Santa Rosa County

HortSense

UNIVERSITY OF FLORIDA
EXTENSION
Institute of Food and Agricultural Sciences

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Front Page
by Dan Mullins

We hope that you find this issue of "Hortsense" to be of value to you and your business. We have tried to provide some useful information on a variety of subjects.

Several people in the horticulture industry have requested updates concerning pesticide use. Those have been included along with a listing of some upcoming educational opportunities and a plant problem section. Please review the newsletter and offer suggestions for future issues.

This has been a challenging year for those who produce horticultural crops or provide landscape installation and maintenance. Droughts, floods and high winds from three storms have had their effects.

In spite of these challenges, the future continues to look bright. The demand for locally grown fruits, vegetables and ornamental plants continues to increase.

Though producing healthy plants is important, our biggest challenge appears to be in the area of marketing.

In addition to the conventional crops, watch for opportunities with some of the so-called niche or specialty crops. There are some exciting possibilities including cut flowers, vegetables, fruits and new ornamentals.

Daniel E. Mullins
Extension Agent-Horticulture/Vegetables

Upcoming Events

October 11 – ***Invasive Plant Control in North Florida***, UF/IFAS Okaloosa County Extension Auditorium, Crestview, FL. For more information contact: Mike Goodchild mjgo@mail.ifas.ufl.edu 850-892-8172 or Scott Jackson lsjackson@mail.ifas.ufl.edu 850-897-1800

December 6, 2002 ***Regional Pesticide Applicator Training*** Jay, FL. CEU's will be available.

Dec 6 & 7 - *Great Southern Tree Conference*, Gainesville, Call Heather Nedley or Julie Markowitz at FNGA 1-800-375-3642

Pesticide Potpourri

(excerpts from Chemically Speaking)

• Monsanto Company has received an amendment/extension from the EPA for an EUP regarding *B.t.* corn. The crop destruction requirement was dropped to allow for tissue and seed collection, and 9,400 acres of the corn can be planted until February 28, 2003 in multiple states, including Florida. (*Federal Register*, 6/26/02).

• On June 13, the EPA announced the request by Aventis CropScience to delete nonbearing citrus tree from their Mocap® EC (ethoprop, EPA Reg. # 264-458) product label. (*Federal Register*, 6/13/02).

• On July 26, Dow AgroSciences announced that the herbicide clopyralid will no longer be registered for use on U.S. residential lawns. However, it will be available for non-residential turf use with amended labels that direct property managers not to compost clippings from treated areas. Farm, ranch, and forestry uses will be unaffected. (*Dow AgroSciences Release, 7/26/02*).

• EPA will phase out and cancel certain crop uses and formulations of the insecticide diazinon to reduce risks to birds and other wildlife, agricultural workers, and the environment. These actions are part of a second agreement between EPA and diazinon technical registrants, reflected in the Diazinon Interim Reregistration Eligibility Decision (IRED) signed by the Agency on July 31, 2002. All indoor use product registrations must be canceled and retail sale must end by December 31, 2002 and all outdoor residential use product registrations must be canceled and retail sale must end by December 31, 2004. Other mitigation includes canceling nearly all granular uses, discontinuing all aerial applications, discontinuing foliar application to nearly all vegetable crops, reducing the number of applications per growing season for most uses, requiring engineering controls for mixers and loaders, and closed cabs for applicators, setting re-entry intervals at 2 to 18 days, and canceling certain crop uses. (*EPA Pesticide Program Update, 8/5/02*).

• Pylon® (EPA Reg. # 241-374) with the active ingredient chlorfenapyr is now labeled for use against foliar nematodes. This is the only true nematicide labeled for foliar nematodes in the U.S. (*Florida Pest Alert, 8/15/02)*

Certain crop uses and formulations of the insecticide diazinon will be

• On July 25, the Florida Department of Agriculture and Consumer Services (FDACS) registered Dormex® (hydrogen cyanamide) plant growth regulator (EPA Reg. # 54555-2) for stimulating uniform bud break in grape, blueberry, apple, cherry, peach, and nectarine. (*FDACS PREC Agenda, 9/5/02).*

• On July 31, 2002, the EPA completed the Reregistration Eligibility Decision (RED) document for endosulfan. This document reflects the risk management and tolerance reassessment decision for this pesticide. Endosulfan is used on a wide variety of vegetables, fruits, cereals, and cotton, as well as ornamental greenery in agricultural settings. The Agency has identified measures to reduce the exposure to endosulfan from food, water, and occupational sources, and exposures to non-target organisms. These measures include canceling uses for succulent bean, succulent pea, grape, pecan, and spinach; reducing application rates; and establishing set backs and buffers to protect water. While the Agency believes that these measures will reduce the potential for exposures to aquatic organisms, it also believes that in specific geographical areas additional measures may be identified. *(EPA Pesticide Program Update, 8/5/02).*

Featured Web Site http://safepesticideuse.com

The Florida Department of Agriculture and Consumer Services (FDACS) now maintains a web site to promote safe pesticide use and compliance with state and federal laws and regulations in the State of Florida.

