April 2003

Volume III Issue 4

UNIVERSITY OF FLORIDA EXTENSION
Institute of Food and Agricultural Sciences

Berry/Vegetable Times

Inside this issue:

Calendar of Events

- **April 8 and May 13**
  Pesticide Testing, Hillsborough Co. Cooperative Extension Office, Seffner. No pre-registration.
- **April 10**
  GCREC Vegetable Field Day. GCREC Bradenton 9 am. 941-751-7636.
- **April 29-30**
  Florida Agricultural Conference and Trade Show. The Lakeland Center, Lakeland. 863-984-4381 or www.FACTSshow.org.
- **May 5**
  MVAC Vapam/K-Pam Grower Meeting. Hills. County Extension Office, Large Conference Room 6 pm. CEU's & CCA's applied for.

Welcome to Spring!

The temperatures are rising and with all the rain we have been having it creates an ideal climate for disease. Be diligent with your scouting for diseases and insects and stay up with your sprays for control.

I want to thank all who attended the first grower meeting on March 20th. Thank you to Donna Strickland of Monsanto for the delicious barbeque and to Donna and the Dubois of Alley Cat Farms for our program on the Supplemental label for Roundup Ultra Max and the new equipment for wipe-on application.

There will be another grower meeting on Monday, May 5 at 6:00 p.m. This meeting is sponsored by Mike Herrington of AMVAC and will be on Vapam and K-Pam. Dinner will be served. CEU's and CCA's will be given. Please see the flyer included in your newsletter for more details. **Please RSVP by Friday, May 2. Call Alicia at 813-744-5519, ext. 134.**

I want to thank those that have sent in their bird survey. I ask the rest of the strawberry growers to please do so. If you need another copy of the survey call and I will send you another form.

It is hard to find anything good to say about the 2002-03 season except to hope spring vegetables bring a good return. It was a tough one to say the least - below average temperatures with frequent freezes and a major advective freeze, robins stopping for a prolonged time to feed on the berries, the constant battle with diseases - especially Anthracnose fruit rot, and to top it off California having unusually warm weather and coming in very early which closed us out of the market sooner than normal. I know everyone hopes next year will be a much, much better strawberry season.

Blueberry bushes are loaded with fruit and picking will be starting very soon. A problem that is being seen this spring is Stem Blight, caused by *Botryosphaeria dothidea*. The pathogen enters mainly through wounds. Limbs of the plant will dieback and the dead leaves will stay attached for quite some time. The affected stem will be right next to healthy stems on the plant. Also the wood of the diseased stem when cut will have a brown discoloration and may be only on one side of the stem. There is no chemical control but it is very important that diseased stems be pruned down below any discoloration in the wood so the disease does not continue to spread. Following pruning, it may be beneficial to spray with a fungicide. Captan or a strobilurin fungicide, such as Cabrio or Abound, can be used even though they have not been shown to control stem blight. Each material will help with a wide range of fungal pathogens to help maintain the overall health of the plant.

I can be reached at the Extension Office in Seffner at 813-744-5519, ext.134.

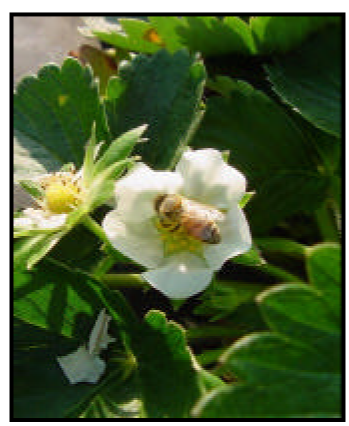
from your Extension Agent...Alicia Whidden

Bees and Cucurbits:

The following is taken from the EDIS publication, ***Insect Management for Cucurbits (Cucumber, Squash, Cantaloupe, and Watermelon), by S. E. Webb.***

Bees are essential for cucurbit production. It has been estimated that eight or more visits per blossom are necessary for optimum fruit set and normal fruit development in watermelon. The morning hours are most critical for pollination, but bees will continue to forage into the afternoon, so during bloom, application of insecticides harmful to bees should be done in the evening. Biological and cultural controls should be used as much as possible to preserve not only bees, but also other beneficial insects.

