific rootstock variety early in the HLB decline phase had root density about twice that of traditional rootstocks. This resulted in a slower decline of the tree canopy compared to traditional rootstock material. As these trees entered into the late phase of decline, this rootstock had similar root densities to traditional rootstocks. Canopy decline and fruit drop appeared to be more severe on these trees probably due to carbohydrates being used for root growth. Another rootstock variety in the trial actually had an increase in root density during the early disease phase, and to date has not exhibited this late phase reduction in root density. Early information on these experimental rootstock indicates that they appear to delay or slow down the progression of root decline. Most of these rootstocks, over time, do develop losses in root

density similar to Swingle citrumelo. It maybe more important to match the most suitable rootstock for a particular site in an effort to lessen overall root stress.

Food Safety Modernization Act (FSMA)

Training

The Food Safety Modernization Act (FSMA) represents the most sweeping reform of US food safety laws for more than 70 years. The Food Safety Preventive Controls Alliance (FSPCA) was formed to assist the regulated industry to comply with requirements of the Preventive Controls for Human Food Rule.

FDA has recognized this course as the "standardized curriculum" for the Preventive Controls for Human Foods Rule. Successfully completing this course is one way to meet the requirements to become a "Preventive Controls Qualified Individual." Under the Preventive Controls for Human Foods Rule, the responsibilities of a preventive controls qualified individual include to perform or oversee: preparation of the food safety plan, validation of the preventive controls, records review and reanalysis of the food safety plan.

This hands-on course will teach participants how to develop and document a Food Safety Plan based on the requirements of FSMA's Preventive Controls for Human Foods Rule for their specific operations.

Breakout sessions are structured to teach participants how to identify and prevent food safety hazards, monitor hazard reduction procedures, develop control measures, and methods to document and verify the results of their efforts.

Use the links below to register:
June 1-3 – Orlando, FL
<http://fspca060116.eventbrite.com>
August 9-11 - Wimauma, FL
<http://fspca080916.eventbrite.com>
September 7-9 – Fort Pierce, FL
<http://fspca090716.eventbrite.com>



PESTICIDE NEWS AND INFORMATION:

CRISIS EXEMPTION FOR ANTIBACTERIAL PRODUCTS

On March 4, the FDACS declared a crisis exemption for the use of streptomycin sulfate (FireWall 50 WP® EPA Reg. No. 80990-3), oxytetracycline hydrochloride (FireLine 17 WP® EPA Reg. No. 80990-1), and oxytetracycline calcium complex (MycoShield® EPA Reg. No. 55146-97) to control *Candidatus Liberibacter asiaticus* (CLas) bacterium, the cause of citrus greening disease, in Florida citrus. (FDACS letter, 3/4/16).

EPA Plan for Sulfoxaflor Includes Added Pollinator Protections

Additional protections for pollinators are included in an EPA proposal that would allow use of sulfoxaflor, whose registration was pulled last year after the U.S. Court of Appeals for the 9th Circuit ruled the agency had not properly evaluated the insecticide's effects on pollinators.

The proposed amended registration, made available May 17, also would prohibit use of the sulfoximine-class insecticide (trade name: Transform) on five crops for which it had previously been registered: citrus, cotton, cucurbits (gourd plants such as squash and pumpkins), soybeans and strawberry.

Cotton and citrus growers have found the chemical useful in battling pests. In interviews after the court decision in September, two entomologists told Agri-Pulse that sulfoxaflor was critical to these producers.

Michael Rogers, director of the Citrus Research and Education Center at the University of Florida, said sulfoxaflor is one of only two effective controls for Asian psyllids - which cause citrus greening - during the six - to eight-week

bloom period. Gus Lorenz, an extension entomologist and distinguished professor at the University of Arkansas, said "it's very, very difficult for [cotton growers] to get control of plant bugs" without sulfoxaflor.

EPA called the proposed registration "very protective of pollinators," citing conditions that will not allow use of the insecticide on "bee-attractive" crops before and during bloom. Applications also would be prohibited on crops grown for seed production.

"Additional measures are being proposed to reduce spray drift: prohibiting applications if wind speeds are above 10 mph and requiring the use of medium to coarse spray nozzles," EPA's Office of Pesticide Programs (OPP) said.

EPA is asking for comments by June 17 on two provisions: "One that would impose a downwind, 12-foot, on-field buffer zone when there is blooming vegetation bordering the treated field and the second would prohibit tank mixing sulfoxaflor with other pesticides." Comments may be submitted to the sulfoxaflor docket [EPA-HQ-OPP-2010-0889](https://www.regulations.gov) at www.regulations.gov.

"These restrictions practically eliminate exposure to bees in the field, which reduces the risk to bees below EPA's level of concern such that no additional data requirements are triggered," OPP said.