The searchable databases provide verification of license status for licensed pest control companies, licensed pesticide dealers, certified/licensed pesticide applicators, registered service technicians, and authorized purchasing agents of licensed restricted use pesticide applicators.

The "CEU Classes" search can be used to look up approved continuing education classes for pesticide applicator recertification, and the "Earned CEUs" database contains online records of CEUs earned by individual pesticide applicators.

Turf Tips

• Dow AgroSciences discontinued residential turf use of the herbicide clopyralid. Agriculture and other forms of nonresidential use will not be affected.
Homeowner clopyralid use came under fire when the U.S. Composting Council issued a warning that the herbicide could persist in compost and damage sensitive crops. This raised concerns in communities with municipal composting programs that make compost derived from homeowner lawn clippings.

Dow states that damage has been isolated, and clopyralid-containing composts much less likely to cause damage if incorporated into soil.
(Source: Weekly NMPRO e-mail for Aug. 13, 2002 Compiled by Todd Davis, Editor)

• Some pesticides could increase effectiveness of entomopathogenic nematodes used to control pests including fungus gnats and white grubs. Researchers at Ohio St. Univ., Rutgers Univ. and Univ. of Calif., studied compatibility of nematodes with other pest control products. The insecticide imidacloprid and the nematodes *Heterorhabditis bacteriophora* and *Steinernema glaseri* interact synergistically against white grubs. The researchers also studied the impact of fungicides on *S. feltiae* that are used for fungus gnat control. Azoxystrobin (Abound) and neem (Nimbecidine) did not harm nematodes. Unlike some pesticides, nematodes can continue to provide control some time after they are applied. A single host can produce 300,000-400,000 new nematodes, which then seek additional host pests. For more information visit http://fusion.ag.ohio-state.edu/news/story.asp?storyid
(Source: GMPRO green-MAIL, for Aug. 27, 2002

• **New Reference Manuals**
The Professional Grounds Management Society (PGMS) recently announced the publication of two fully updated standard reference works. The 6th edition of Grounds Maintenance Management Guidelines and the 6th edition of Grounds Management Forms and Job Descriptions Guide are available from PGMS online at http://www.pgms.org/pgmspublications.htm or call 1-800-609-PGMS

The American Landscape Contractors of America (ALCA) will soon publish their Employee Training Manuals in both English and Spanish. For more information contact ALCA at 1-800-395-2522 or see their website at www.alca.org

Nutrient Management: What Does It Really Mean? A working example

The term 'nutrient management' when talking with growers about their personal farm practices often results in negative impressions. This is primarily due to a preconceived notion that the term 'nutrient management' is immediately followed by 'regulations,' 'waste management plans,' 'best management practices,' or the like. In truth, nutrient management is nothing more than how a person applies plant nutrients to crops. That simple act of fertilizing a field is active nutrient management, whether applying commercial fertilizers or animal wastes. Let's break it down into the 4 major steps involved in nutrient management:

1. What amount of nutrients should be applied by crop need, and by following established crop nutrient recommendations.
2. What form of nutrients should be applied.
3. Where should the nutrients be placed, or how they will be applied.
4. When the nutrients should be applied.
5. How much irrigation should be applied (for crops with irrigation).

When a farmer has checked his hay fields and determined that the North 40 needs an additional fertilizer application of 80 lbs of nitrogen per acre; and then calls up his local fertilizer dealer and orders 8 tons of 19-3-12 and a pull spreader next Tuesday, he has already gone through the steps of nutrient management

1. He ordered 8 tons of fertilizer for the 40-acre field. That will require an application rate of 420 lbs/Acre.
2. He ordered a 19-3-12 custom blend fertilizer. By applying at 420 lbs/Acre (step 1) he will be applying 80 lbs of nitrogen through ammonium nitrate, ammonium sulfate, or urea (or others). Also applied will be 13 lbs of phosphorus and 50 lbs of potassium.
3. He asked for a pull spreader. This will broadcast the nutrients to the soil surface.
4. He requested the fertilizer for Tuesday.
5. He applied about 0.25 inches of irrigation after fertilizing to water the nutrients into the soil for root uptake and to limit volatilization.

