



Ka Lono Pua

"The Flower News"

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Oahu County

Cooperative Extension Service

Red Imported Fire Ants Heading West

We are all careful to avoid bringing diseases and pests into our operations. We know that getting rid of them is very difficult, if not impossible. Now Hawaii is threatened by a terrible new pest that has invaded Arizona and California.

The movement of the Red Imported Fire Ant (RIFA) - Solenopsis invicta - from the southeastern U.S. to Arizona and California has raised alarm here in Hawaii. We have fire ants in Hawaii that are related to RIFA. But from personal experience, they are pussy cats compared to the fire breathing dragons of RIFA.

The Hawaii Department of Agriculture (HDOA) has heightened inspections of plant materials entering Hawaii. Further measures including certificates of origin and treatment, and 5-day quarantines are being discussed.

Believe me, we DO NOT want the RIFA in Hawaii. Support HDOA's efforts to keep this pest out. Read the enclosed fact sheet, and contact HDOA (586-0844) if you find ants that you suspect may be RIFA.

In This Issue...

- ◆ Eco-Friendly Pest Management
- ◆ Pesticide Applicator Training Course
- ◆ Steward of the Land Awards ...and more

Future Happenings

Jul 22	DOGAH Installation Banquet
Jul 28 – 31	Amer. Soc. Hort Science Conf., Minnesota
Jul 30	Deadline for registration for the 5 th Annual HENA Golf Tournament
Aug 6-8	TAN-MISSLARK Trade Show and Conference, Dallas TX
Aug 20	Admission Day
Aug 29 Sun	Lyon Arboretum Plant Sale, NBC Please Note the date change.
Aug. 27-29	Farwest Show, Portland, OR Oregon Association of Nurserymen
Sep 4-12	HFIA Wood Show
Sep 6	Labor Day
Sep 22-25	Oregon Assoc. of Nurserymen Conf., Maui Prince Resort, Makena, Maui
Sep 28-30	5 th Annual Hawaii Mid-Pacific Hort Conf. And Trade Show, Hilo
Oct 11	Discover's Day
Oct 14-17	Honolulu Orchid Show, NBC
Oct 31	Halloween
Nov 11	Veteran's Day
Nov 25	Thanksgiving

ECO-FRIENDLY PEST MANAGEMENT

Pest control in the greenhouse industry has changed a lot in the last 10 years. Until the late 1980's, pesticides were the only strategy of choice for most growers: simple, cheap and effective. Increasingly, however, the limitations of this narrow approach became obvious.

- The development of resistance by many pests as a result of regular exposure to pesticides meant that pesticides were no longer as effective as they used to be.
- Environmental impact of traditional pesticides (such as organophosphates and carbamates) became a major concern.
- Health and safety implications associated with older, more traditional pesticides have resulted in legislative changes (longer re-entry intervals and FQPA) and the realization by growers that they could not continue to expose themselves and their workers to some of these products.

The concern over some of these issues began as many as 30 to 40 years ago, but it is only in the last few years that solutions have started to find their way into commercial greenhouses.

A term familiar to many growers is Integrated Pest Management (IPM), and while there are many definitions of IPM out there, they almost always have an environmental component to them; a recognition that reduced environmental impact is a major aim of IPM. Eco-friendly is another way of saying the same thing and it is worthy of note that most strategies associated with IPM programs can be classed as "eco-friendly."

The following eco-friendly pest management strategies can also be found in most descriptions of IPM programs.

CULTURAL CONTROLS

Cultural controls encompass a wide range of strategies, which broadly refer to the general cultural practices associated with growing the

crop and how they can affect pests and diseases. Many of these strategies fall into the category of plain old good crop management and are invariably eco-friendly -- putting added pressure on pests and diseases without resorting to pesticides. These can include:

Weed control - Weeds in and outside the greenhouse can become as infested by insect and mite pests and disease as the crops you are trying to grow. It is a fairly safe bet that when pests and diseases are sprayed in the greenhouse, very few growers also take the trouble to treat the weeds under the benches or beside the end walls of the greenhouse. As a result, there can be an ongoing reservoir of problems just waiting to reinfest the crop after the sprayer is turned off. Regular attention to weed removal can make your spray programs more effective.