For more information regarding beneficial insects visit the EDIS website at **http://edis.ufl.edu.**



Bees are essential for cucurbit production.

Double cropping experiment—John R. Duval

Recently the question was raised, by a Risk Management Team, does the interplanting of alternate crops with strawberries near the end of the season affect the yields of strawberry? An experiment was designed to answer just that question and on February 28th a replicated study was initiated to examine the effect of interplanting squash, cucumber, cantaloupe (from seed and transplant) and bell pepper on strawberry yields. Alternate crops will be planted among strawberries every week for 5 weeks to determine if there is an effect of how long the crops are together in the field. Fertigation has been increased by 10% to support all crops being grown in the field. In addition, the yield of pepper (an insurable crop as well) is being monitored to see if double cropping reduces pepper yields.

To date no differences have been detected between strawberry alone or interplanted with any crop listed above. The trial on strawberry is slated to continue until April 15. This coincides with the length of current insurance contracts. It is expected that only in the *extreme* case of squash in the ground with strawberry for 6 weeks, will there *possibly be* a reduction in the yields of strawberry. With respect to pepper production, it is also expected that in the *extreme* case of pepper being grown with strawberry for 4-6 weeks a difference *may be* detected.

It is hoped that this experimentation will help risk management professionals gain a greater understanding of what occurs in a commercial farming operation that is trying to maximize the use of materials and spread costs out over more than one crop.

Intercropping trial at GCREC-Dover.

Spotlight on diagnostics -Teresa Seijo and Jim Mertely

The Strawberry Diagnostic Lab finished up its busiest season ever with a record month. Eighty samples were received during the first three weeks in March. For the season, over 230 samples were diagnosed. Among the March samples, there were 72 cases of anthracnose fruit rot (*Colletotrichum acutatum*), six cases of leak disease (*Rhizopus spp*.), and one case Alternaria fruit rot (*Alternaria spp*.) Twenty samples were also infected (or co-infected) by *Botrytis cinerea*, the Botrytis fruit rot or "gray mold" fungus.

C. acutatum was also an early season problem. During the October/ November period, we diagnosed 21 cases of young plants infected with *C. acutatum*. Infected transplants were slow to establish due to a root necrosis disease caused by the pathogen. Characteristic petiole lesions were found on a few transplants, and occasionally on runner plants coming straight from the box.

An ideal "infection event" for *C. acutatum* began with a 1.9 inch downpour on February 28. The first three days of March were characterized by persistent cloudy conditions and occasional light showers. When favorable weather conditions such as these combined with the infected transplant problem, many growers lost control of anthracnose fruit rot disease by the second week in March. Epidemics developed in susceptible cultivars such as Camarosa and Treasure, and also in Strawberry Festival, which is less susceptible to this disease. These three cultivars account for 35, 24, and 28% of the anthracnose fruit rot samples received in March, and for an estimated 23, 19, and 31% of our total acreage this season.

Crop destruction and Anthracnose control—Jim Mertely

This was a tough season for Florida strawberry growers. Early production was poor and as the season progressed, the deal continued to deteriorate. By March, prices were low due to high production in California, quality was mediocre due to abnormally high temperatures, and yields were reduced by an epidemic of anthracnose fruit rot. I would like to share a few thoughts concerning that epidemic and how crop destruction can help to avoid future problems.

In March, over 80 samples were submitted to the Strawberry Diagnostic Lab. Seventy-two of these samples were diagnosed with anthracnose fruit rot caused by the fungus *Colletotrichum acutatum*. Most of our widely-grown cultivars are moderately to highly susceptible to this pathogen. Thus Camarosa, Festival, and Treasure accounted for most of the samples received.