(Continued on page 6)

USDA Updates

* USDA toughened its standards for imported bonsai (artificially dwarfed plants). The move is to protect against accidental introduction of pests such as Asian longhorn beetles. Under the new rule, artificially dwarfed plants must be grown for at least 2 years at a registered foreign nursery, and annual inspections of the nursery sites are required. Plants must be grown in pots containing only sterile media on benches at least 20 inches above ground. The rule is effective Sept. 18. http://www.aphis.usda.gov/ppd/rad/webrepor.html
(Source: Weekly NMPRO e-mail for Aug. 27, 2002)

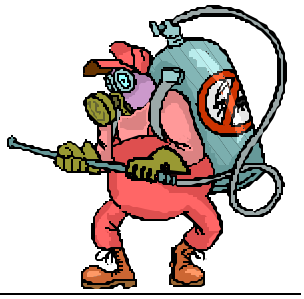
* USDA researchers are studying beneficial microbes to combat diseases such as pythium, rhizoctonia, cylindrocarpon and phytophthora on apple trees. *Pseudomonas putida* are bacteria with potential for battling these diseases, common on young trees. The research could also lead to reduced use of methylbromide, which is scheduled to be phased out from U.S. use in 2005. http://www.ars.usda.gov/is/pr/2002/020814.htm
(Source: Weekly NMPRO e-mail for Aug. 27, 2002)

Chemical Chaos

Due to EPA's safety concerns or simply the cost of further research and registration, residential use of many chemicals already have, or will soon, disappear from labels. A quick review is in order:

- **Daconil** (chlorothanlonil) - no longer available for residential turf use
- **Orthene** (acephate) will no longer be available for residential turf use after the end of 2002 except for spot treatments of fire ant mounds
- **Lindane** is no longer available for residential use
- **Dursban** (chlorpyrifos) is no longer available for residential turf use
- **Diazinon** is no longer available for residential turf use
- **Benomyl** is no longer available for residential use
- **Dimethoate** will no longer be available in 2003.

(*Source: The*



Organic Offerings

• Ag. Research Service scientists found that caffeine may be the best control agent for slugs and snails. For reasons not yet understood, a solution with 2% or 3% caffeine kills the mollusks, and solutions as weak as .01% will deter them. A cup of instant coffee has about .05% while brewed coffee contains more, an article in Nature magazine claims. Scientists are already looking at how home gardeners can use this information and if the solution can be classified as organic. While caffeine is safer to the plants and humans than personal applications, there is a possibility that caffeine might also kill beneficial insects. *Ed Note: Remember that you cannot use a substance as a pesticide unless it is registered with EPA and properly labeled.*
(Source: Growing Concerns, Dave Palmer, Oct-Dec 2002)

• Some home gardeners already use vinegar as a herbicide, and some garden stores sell vinegar pesticides. But no one has tested it scientifically until now. Agricultural Research Service scientists offer the first scientific evidence that vinegar may be a potent weedkiller that is inexpensive and environmentally safe--perfect for organic farmers. They hand-sprayed the weeds with various solutions of vinegar, uniformly coating the leaves. The researchers found that 5- and 10-percent concentrations killed the weeds during their first two weeks of life. Older plants required higher concentrations of vinegar to kill them. At the higher concentrations, vinegar had an 85- to 100-percent kill rate at all growth stages. A bottle of household vinegar is about a 5-percent concentration. *Ed Note: Remember that you cannot use a substance as a pesticide unless it is registered with EPA and properly labeled.*
(Source: Growing Concerns, Dave Palmer, Oct-Dec 2002)

Plant Problems

The tropical sod webworm has been a frequent pest this year, particularly in St. Augustine yards. This pest is most active from April through November.

The typical tropical sod webworm adult is a small, dingy brown to straw colored moth with a wing span of 3/4 to 1 inch. The adults, however, do not cause damage to the grass. The female adult flies over the grass dropping eggs, usually at dusk. Eggs hatch in approximately one week. The newly hatched larvae spin webbing in the V-

shaped depression of a blade of grass. They feed on the leaf surface and move to new blades of grass as needed. After 3 molts, the larvae drop into the turf canopy and spin loose webbing between the grass stems. Three generations occur in north Florida.

