



Green-Up News

For The Commercial Grower
By Dana Venrick, Commercial Horticulture Agent II



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GROWER FORUM

CEUs Available

Tuesday, August 14, 2007
Pierson Lions Club
143 W. First Ave, Pierson
9:00 a.m.—Noon

Plan now to attend this valuable workshop so you can improve your fertilizer and pest control programs.

Speakers include soil scientists and specialists from UF/IFAS.

Program includes lunch at noon compliments of
Farm Credit of Central Florida

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FNATS Expands Name to: FNATS: The Landscape Show

The Florida Nursery and Allied Trade Show (FNATS) says it wants to make it even easier for professionals in the landscape industry to recognize FNATS as a must-attend event. In this effort to reach out to the widening landscape audience, FNATS has expanded its name to FNATS :The Landscape Show.

The Show will take place October 4-6, 2007 at the Orange County Convention Center in Orlando.

GREEN TURF

New Emerald Dwarf Bermuda Tested on Fairways

The new greens-grade Emerald dwarf Bermuda has been installed on the fairways, collars, and tees of the River Course at Kiawah Island (SC),

According to Jim Musci, Superintendent of River Course, “the Emerald has exceeded expectations. The color is fantastic, an emerald green, and the contrast with (another grass) the rough is really nice. The members love it. The lower cutting heights (between 1/8 and .25 inch)

mean better roll. It’s got deeper roots than the ultra, it’s not thatching up as bad; better recovery from divots, and not as much TLC is required in topdressing, grooming and such.”

Very few golf courses have the maintenance ability and staffing to do what Jim Musci is doing, but this new application of a greens-grade Bermuda is proof of the toughness and versatility of the new Emerald dwarf Bermuda.

“Controlled-Release” Fertilizers Release Nutrients Too Fast

Extended experiment by the University of California and the USDA, measuring the release of nutrients from various controlled-release fertilization products, found excessive release minerals from Multicote, Osmocote, Nutricote, and Polyon fertitizers.

The study concluded that the major nutrients (nitrogen, phosphorus, potassium) released by the fertilizers during the first 24 weeks of testing were more than those required by the plants. This raised the possibility, not only of root burn, but also the possibility of nutrient contamination of the groundwater when routinely irrigated. This is exactly the problem that such fertilizers are supposed to help solve.

The study found Multicote poses the greatest risk of groundwater nutrient pollution among the types of fertilizers demonstrated excessively quick releases of nitrogen, phosphorus, or potassium.

In regard to micro-elements, U.S. EPA water quality guidelines for iron, manganese, and zinc were exceeded because of high peaks of nutrients released in the first few weeks of the study.

So, here is more research evidence for reducing application rates, even for “controlled” release fertilizers. This is also another reason to monitor the EC of substrate leachates and a reason to sign up for voluntary BMPs.

Thanks for information from UF/IFAS Orange County Extension and Celeste White

What is the Most Popular Bermudagrass for Golf Greens?

Tifdwarf, introduced in 1965, held the top position for southern grassing for many years.

In a new wave of cultivars introduced in the 1990s, Champion Ultra Dwarf Bermuda, first planted in 1996, continues to grow in popularity. In 2006, more greens were planted to champion than any previous year.

...from South Turf—April 2007

MSMA STATUS REPORT

The turf industry is still waiting to see if this arsenic-containing herbicide (broad-spectrum and controls grassy weeds) will lose EPA registration. The product is now in the long period of public comments. The industry expects at least some label restrictions regarding rates and total amounts applied per year.

NURSERY/FERN/CITRUS/TURF

HONEY BEE CCD



The recent and sudden onset of honeybee Colony Collapse Disorder (CCD) may be linked to a commonly used neonicotinoid containing the active ingredient imidacloprid.

The National Research Council reported in 2006 that the sublethal effects of pesticides such as imidacloprid may impair

the navigational and foraging abilities of honeybees. Beekeeping associations in the United Kingdom and France and some U.S. beekeepers have linked imidacloprid to disturbances of complex behavior of insects, including flight, navigation, olfactory memory, foraging, and coordination. Other neonicotinoids implicated are clothianidin and thiamethoxam.

The U.S. EPA has identified some of these chemicals as highly toxic to bees and some of these pesticides have been discontinued in parts of Europe because of their potential effects on pollinators.