Sanitation - As with weed control, good sanitation is just good sense. Remove and put dead plant material (diseased plants, fallen petals, broken stems, disbuds) in plastic bags and dispose of them far away from the greenhouse. When left in the greenhouse, they are a source of inoculum of diseases such as *Botrytis* or they can help perpetuate insect problems such as thrips and leafminer. There is even evidence that in cut roses, sanitation involving the removal of all non-saleable flower buds can go a long way toward controlling thrips in that crop.

Environmental manipulation - Factors such as temperature, humidity and moisture control can affect the development and progression of diseases or the suitability of a habitat for insect pests such as fungus gnats and shoreflies. Learn about the biological requirements of the major pests and diseases and how the environment can be used to help with control. Computer programs are available which make use of environmental requirements of diseases, such as powdery mildew, to make conditions in the greenhouse less conducive to disease outbreaks.

Varietal susceptibility - Every grower knows that they have certain crops or varieties which are more susceptible to pests and diseases than

ECO-FRIENDLY PEST MANAGEMENT (contd)

others. Make use of this knowledge and use these indicators to detect and control problems before they spread to the rest of the crop. In extreme cases, some growers have discontinued growing certain varieties as a way to control a particular pest or disease problem.

PHYSICAL CONTROLS

Physical controls are those which aim to either prevent a pest or disease from coming into contact with the crop in the first place or to physically remove it from the crop when it is there. These methods are almost always eco-friendly with minimal impact on the environment.

Quarantine - Isolating new plant material from the rest of the crop when it first arrives allows the grower to closely inspect the product for a few days before putting it side by side with other plant material. If pests or diseases are detected, pesticides may still be used for control, but likely with far less usage than if the entire operation had to be treated at a later date.

Yellow sticky tape - Some growers use large quantities of yellow sticky tape placed along beds, above benches or in vent openings to catch flying insect pests in large numbers. Although on its own this may not provide significant control, it is another step in a pest control program which may consist of many small advances.

Screening - The same solution which keeps mosquitoes out of our homes in the summer can keep flying pests out of the greenhouse. Until a few years ago, I was unsure of the benefits of screening in a northern climate. However, after seeing the results of a number of Ontario growers who have screened their houses in recent years, I have become an enthusiastic advocate of this technology. Pest numbers are greatly reduced, control programs are more effective and pesticide use can be cut drastically.

Oddball - The use of the word "oddball" is an admission that I don't know how to categorize

the following control strategy which I recently saw when visiting an alstroemeria grower who was using biological control. It was not the biological control that confused me, but the fact that he was also bringing in quail to live contented lives rooting around in the litter at the base of the crop for weeds (and seeds), and presumably slugs, snails and insects. Of course the local neighborhood cats developed a pest status all of their own. Probably this strategy should be included with biological control, but for now I will leave it in a category by itself.

BIOLOGICAL CONTROL

The use of other living organisms to control pests and diseases is probably well known to most growers and has been discussed ad infinitum in magazines and newsletters for years. It is probably the first thing most of us think of when we think of environmentally friendly pest control. The extent of its use in floriculture is still small when compared with its use in greenhouse vegetables, but it is increasing and will continue to increase as more effective natural enemies and more bio-compatible pesticides become available.

Don't think, however, that biological control is by default eco-friendly. Some very serious environmental problems have occurred in the name of biological control and for that reason, authorities are very cautious about allowing new natural enemies into North America. In some countries, natural enemies are faced with similar registration requirements as pesticides. However, for most greenhouse pest management programs, it is safe to assume that biological control will have little environmental impact.