As we approach the summer season, many of our fields are thoroughly colonized by *C. acutatum*. Given this pathogen's preference for mild (but not hot) weather, disease inoculum will decrease over time. Prompt destruction of old strawberry plants can accelerate this natural decline in inoculum levels. When lingering strawberry plants are destroyed, a potential source of inoculum for the next strawberry crop is eliminated. Working here at GCREC-Dover, Dr. Alvaro Ureña demonstrated that *Colletotrichum* spp. survived less than 90 days on buried strawberry crowns (http://strawberry.ifas.ufl.edu/soilpaperJune12.htm). This finding suggests that old strawberry plants should be destroyed and incorporated into the soil by July 1. A June 1 target would provide a higher margin of safety, but may not be practical in double cropping situations.

Have you ever observed strawberry plants quickly collapsing and dying after the end of the growing season? Much of this mortality is caused by *C. gloeosporioides*, the Colletotrichum crown rot pathogen. Preliminary research suggests that the initial inoculum for strawberry crown rot epidemics comes from oaks, wild grapes, and other non-strawberry hosts in and around the production field. This hypothesis is consistent with the fact that *C. gloeosporioides* has not been found on runner plants from Canadian nurseries. While our hot summers tend to inhibit *C. acutatum*, they promote the growth and spread of *C. gloeosporioides*. In the summer, hot wet weather and the absence of fungicide applications give this pathogen free reign. Susceptible cultivars are readily killed under these conditions. Some inoculum produced on these dying plants may spread to non-strawberry hosts. Therefore, timely crop destruction should be carried out to prevent the multiplication of *C. gloeosporioides* over the summer, and to minimize possible spread to alternative hosts.

Crop destruction is recommended for the suppression of *Colletotrichum* species, and is useful in the battle against other pathogens, insects, nematodes, and weeds as well. In these days of dwindling supplies of methyl bromide and increasing restrictions on fumigants, this "broad spectrum" opportunity should not be missed.

Evidence of crown rot.

Timely crop destruction prevents future problems.

Performance of strawberry cultivars in the 2002-03 row trial -Craig Chandler and Jim Sumler

Eleven entries, representing eight cultivars, were planted in the 2002-03 row trial. Seven of the entries were plants from Ontario nurseries, two were plants from Quebec nurseries, and two were plants from a Colorado nursery. Most of the plants were planted on October 10th, except those of Aromas, which were planted on October 14th, and Camarosa from Ontario, Gaviota, and Treasure, which were planted on October 18th. Each row contained 390 plants (which is equivalent to 17,860 plants per acre).

Camarosa and Festival plants from Colorado produced the highest December yield (Table 1), followed by Carmine from Quebec and Earlibrite. The Colorado plants were not typical fruiting field stock, but were first generation plants (following micropropagation). Average December yield (across cultivars) in this trial was over 70% below that in the 2001-02 row trial (489 vs. 141 flats per acre). (See March 2002 newsletter for 2001-02 data.) Low December yields, such as those obtained in 2002-03, can be devastating to west central Florida growers, because December is the month in which they, historically, receive their highest returns.

For January, Festival from Ontario and Earlibrite were the highest yielding entries, producing around 700 flats on a per acre basis. Carmine from Ontario came in third with 664 flats per acre. These are higher yields than those obtained by these cultivars in 2001-02.

Carmine also did well in February, compared to the other cultivars. Carmine from Ontario produced 670 flats per acre, while Carmine from Quebec produced 595 flats per acre. These yields are similar to the yield obtained by Carmine (FL 95-256) in 2001-02.

Two cultivars, Festival and Carmine, produced over 1000 flats per acre during the first 13 days in March. And Sweet Charlie came close to that mark, yielding 931 flats per acre.

Table 1. Fruit yield* from eight strawberry cultivars grown at GCREC-Dover during the 2002-03 season.