American scientists now studying the Colony Collapse Disorder wrote in their first preliminary December 15, 2006, report that even though the neonicotinoids will not kill adult bees on flowers and plants:

“Recent research tested crops where seed was treated with imidacloprid. The chemical was present by systemic uptake, in corn, sunflowers and rape pollen in levels high enough to pose a threat to honey bees. Additional research has found that imidacloprid impairs the memory and brain metabolism of bees, particularly the area of the brain that is used for making new memories.

“Implication: If bees are eating fresh or stored pollen contaminated with these chemicals at low

levels, pesticides might not cause mortality, but might impact the bees’ ability to learn or make memories. If this is the case, young bees leaving the hives to make orientation flights might not be able to learn the location of the hive and might not be returning, causing the colonies to dwindle and eventually die. It is also possible that this is not the sole cause of the dwindling, but one of several contributing factors.

Jerry Hayes, Chief of Apiary section of FDACS, said in an interview: *The interesting thing about the Colony Collapse Disorder is that bees are leaving the colony and not coming back, which is highly unusual for a social insect to leave a queen and its brood or young behind. They are seemingly going out and can’t find their way back home. Imidacloprid, when it is used to control termites, does exactly the same thing. One of the methods it uses to kill termites is that the termites feed on this material and then go out to feed and can’t remember how to get home. And it also causes their immune systems to collapse causing what would be normal organisms to become pathogenic in them (bees).*

At an American Academy of Sciences presentation in 2006, Jerry Hayes said: *“How much of our food production do we want to turn over to other countries that might be friendly now and not friendly in the future? That’s similar to our energy production problems right now. So, the federal government is looking at this and my question is: Are honey bees the canary in the coal mine? What are honey bees trying to tell us that we humans should be paying more attention to?”*

This is the most dramatic losses that I’ve seen in my career. I think I’ve heard 80% or higher losses (of honey bees in at least 24 states). I think they lost 400,000 colonies in Poland and 600,00 in Spain. In Florida, we have some 280,000 registered colonies and we’re expecting losses in the 35% to 45% range.

Continued on pg. 4

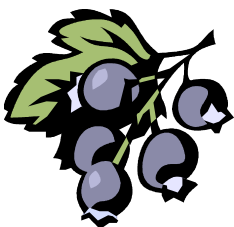
COULD WE BE LOOKING AT FOOD SHORTAGES AT THE END OF 2007?

I suppose if this continued. Then the question is: who fills in the gap? And do we become reliant on them? I think I read a figure from the USDA that they project by 2015 that 40% of our vegetables would be coming from China. So, maybe the transition is already taking place. What does this mean for consumers? If they can still get food in the grocery store and the price is the same, who cares about the honey bees?



BUT THAT COMES BACK TO YOUR PRESENTATION AT THE NATIONAL ACADEMY OF SCIENCES AND THE INTEREST OF NATIONAL SECURITY, IF WE END UP LOSING OUR POLLINATORS IN NORTH AMERICA AND WE ARE DEPENDENT UPON CHINA, SOUTH AMERICA AND OTHER COUNTRIES THAT MIGHT BECOME POLITICALLY DIFFICULT IN THE FUTURE, WHAT WOULD HAPPEN TO THE U.S. FOOD SUPPLY?"

Quotes from an article by Linda Moulton Howe, Honey Bee Disappearance: Could Pesticides Play a Role?



BLUEBERRY PACKING HOUSE OPENS IN BARTOW

A former citrus-packing plant, Clear Springs Packing House and Distribution Center in Bartow is now packing 50,000 pounds of blueberries a day and shipping more than 250,000 pounds a week.

In operation for just over a month, the Polk County plant expects to ship 20 to 25 percent of all blueberries grown in Florida.

The acres of blueberries harvested in Florida grew from 2,300 in 2003-04 to 25,000 in 2004-05. The cash receipts grew from \$25.2 million to \$32.7 million and, at \$6 per pound, could increase to 36 million this year.

Central Florida is considered the state's newest blueberry production area and already accounts for 35 percent of total acreage and is growing rapidly. Blueberries do well in Volusia County and acreage is increasing here, as well.

FERTILIZING PALMS PROPERLY

The fertilization of field-grown and landscape palms requires that 100% of the nitrogen (N), potassium (K), and magnesium (Mg) in a fertilizer be in a controlled release form. Water-soluble sources leach quickly, resulting in nutrient deficiencies and unfavorable mineral ratios in the soil. Fast release of water-soluble minerals also are likely to cause root burn.