PESTICIDES

While it may seem strange to include pesticides with other eco-friendly pest management alternatives, we must remember that pesticides will likely be with us for a long time, probably

ECO-FRIENDLY PEST MANAGEMENT (contd)

remaining as the basis for most growers' pest management programs. As such, it is encouraging that the newer pesticides coming onto the market are, in general, less damaging to the environment than their predecessors. Many have reduced mammalian toxicity (compared with pesticides we have been using), are much more specific and as a result are more compatible with natural enemies which may be used for biological control.

Reprinted from the Ohio Florists' Association Bulletin, Number 835, May 1999

Floriculture Census

The value of wholesale floriculture crops was up 1% in 1998, reaching \$3.93 billion. That compares with \$3.90 billion in '97 for growers with \$10,000 or more in sales. USDA released its "Floriculture Crops: 1998 Summary" in June. It summarized production and wholesale sales trends in the 36 selected states. California and Florida both had declining sales and together represented 36% of the total. Of the states surveyed, 21 showed increased value over the previous year. The next three states in sales were Michigan, Texas and Ohio.

The number of growers nationwide tallied to 14,308 in 1998, compared with 1997's revised count of 12,717. Smaller sized grower groups-- \$10,000 to 19,999 and \$20,000 to 39,999-- showed large increases in numbers.

Hawaii followed this trend with increasing numbers from a total of 380 growers in 1997 to 463 in 1998. Average sales increased in Hawaii from \$51,993 to \$53,879 in 1998. For more information see:
<http://jan.mannlib.cornell.edu/reports/nassr/other/zfc-bb/flor0699.txt>

Steward of the Land

American Farmland Trust is now seeking nominations for the \$10,000 Steward of the Land Award. Now in its fourth year, the \$10,000 Steward of the Land Award goes to the farmer or farm family who demonstrates the strongest commitment to protecting agricultural land.

Nominees must be living and actively farming in the United States. Preference will be given to individuals who (a) use farming practices that lead to a productive farm in a healthy environment, (b) work to develop policies and programs for farmland protection at the local, state or national levels, and (c) demonstrate leadership by protecting their own farm from development.

Nominations for the 2000 award are due no later than November 1, 1999. Send them to Steward of the Land Award, American Farmland Trust, 1200 18th Street NW, Suite 800, Washington, D.C. 20036.

To nominate a farmer, see the \$10,000 Steward of the Land Award web site at www.farmland.org/steward/steward.htm. For more information, call (202) 331-7300 x3044.

American Farmland Trust is a private, nonprofit farmland conservation organization founded in 1980 to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment. Its action-oriented programs include public education, technical assistance in policy development and demonstration farmland protection projects. For more information, visit AFT's home page at www.farmland.org.

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"To gain self-confidence, you must avoid using negative words such as can't and not," the counselor advised the young woman. "Do you think you can do that?"

"Well, I can't see why not."

-Greg Evans,  
North America Syndicate

# Short Course for Pesticide Applicators

Deadline for registering is August 13.

A pesticide applicator training course will be conducted on Oahu and Molokai for people who want to prepare for the restricted use pesticide certification exam or to be better informed about handling pesticides properly.

The 16-1/2 hour course is made up of five meetings. Breaks are scheduled 50–60 minutes apart. The instructor will require pagers and cellular phones to be silent during class.

The course supplements the study packet included with the registration fee, but is not a substitute for reading and studying. The instructor will emphasize the study packet's "core" materials, which are the booklets and leaflets written for all categories of certification. "Category-specific" materials will not be covered. Topics to be covered include:

- pesticide types and formulations;
- understanding pesticide labels & labeling;
- laws and regulations about buying, storing, transporting, applying and disposal;
- employee protection;
- common pests' general identification features and life cycles;
- application equipment;
- dilution and dosage calculations;
- drift management;
- ground water protection;
- resistance and phytotoxicity;
- hazards to people including exposure routes, signs and symptoms;
- protective clothing and equipment; and
- safe mixing, loading and application.

## LOCATION & SCHEDULE

Kapiolani Com. Coll. on Diamond Head Rd.

Mon., August 30 (12 noon – 3:30 pm);  
Wed., Sept. 1 (12 noon – 3:00 pm);  
Fri., Sept. 3 (12 noon – 3:30 pm);  
Wed., Sept. 8 (12 noon – 3:00 pm); and  
Fri., Sept. 10 (12 noon – 3:30 pm).

