Berry/Vegetable Times

January 2009

Calendar of Events

Feb. 5 Chemtura Grower Dinner Meeting- Rimon: An Introduction to Strawberry Use. 6:00 pm. Florida Strawberry Growers Association, Dover. Fl. RSVP to Alicia Whidden, 813-744-5519, ext. 134. See inside for more information.

Feb. 5 Organic Transition Program, Manatee County Extension Office, Palmetto. 9:30 - 4:00. For more information contact Matt Vargas at (352) 377-6345 or matt@foginfo.org.

Feb. 10 & March 10 Pesticide License Testing. Hillsborough County Extension Office, Seffner. 9 am.

Feb. 13 Strawberry Field Day, Gulf Coast Research & Education Center, Balm. 12:30 p.m.

March 10 s for Producers ResourceMeeting, Hillsborough County Extension Office, Seffner. 12:00 p.m. See inside for more information.

A University of Florida/IFAS and Florida Cooperative Extension Service newsletter
Hillsborough County, 5339 CR 579,
Seffner, FL 33584
(813) 744-5519 SC 541-5772
Joe Pergola, County Extension Director
Alicia Whidden, Editor
Gulf Coast Research & Education Center
14625 County Road 672,
Wimauma, FL 33598
(813) 634-0000 SC514-6890
Christine Cooley, Layout and Design
Craig K. Chandler, Co-Editor
Jack Rechcigl, GCREC Center Director
http://gcrec.ifas.ufl.edu

UF UNIVERSITY of FLORIDA IFAS - GCREC

It's Strawberry Time!

Come to the *Strawberry Field Day* at Gulf Coast Research & Education Center

Friday, February 13

12:30 PM

You won't want to miss this event. Come enjoy a complimentary barbecue lunch and hear the latest strawberry news and trial results.

Former GCREC plant pathologist and current California Strawberry Commission Research Director, Dr. Dan Legard, will be our lunch-time speaker. He'll give us an update on California strawberry production, and what his industry is doing in the areas of food safety and soil fumigation. UF molecular biologist Kevin Folta will also be at the Field Day to give us a short, but exciting, update on the sequencing of the strawberry genome.

Of course in the field you'll hear about disease and pest management from Natalia Peres, Jim Price, and Andrew MacRae; cultivar development from Craig Chandler; and irrigation, fertilization and other production practices from Bielinski Santos.

Field days also provide a great opportunity to visit and exchange information with industry suppliers and fellow growers.

Lunch sponsored by:

Farm Credit of Florida | FFVA Florida Fruit & Vegetable Association | FSGA Florida Strawberry Growers Association

Please RSVP to 813-634-0000 X3101 or ccooley@ufl.edu

From Your Agent …

In the next 6 weeks we have several meetings coming up for growers. The first one will be on Thursday, Feb 5. This will be a grower dinner meeting sponsored by Chemtura to introduce their new product, Rimon. This product just received a Section 18 label for Florida and is labeled for sap beetle control. Dr. Jim Price will speak on his work with the product. Look for his article in the newsletter and join us Feb. 5 for a delicious dinner and hear his talk to get all the information on this new product. The meeting will be at the FSGA office in Dover and dinner will start at 6:00 p.m. RSVP to me at 813-744-5519, ext. 134 by Monday, Feb 2. Pesticide CEUs are being applied for.

The following week the Strawberry Field Day at the Gulf Coast Research and Education Center will take place. It will be Friday, Feb. 13 at the Center and lunch will be served. This is the first time lunch has been provided. Thank you to the sponsors: Florida Strawberry Growers Association, Farm Credit of Florida, and Florida Fruit and Vegetable Association. This is an opportunity to tour the research plots and hear from the researchers what they are working on. Look for more information in Dr. Santos article.

On March 10, a Producer Resource Workshop will be held at the Hillsborough County Extension office in Seffner. This workshop is geared for new growers as well as established growers to find out all the government resources available. See the article on the meeting for the details.

As I write this we have had 2 nights of freezing weather and possibly may have to turn on water for a third night. Be sure to send in your reports on water used for freeze protection to the Water District. You usually have 2 weeks after a freeze event to file your report. Be sure to do this so that the water you used for freeze protection will not count against your allowed irrigation pumpage amounts. Below is part a message from Ron Cohen,South West Florida Water Management District, Agricultural and Irrigation Engineer.