	December	January	February	March (1-13)	Total
Aromas (Ont.)	28	448	377	517	1370
Camarosa (Ont.)	6	471	392	846	1715
Camarosa (CO)	401	516	348	833	2098
Carmine (Ont.)	85	664	670	1186	2605
Carmine (Q)	261	496	595	1347	2699
Earlibrite (Ont.)	261	693	352	559	1865
Festival (Ont.)	119	701	582	1027	2429
Festival (CO)	395	356	514	1700	2965
Gaviota (Ont.)	6	204	173	676	1059
Sweet Charlie (Ont.)	219	400	525	931	2075
Treasure (Q)	6	341	522	579	1448

* Flats per acre. These yields were calculated using the following equivalency: 8 quarts = 1 flat (instead of the more standard 6 quarts = 1 flat). This was done to take into account the small and misshapen fruit that were likely placed into the quart containers by the volunteer pickers.

Thoughts on biological control of insects for strawberry—

Silvia I. Rondon and Daniel J. Cantliffe,
University of Florida, Horticultural Science Department
James F. Price, Gulf Coast Research and Education Center—Bradenton

Since the early 1900's, biological control has been known to be an effective way to control pest problems. However, it is only during the past two decades that a worldwide use of beneficial organisms has taken place. This has been due to the commercial availability of predators and parasitoids since the development of artificial diets that make mass rearing of natural enemies relatively easy and economical (Figure 1). Considering the effectiveness and availability of beneficial organisms, the use of biological control in Integrated Pest Management (IPM) programs is now a desirable option in many crop production systems.

Why should biological control be implemented? For beneficials organisms, temperature and humidity are critical. In a greenhouse the environment can be manipulated to make conditions suitable for biological agents introduction and establishment. This is sometimes much more difficult under field conditions, but not impossible. Biological control tactics can be complemented with the use of pest-resistant plants, and cultural and mechanical tactics. The overall objective is to maintain pests below an injury level that results in minimal economic losses. If pests cannot be controlled with biological, cultural and mechanical tactics, chemical control should be considered. Chemicals compatible with biological control are currently available (http://www.koppert.nl/e0110.html).

Is biological control a suitable alternative? Biological control is an effective way to use beneficial organisms to reduce pest populations. The control agent might be a parasitoid, predator or microbial disease organism. Beneficials include tiny wasps, lacewings, lady beetles, predatory mites, and others, which are useful for pest control in a wide variety of crops, including the strawberry crop. If natural enemies are absent, or in small numbers, augmentative releases of reared natural enemies can be made. Success requires appropriate timing and the release of the correct number of beneficials per unit area. This rate will vary according to crop type, density of the pest on the crop, time of the year, and indirectly, the performance of the beneficial organism.

Advantages of using biological control. Biological control organisms are not harmful to the environment, in the long term beneficials may be less expensive than pesticides if used correctly, and beneficials are generally effective if applied early in the season. Pests exposed to beneficials rarely develop resistance against these beneficials. Despite all these benefits, some negative aspects to consider are that beneficials do not always completely eliminate pests, and some level of the pest is necessary in order to sustain the beneficial population, which can result in some damage to the crop. To address this concern, the banker plant system or open rearing units are being re-studied. The idea behind this system is to provide beneficials with food when pests are not available on the crop or to provide food to the beneficials after the pests have been controlled. During the 2001-2002 strawberry growing season, at the Protected Agriculture Greenhouse Project in Gainesville, FL (http://www.hos.ufl.edu/ProtectedAg/strawberry.htm), the banker system was used with relatively good success. Sorghum plants infested with grain mites were introduced in the greenhouse, and predatory mites with them. Grain mites will not infest the strawberry crop. The presence of grain mites will allow predatory mites to stay longer in the crop and efficiently control the real pest, the twospotted spider mite. Another system used was the introduction of strawberry plants infested with tiny wasps that control aphids (Figure 2). High levels of parasitism were obtained by using this system (Figure 3).