Micronutrients, such as manganese (Mn), iron (Fe), boron (B), copper (Cu), and zinc (Zn) need to be in water-soluble forms. The only recommended sources for Mn, Zn, and Cu are sulfate forms.

Research by Dr. Timothy K. Broschat, of the UF/IFAS Ft. Lauderdale Research and Education Center, has proven that a 8-2-12 analysis fertilizer with 4% Mg and micronutrients is necessary for maintaining and growing healthy palms.

This combination of nutrients can correct mild to moderate palm deficiencies and prevent their recurrence in all soil types in south and Central Florida. Remember, it is imperative that the 8-2-12 fertilizer be formulated as discussed above, or the fertilizer may be worse for the palm than no fertilizer at all. The 8-2-12 + 4% Mg with micronutrients blend will last for about three months in the soil. Therefore, this fertilizer should be applied every three months.

When applying the 8-2-12-4 palm special, make sure it is spread out uniformly on the surface. Don't concentrate fertilizer in holes or use tree spikes. Applying evenly over the surface ensures that all the root system receives nutrition, not just a very few under concentrated spots or bands of fertilizer (that may also cause root burn).

Maximum rates recommended for field nurseries and landscapes is 1/5 lbs. of the 8-2-12-4 fertilizer (not lbs. of N) per 1000 square feet of bed area, tree canopy area, or landscape area.

Fortunately, the 8-2-12-4 analysis fertilizer does a great job for all other types of plants and lawn in the landscape.

Comparative studies at the UF/IFAS Ft. Lauderdale REC have shown that St. Augustinegrass fertilized with the palm special had quality equal to that produced by a high quality turf fertilizer.

The use of 8-2-12 + 4 Mg with micronutrients is recommended for use on the entire landscape. Roots of large palms typically grow up to 50 feet or more from the trunk and take up whatever fertilizers have been applied in those areas. In the case of many "lawn" fertilizers, the high N:K ratio (and lack of enough Mg) forces rapid growth of palms. Without enough K or Mg to support the growth, the existing K and Mg reserves in the tree are diluted and K

Palms (cont'd)

and/or Mg deficiencies are accelerated. High N fertilizers applied to turf even 30 feet away from a palm on one side only have repeatedly been shown to kill palms from induced K deficiency. Therefore don't apply high N fertilizers to palms or turf within 50 feet of a palm. More and more evidence indicates that applying high N to any plant is not such a good idea. No high N fertilizer is a bargain if it kills a high-value specimen.

The 8-2-12+ 4 Mg analysis will correct even severe N deficiency within a month or so. However, it will not correct severe K deficiency.

So how do you correct severe K deficiency? First of all, it is important to apply about 1/3 as much Mg as K to prevent a high K:Mg ratio from causing a Mg deficiency. Broadcast a 3:1 blend of sulfur-coated potassium sulfate and philled Kieserite (the slowly soluble form of magnesium sulfate or Epsom salt) evenly to the soil under the canopy at a rate of 1.5 lbs. per 100 s.f. of canopy area. Then repeat in three months. Three months later, then six months later, apply a 1:1 ratio of the K:Mg blend and a balanced 8-2-12-4 palm maintenance fertilizer use at the rate of 1.5 lbs. per 100 s.f. of bed area, canopy area, or entire landscape area. After one year, use only the balanced palm fertilizer at the 1.5 lbs per 100 s.f. rate. Treatment may require one to two years or longer. Don't remove fronds with green in them.

Treatment of severe Mg deficiency and other deficiencies will be discussed in a future issues of *Green Up News*. If you need complete information on this topic go to: <http://edis.ifas.ufl.edu/EP261> and read the entire article: Fertilization of Field-grown and Landscape Palms in Florida by Timothy K. Broschat.

GROWING PITTOSPORUM FOR CUT FOLIAGE

Pittosporum tobira (Japanese pittosporum) is a widely grown cut foliage crop. Both variegated and green cultivars are grown, with variegated being more popular and returning a higher price than the green. Foliage and the dried fruit are used in floral arrangements. (1)

Fertilization:

Fertilization should be based primarily on soil tests and, to some extent, on leaf tissue analysis. Research by Conover and Poole (2) suggests that low fertilizer rates are best. *Pittosporum* growing in Tavares-Millhopper fine sand, fertilized with 6-6-6 [6N-2.6 P-5K] fertilizer at nitrogen rates from 143 up to 571 lbs/acre/year, actually produced higher yields at the 143 lb. rate!