In the proposed registration, EPA categorized the crops proposed for registration by their attractiveness to bees:

Not Bee Attractive:

- Barley, triticale, wheat • Turf grass

Harvested Before Bloom:

- Brassica leafy vegetables • Bulb vegetables • Leafy vegetables (non-Brassica) and watercress • Leaves of root and tuber vegetables • Root and tuber vegetables

Bee Attractive but Applications Post-Bloom Only:

- Berries (Grape, Blueberry, Cranberry)
- Canola • Fruiting Vegetables (Tomato, Pepper, Eggplant) and Okra • Pome fruit
- Ornamentals • Potato • Stone Fruit • Succulent and Dry Beans • Tree nuts and pistachio (Agri-Pulse Communications, Inc., 5/18/16).

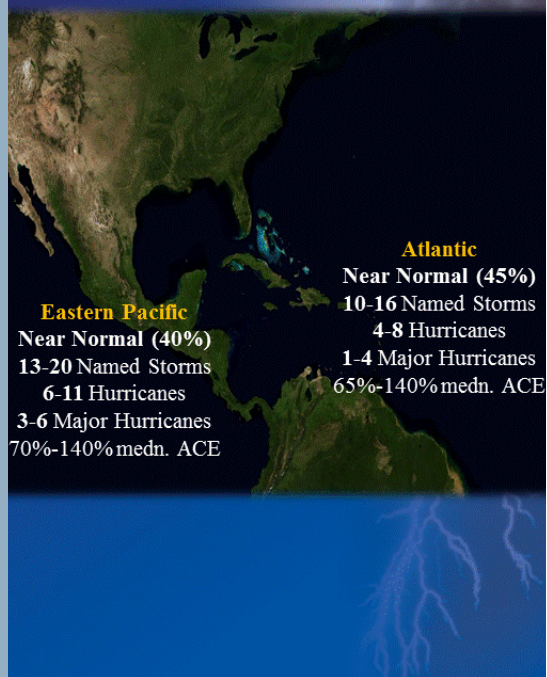
2016 ATLANTIC HURRICANE SEASON:

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION OUTLOOK (NOAA)

NOAA is predicting a near-normal hurricane season. The probability predicted for a near-normal season is 45%, a 30% chance of an above-normal season and a 25% chance for a below-normal Atlantic hurricane season. Predictions are for a 70% chance of having the following: 10 to 16 named storms (includes Alex in January), four to eight hurricanes (including Alex) and one to four major hurricanes.

One of the main factors influencing Atlantic hurricane season is the Atlantic Multi-decadal Oscillation (AMO). This cycle overlays other climatic factors such as the El Niño Southern Oscillation (ENSO). The AMO is cyclic, running in patterns of high and low activity every 25 to 40 years. At this point there is still some uncertainty if there is an end, during this year, of the high activity cycle. One other consideration is that there is also predicted to be a 70% chance of La Niña (a cool equatorial Pacific Ocean phase) developing for the months of August to October. La Niña conditions usually favor hurricane development.

2016 Hurricane Season Outlooks



EPA Takes Strong Steps to Prevent Poisonings and Protect Workers from Paraquat

The U.S. Environmental Protection Agency (EPA) is proposing to take action to stop poisonings caused by accidental ingestion of the herbicide paraquat, which can also cause severe injuries or death from skin or eye exposure.

“We are taking tough steps to prevent people from accidentally drinking paraquat and to ensure these tragic deaths become a thing of the past,” said Jim Jones, assistant administrator for the office of chemical safety and pollution prevention. “We are also putting safety measures in place to prevent worker injuries from exposure to this pesticide.”

Since 2000, there have been 17 deaths – three involving children caused by accidental ingestion of paraquat. These cases have resulted from the pesticide being illegally transferred to beverage containers and later mistaken for a drink and consumed. A single sip can be fatal. To prevent these tragedies, EPA is proposing:

- New closed-system packaging designed to make it impossible to transfer or remove the pesticide except directly into the proper application equipment;
- Special training for certified applicators who use paraquat to emphasize that the chemical must not be transferred to or stored in improper containers; and
- Changes to the pesticide label and warning materials to highlight the toxicity and risks associated with paraquat.

In addition to the deaths by accidental ingestion, since 2000 there have been three deaths and many severe injuries caused by the pesticide getting onto the skin or into the eyes of those working with the herbicide. To reduce exposure to workers who mix, load and apply paraquat, EPA is proposing:

- Prohibiting application from hand-held and backpack equipment, and
- Restricting the use to certified pesticide applicators only (individuals working under the supervision of a certified applicator would be prohibited from using paraquat).

Paraquat is one of the most widely-used herbicides in the U.S. for the control of weeds in many agricultural and non-agricultural settings and is also used as a defoliant on crops such as cotton prior to harvest. The proposal will be available for a 60 day public comment period. EPA will consider all public comments before finalizing these proposed actions later this year.

Actions on specific pesticides are one way that EPA is protecting workers from pesticide exposure. EPA's [revised Worker Protection Standard](#) and [proposed Certification and Training Rule](#) will also protect farmworkers and pesticide applicators. (EPA Pesticide Program Updates, 3/3/16)