## REGISTRATION

Registration is limited to 25 people. A course may be postponed if less than 10 people have registered by the deadline. If you have a disability and may need accommodations to fully participate, contact the Agricultural Diagnostic Service Center at (808) 956-6706 by the stated deadline. If you register by the stated deadline, a map and other course information will be sent with a confirmation–receipt. If you register late, call to confirm and request the course information.

Fee is \$100 (includes a study packet) or \$80 for those who already have a packet. You may indicate your order for a study packet on the registration form described below.

To register:

1. Reserve a seat. If requested, we will reserve a seat for a trainee until the registration deadline. A reserved seat will be offered to the next person on the list if registration and payment reaches us after the deadline. Send a reservation request, including name and a daytime phone number to Agricultural Diagnostic Service Center by phone (808) 956-6706; fax (808) 956-2592; email [ta\\_svccntr@avax.ctahr.hawaii.edu](mailto:ta_svccntr@avax.ctahr.hawaii.edu); or mail ADSC, Sherman Lab 134, 1910 East-West Rd., Honolulu, HI 96822.

2. Get a registration form from one of the following:

- Agricultural Diagnostic Service Center
- Charles Nagamine, UH Manoa, Honolulu, ph. (808) 956-6007

3. Send completed registration form with payment to the Agricultural Diagnostic Service Center.

## Cerulean Blue

More on Y2K -- the official color of the new millennium is expected to be cerulean blue, a shade of sky-blue. Leatrice Eiseman, executive director of the Pantone Color Institute, said gazing at a blue sky brings a sense of peace and tranquility to the human spirit. (So does looking at a garden full of blue flowers.) Products such as clothes and cars will be available in this color. <http://www.pantone.com/allaboutcolor/allaboutcolor.asp>

Source: USA Today.

## All America Selections

All-America Selections has established a Web site: <http://www.all-americaelections.org>. There you'll find purpose and history, images of the 1999 AAS winners to download, a seed source list for '99 winning varieties, 1995-98 winners and locations of AAS trial sites and display gardens.

GMPRO greEn-MAIL, for May 1999  
David Kuack

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Comedian Yakov Smirnoff writes:

"Coming from the Soviet Union, I was not prepared for the incredible variety of products available in American grocery stores. While on my first shopping trip, I saw powdered milk - you just add water, and you get milk.

Then I saw powdered orange juice - you just add water, and you get orange juice, And then I saw baby powder - I thought to myself, *What a Country!*"

-America on Six Rubles a Day (Vintage)

"Ka Lono Pua" Goes Electronic

Because the cost of mailing out "Ka Lono Pua" is high in regards to printing, producing and posting, we will happily e-mail copies to those that have access to e-mail. E-mail is faster, too - if you check your mail regularly.

So if you would like to receive "Ka Lono Pua" by e-mail, contact us so we can add your e-mail address to our listings. If you don't have e-mail or we don't know what it is, you will continue to receive a regular copy of "Ka Lono Pua."

Mahalo!

If you have any questions or suggestions, give me a call at 622-4185, Tuesdays and Thursdays or e-mail me at mersino@hawaii.edu. Check out our web site "Ask the Experts" at <http://www.ctahr.hawaii.edu:591/ate/>

Edwin F. Mersino
County Extension Agent
Agriculture Program

From July 26 to August 13, I will be on vacation and attending the Tan-MissLark conference and trade show in Dallas. If you have horticultural problems that require immediate attention please contact Dr. Mel Wong at 453-6058 or Dr. Ken Leonhardt at 956-8909.

- What eco-friendly steps can you take to control pests?
- What can the latest USDA floriculture census tell you?
- When can you expect new pesticide training courses?
- How will the Red Imported Fire Ant affect Hawaii?
- How can you (or someone you know) be honored with a \$10,000 award for protecting agricultural land?

The answer to these and many other questions can be found inside.