Fertilization should be tailored to the time of the year. Rates should be highest during the spring foliage flushes. Cut back during the hot summer months, particularly on

the amount of nitrogen. Keep adding adequate amounts of the key minerals potassium, magnesium, and calcium. In addition, add phosphorus if soil testing shows that P has dropped below an optimum level. If micro elements are needed, add multiple trace minerals at low levels rather than just the trace mineral that is deficient.

Good nutrition with key minerals is necessary for the late summer and fall growth flushes. Make sure that the plant has optimum levels of all the key minerals going into the winter, as well. Of course, very little, if any, fertilizer inputs should be made in the winter. Light applications of a liquid supplement may be beneficial at times. A liquid supplement with humic and fulvic acid may be helpful.

Silicon (Si) supplementation may be helpful. Si, usually applied as liquid potassium silicate, has been demonstrated to increase cold hardiness and reduce nematode injury. Si also reduces water loss, and decreases root and foliar diseases. Si helps provide pest resistance because Si acts as a mechanical barrier to the stylets (sucking mouth parts) and mandibles of chewing insects. Foliar sprays of potassium silicate reduce aphid populations on leaves. (4,5,6)

Pittosporum is a host to numerous pests and insects, but can be controlled with proper crop management. Some of the important diseases are *Alternaria* leaf spot, *Cercospora* or angular leaf spot, *Rhizoctonia* aerial blight, *Pythium* root rot, and *Rhizoctonia* root rot. (1,3) See these referenced articles for more information and control measures or call me at the Agricultural Center.

Remember that *Pittosporum* is especially sensitive to applications of chlorothalonil fungicides. Repeated applications can cause growth-regulator-like symptoms and leaf drop. Plant death, especially of variegated forms, can occur. (1) Prevent this problem by not applying chlorothalonil fungicides, such as Daconil®, to *Pittosporum tobira*. For more complete information on *Pittosporum*, please refer to the below referenced articles.

1. Stamps, Robert H. 2002 Japanese *Pittosporum/Tobira* Production and Use. UF/IFAS, Central FL Res. And Ed Ctr. Cir. ENH 861
2. Poole, R.T. and C.A. Conover. 1980. Influence of light and fertilizer levels on production and acclimatization of *Pittosporum spp.* *HortScience* 15:201-203.
3. Chase, A.R., et.al., Diseases of *Pittosporum* in Florida. 1986 (Copied 2001). Department of Plant Pathology, UF, Gainesville. Plant Pathology Fact Sheet PP-29.
4. Chen, Caldwell, Robinson and Steinkamp. Let's Put the Si Back Into Soil. UF/IFAS Central FL REC.
5. Epstein, Emanuel. The Anomaly of Silicon in Plant Biology. University of California at Davis.
6. Chen, Caldwell, Robinson, and Steinkamp. Silicon: The Estranged Medium Element. UF/IFAS Central FL Res. And Ed. Ctr.

Dates To Remember

- May 16** **Small Farm Conference** Mid-Florida Research & Education Center, Apopka, FL. Concurrent educational sessions on grapes, ornamental, citrus, vegetable, forestry, and livestock small farm opportunities. Optional tours of research station activities in grapes, nursery, and tree crops. For more information contact Dr. Juanita Popenoe, 352-343-4101.
- May 16 & 17** **Floriculture Field Days** University of Florida, Gainesville. For more information, contact Julie Markowitz at the FNGLA office 800-375-3642 or e-mail jmarkowitz@fn gla.org
- June 3-5** **Florida State Horticultural Society Annual Meeting**, PGA national Resort & Spa, Palm Beach Gardens, FL. Contact: fshs@crec.ifas.ufl.edu or www.fshs.org.
- June 6** **CEU Day**, Mid-Florida REC, Apopka. For information and registration, Contact Richard Tyson, 407-665-5554
- June 14-17** **Florida Nursery Growers & Landscape Association Annual Convention**, Marco Island Marriot Resort & Spa, Marco Island, FL Contact: 407-295-7994 or www.fn gla.org
- July 19&20** **Native Wildflower Seed Production Research Symposium**, Leu Gardens, Orlando. For more info contact Kimberly Brand 352-392-5930, e-mail: kimmer72@ufl.edu

Sincerely,

Dana Venrick

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