Sometimes biological control can be more costly than the pesticidal option if not applied correctly, and a general knowledge of the behavior of the pest and the beneficial is needed (http://www.hos.ufl.edu/ProtectedAg/Strawberry_IPM.htm). Results from biological control implementation are not as rapid as with conventional pesticides especially if applied late. Scouting and monitoring are key tools to be considered (Figure 4), and the information obtained from these techniques will determine the appropriate time of release and the quantity of beneficials that need to be used.

In a complete biological control program, tactics range from the use of chemicals that are the least detrimental to beneficials to the release of beneficials as "biological insecticides". All these methods, as part of an IPM program, will require biological and ecological information to be successful. Results from the latest research should encourage greenhouse growers and the private sector to consider biological control as an alternative pest management system.

Figure 1. Adult and immature instars of the "big eyed bug", *Geocoris punctipes*, predator of a wide variety of pests.

Figure 2. Strawberry plant infested with tiny wasps. Pot attached to the trough suspended in the air. Wasps are species-specific.

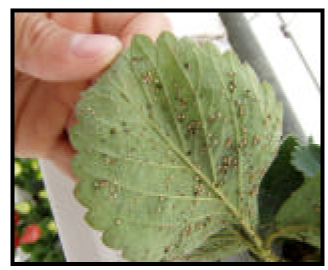


Figure 3. Strawberry leaflet showing high levels of parasitism. Brownish aphids are called "mummies", which are aphids that have been parasitized. Tiny wasps are expected to emerge.

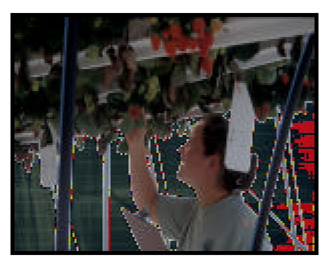


Figure 4. Scouting the crop will determine presence or absence of pests and beneficial organisms for control decision making. Look carefully at randomly selected leaflets thorough your crop.

Proliferation ability of nutsedges—Bill Stall, University of Florida adapted from an article that was first published in the Vegetarian Newsletter 03-02

I was asked by Mike Aerts, FFVA, to come up with some literature that documents the proliferation of nutsedges. This review was for a branch of EPA, in their review of the Methyl bromide petitions. Thank goodness for graduate students' literature reviews which I quickly pulled and scanned.

The results of review clearly indicate the need for growers to clean their equipment well when going from an area infested with nutsedge into a nutsedge-free area. Also, for fields with high nutsedge populations, it supports the practice of fallowing the field during the off-season (summer) and treating emerging nutsedge with herbicides. I thought many of you would be interested in some of the information in the review.

Purple Nutsedge— Purple nutsedge develops a pronounced rhizome system and perenniates by asexual propagation through tuber production. Purple nutsedge tubers contain at least six buds, which normally sprout between 50 to 104°F. Rhizomes can grow nearly 12 inches horizontally. When rhizomes have produced 6-8 nodes, their tips thicken and differentiate into new shoots or new tubers. Shoots and tubers generate more rhizomes, the process being repeated creating a system of rhizome-tuber-shoot chains. Hauser (1962b) reported that tuber formation started 6 weeks after emergence and several tuber chains were visible 10 weeks after emergence of the first shoot. He determined that six weeks after sprouting, underground biomass comprised more than 50% of the total dry weight of purple nutsedge plants, and that 20 weeks after shoot emergence, 2.4 to 4.9 tons of subterranean biomass per acre were produced. In a separate study, Hauser (1962a) reported that purple nutsedge tubers planted 35 inches apart, yielded 4.5 million tubers and basal bulbs and 3.1 million shoots per acre in one season. In Israel, a single tuber planted in the field infested the soil to a radius of 35 inches in 90 days and continued invading the field at a rate of 30 ft^2 per month, producing 4 million tubers per acre in 2 seasons (Horowitz, 1972).