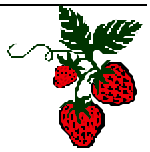
Outbreaks seem to appear overnight. Tropical sod webworm damage first appears as a general thinning but close inspection reveals that the grass blades have chewed or notched margins. Severe infestation can strip grass blades completely.

Most sod webworms are easy to control in their larval stage, though they may be difficult to reach within their silken tunnels. Use fertilizer and water to outgrow the damage.

If a soapy water drench reveals 10-12 webworm larvae per square foot, than chemical control may be justified. Currently recommended insecticides include acephate, bifenthrin, cyfluthrin, lambda-cyhalothrin and spinosad. *Bacillus thuringiensis* is a non-chemical option for controlling young larvae.

(*Source: Theresa Friday, Horticulturist, Santa Rosa County)*

Fruit Facts



Implement spider mite management plan now (Strawberries)

James F. Price

The first arthropod pest we experience each season is the twospotted spider mite and plans for managing it must be made before the season begins. The steps in developing a management plan include ordering high-quality transplants as free of spider mites as possible, assessing the pest status of the plants as they arrive, and scouting and deciding the scheme of remediation when spider mites become problematic. The last two steps are important this time of the season and will be discussed below.

As plant shipments arrive, boxes of transplants should be selected for inspection that represent each production site, as far as that can be determined, and variety within that shipment. The lower surface of all the leaves of one transplant per bundle within a selected box should be examined with a 5X hand lens. Records should be made of the number of transplants on which spider mites or their eggs are found. The number of boxes examined determines, to a large extent, the reliability of the estimate of spider mite infestation. If more than one percent of the transplants carry spider mites, then growers can expect a quick emergence of spider mite problems after the transplants are established.

There are two schemes for spider mite remediation available in the fruiting field, biological control with predatory mites and chemical control with miticides. Contacts with reliable producers of predators must be made early if the biological control option is exercised and predators should be released at one per transplant as soon as 5%-8% of sampled leaflets possess a spider mite or egg, but not before the strawberry plants have four fully expanded new leaves. If mites exceed the treatment levels before the plants have grown sufficiently, then one of the miticides mentioned below can be applied to control mites temporarily and allow for the necessary growth. Miticidal control has become more reliable than in the past. This is because of the availability of Savey® and Acramite® in addition to Agri-Mek® and Vendex®. Producers of Savey® advocate early use of their product once more than 2% of transplant leaflets possess one or more spider mites or eggs. Since Savey® is an ovicide/larvacide it is necessary to apply an adulticidal miticide such as Agri-Mek® or Vendex® along with it. Manufactures usually suggest that the other miticides also be applied when mite populations are low, or when about 5% of the samples leaflets are infested. Careful planning in the use of miticides based on scouting is very important because seasonal applications are limited to one of Savey®, two of Acramite® or Vendex® and four of Agri-Mek®.

Big disasters can occur if spider mites are not detected in a timely fashion and appropriate action taken. Early planning and scouting can avoid the loss.

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(Continued from page 3)

Improving nutrient management

Most nutrient management programs for crops should be geared towards simply improving the nutrient management practices farmers are currently using (like in the above example).

Improving nutrient management could mean any of a multitude of things: changing how much is applied, how often, what kind, when in the growing season to apply, etc. In the above example, nutrient management is improved because the farmer is only applying part of the total nitrogen requirement the hay field will need over the whole season. (80 lbs nitrogen per acre is enough for one cutting.) Applying more would be a waste; the crop might not use all the nitrogen, allowing some of the nitrates to leach.

Also part of the improved management in this example is the fact that the farmer only applied 0.25 inches of irrigation. For many of the sandy soils in north Florida, this would probably wet the top 4 to 6 inches of soil; which would begin moving the nutrients to where the roots are. Heavy irrigations may move the nitrates too deep, not giving the roots a chance to use them before leaching away.

Ultimately, these improvements are left at the decision of the grower; to implement or not implement as he chooses. However, in many cases, the improvements suggested may reduce production costs, which may increase profits in the long run. The idea is to manage the nitrogen and water so more of the nitrogen is used to grow the crop, and less is lost to the environment (air or groundwater). *[Source: Justin Jones, NFREC Newsletter, Sept. 23, 2002]*