Studies conducted in Florida showed that one tuber can produce 6 to 10 new tubers in 40 days. (Morales-Rayon et al, 1995). Studies in mulched tomato production showed that with an initial viable tuber density of 2.3/ft^2, a nutsedge infestation of 37.2/ft^2 was found 13 weeks later at final harvest (Morales-Payan, 1999).

Yellow Nutsedge —Yellow nutsedge reproduces sexually and asexually. Although the significance of seed production is questioned, Hill et al (1963) showed that one yellow nutsedge seedling developed into a stand that produced over 90,000 seeds with an average germination of 46%. The vigor of seedlings has been reported to be less than that of tuber sprouts (Bell, et al., 1962). Asexual reproduction appears to be predominant, and the production of tubers is prolific. Yellow nutsedge tubers are produced at the end of rhizomes. The rhizomes of yellow nutsedge may grow 24 inches horizontally and produce 30 internodes before the apex differentiates, developing either a basal bulb or a tuber. As in purple nutsedge, a complex network of subterranean structures (rhizomes, roots and tubers) is formed by yellow nutsedges. However, yellow nutsedge tubers develop only at the end of rhizomes, without forming rhizome-tuber chains such as those formed in purple nutsedge.

One yellow nutsedge plant is able to produce several thousand tubers in one season. One tuber planted in a field in Minnesota produced 36 plants and 332 tubers in 16 weeks (Tumbleson and Kommendahl, 1961), while in Georgia, one tuber gave origin to 622 tubers in 17 weeks (Hauser, 1968). In one year a single tuber planted in a field produced, 1,900 plants and 7,000 tubers (Tumbleson and Kommendahl, 1962). In studies of yellow nutsedge infesting mulched tomato production in Florida, 139 nutsedge plants/ft^2 were found 12 weeks after an initial nutsedge count of 4.7 plants/ft^2 (Morales-Payan, 1999). For information regarding literature cited in this article, please see the website version of this newsletter http://strawberry.ifas.ufl.edu. *Photos EDIS pub SP37 by David Hall and Vernon V. Vandiver, University of Florida.*

CLASSIFICATION
Common Name: Yellow Nutsedge
Scientific Name: *Cyperus esculentus* L.
Family: Cyperaceae, Sedge Family

Common Name: Purple Nutsedge
Scientific Name: *Cyperus rotundus* L.
Family: Cyperaceae, Sedge Family

The genus name *Cyperus* is from *Cypeirus* which was the ancient Greek name for the genus. The Latin name *esculentus* means edible and refers to the tubers.

Label Update

DuPont has obtained a supplemental label [2(EE)] for use of Sinbar® (terbacil) herbicide for weed control in annual strawberry production systems under plastic mulch. The label only allows alfalfa, apple, blueberry, mint, peach, or strawberry to be planted within the 12 months after the application, and there is a 110-day PHI. (CDMS labels). NOTE: The 110-day PHI may limit its usefulness for west central Florida strawberries. Check with your chemical representative for clarification.

Bacterial Update

Ralstonia solanacearum race 3, biovar 2 on geraniums has been confirmed in the U.S. This is a bacterial pathogen that causes southern bacterial wilt of solanaceous crops, including potato, tomato, pepper, and tobacco. This pathogen is on the bioterrorism list because of its threat to food crops. The infected cuttings were shipped from Kenya by a supplier to companies in Michigan and New Hampshire. Once rooted, these cuttings were shipped again. There are currently no confirmed detections in Florida. (UF/IFAS Pest Alert, 2/24/03).

Pesticides: What the terminology tells you

Source: Janice LeBoeuf, Ontario, Vegetable Crop Specialist, Hort Matters, November 27, 2002

Are systemic pesticides better than contact pesticides? What does it mean when a fungicide is translaminar? Should I use an eradicant or a protectant? A good understanding of the properties of a pesticide is essential for making good pest management decisions, but pesticide terminology can be confusing. Here's a primer.

Systemic: 1. The pesticide is absorbed by the plant. It moves around in the plant to protect areas of the plant not contacted by the original application. Fungicides and insecticides may have this type of systemic activity. Systemics are not subject to washing off or weathering, and may provide longer residual activity than contacts. However, systemics tend to act on specific biochemical sites in the pest, and are often more subject to the development of pest resistance.

2. The pesticide is absorbed by the pest, and moves around within the pest to reach parts of the pest not contacted by the original application. Herbicides may have this type of systemic activity. Systemic pesticides may not move through the entire plant (symplastic or basipetal translocation), but may only be absorbed in the local area of application (locally systemic), or may only move upward in the plant (apoplastic or acropetal translocation).

Contact: The pesticide kills only the pest, or part of the pest, to which it is applied. Insects which are hit by or eat or walk on or breathe a contact insecticide could be affected. The part of the plant which is hit by the contact herbicide is affected.

Preventative: See protectant.

Protectant: A "contact" fungicide that adheres to the surface of the plant and acts as a chemical barrier to fungal infection. Protectants should be applied before infection has occurred. These fungicides often have broad-spectrum activity, and usually require higher rates than curatives or eradicants.

Eradicant: A fungicide that is applied after disease symptoms are present. It is used to prevent the spread of the disease. These fungicides have systemic activity and most have preventative activity as well. Pest resistance tends to develop more easily than for protectants.

Curative: A fungicide that is applied to the plant after infection has occurred, but before symptoms are visible. These fungicides have systemic activity and most have preventative activity as well. Pest resistance tends to develop more easily than for protectants.

Kick-back or Reach-back: Curative or eradicant fungicidal activity.

Translaminar: A pesticide that can move through the leaf, but does not otherwise move around in the plant.

Locally systemic: The pesticide is absorbed into the immediate area of application. It can move from cell to cell in the plant, but is not capable of long distance transport.

Balm Update—Christine Cooley

Plans continue for the ground-breaking ceremony at the new research center site in Balm. Recently, Dr. Craig Stanley from GCREC-Bradenton, provided staff and faculty members an update on both the Balm site and the plans for the new high school being constructed on Bradenton's property. Construction for the new high school begins this month; therefore, the Bradenton researchers are anxious to transition their field programs to the new site. It is estimated that by the fall of 2004, fields in Balm will be ready for use and full occupation of the research facility is slated for late 2005. As plans materialize for this state-of-the-art facility there is a sense of anticipation and excitement among the faculty and staff at Dover and Bradenton. We will keep you updated with information as it is provided to us.

Take a look at the April 28th issue of People Magazine.
It will feature an ad by the California Strawberry Commission, titled "Red Edge". The commission is hoping the ad will make a strong impression on consumers just in time for the peak of the season.
The issue will hit newstands April 18th.

A monthly newsletter of the University of Florida Institute of Food and Agricultural Sciences, Gulf Coast Research and Education Center, and Florida Cooperative Extension Service.

Hillsborough County Cooperative Extension Service
5339 S. CR 579, Seffner, FL 33584 (813) 744-5519 SC541-5772
Editor: Alicia Whidden; Director: Mary Chernesky

Gulf Coast Research and Education Center—Dover
13138 Lewis Gallagher Road, Dover, FL 33527 (813) 744-6630 SC512-1160
http://strawberry.ifas.ufl.edu
Design and Layout: Christine Cooley (cecooley@mail.ifas.ufl.edu); Director: Jack Rechcigl

Nematode Study

As reported at the GCREC Field Day, Dr. Joe Noling is working on a nematode study and would like area growers to submit samples. Nematode damage has been a frequent diagnosis at the Dover lab this past season. You can stop by GCREC-Dover to pick up a soil sampler or call Christine Cooley at the center for details (813) 744-6630 X60.