"Besides being a requirement of a water use permit, reporting cold protection pumpage is needed to help resolve potential compliance issues and to ensure that a permittee's conservation credits are calculated correctly. Cold protection amounts are not limited by a permits' annual average allocation. However, the cold protection amounts need to be reported so that they can be subtracted from the submitted pumpage quantity. If a permittee does not report the use of irrigation for cold protection this could make it appear that the permittee overpumped the permitted quantity and cause the District's computer system to flag the reported high water use as a permit violation.

Reporting cold protection water use also ensures that a permittee receives all the SWUCA conservation credits they have earned. The cold protection pumpage report is used by the District to ensure that conservation credits are not deducted for this important use of irrigation for cold protection.

The form can be found on the District's web site at: http://www.swfwmd.state.fl.us/permits/wup/ . The District realizes that the producers are busy with their crops, but it will be in their own best interest to follow through with this information. If they can get the reports to the District within the next two weeks it will help both them and the District."

If you did not have access to a computer to get a copy of the form give me a call and I will provide you a copy of the form. Looking forward to seeing you at the great meetings coming up,

Alícia Whidden

Hillsborough County Extension Service
813-744-5519, ext. 134 awhidden@ufl.edu

Rimon® 0.83EC Insecticide Approved for Sap Beetles on Strawberry

James F. Price and Curtis A. Nagle, GCREC Entomology

Rimon® 0.83EC novaluron insecticide has been approved by the Section 18 emergency process to control sap beetles on strawberries through December 2009. FFVA, FSGA, Chemtura Corp., and UF IFAS folks worked diligently to obtain this important new tool.

Rimon® is an insect growth regulator that will prevent beetle reproduction in the field, kill sap beetle larvae, and prevent larval infestation of fruit, but it will not kill adults present in the fields or that enter from outside. Consequently, to be most effective, Rimon® must be used in conjunction with an adulticide such as Brigade® bifenthrin.

US EPA approved this product to be used a maximum of three times at a minimum of 7-10 day intervals. Sap beetle season usually extends from late January through the end of harvests, so care must be exercised to extend the product throughout the expected harvest period. There is a favorable 1 day pre-harvest interval (PHI). Rimon® cannot be applied within 75 feet of a body of water and all applications must include a 25 foot vegetative buffer within the buffer zone to decrease runoff.

Only registered crops may be rotated in a treated field within 30 days of the last application of Rimon®. Presently, only potatoes, sweet potatoes, and head and stem brassicas (including cabbage) are registered, but Chemtura Corp. expects tomatoes to be registered this February and expects peppers, egg plant, cucurbits, and snap beans to be registered in 2010. This means that careful timing of the final Rimon® application must be planned if strawberry fields are to be planted to some common follow-up crops.

Most of the early season fruit damage attributed to sap beetles and a portion of the later damage actually is caused by the Asian cockroach. Holes by Asian cockroach in ripe fruit tend to be dry, while holes by sap beetles tend to become soupy. These insects must be controlled in addition to the sap beetles. Work performed at the UF IFAS Gulf Coast Research and Education Center in Balm indicates that Brigade® can control Asian cockroaches effectively.

The Rimon® label contains important use information and must be in the possession of the user at time of application. Please read and follow all labeling information.

Producer Resource Workshop

Date: Tuesday, March 10, 2009
Time: 12:00 pm – 5:00 pm
Location: Hillsborough County Cooperative Extension Service Office, Extension Auditorium, 5339 County Road 579, Seffner

The Hillsborough County Agriculture Industry Development Program, Cooperative Extension Service, and the USDA are teaming up to provide a workshop on the government provided resources available to assist farmers. This workshop will help participants learn more about the services available from Hillsborough County, the Cooperative Extension Service, US Department of Agriculture, Southwest Florida Water Management District, and the Florida Department of Agriculture.

Specific topics will include:

- Business Planning Resources
- Agriculture Production Technical Assistance
- Grant Opportunities for Value Added Projects, Renewable Energy and Farm Labor Housing
- Direct and Guaranteed Farm Loans
- Beginning Farmer Loans

Farm Planning Assistance
Water Management District Assistance
Marketing Assistance

This workshop is free but seating is limited. Please register by calling Alayna Shiver at (813) 272-5909. For more information contact Stephen Gran at (813) 272-5506.

Evaluation of Biopesticides for Bacterial Leaf Spot Control on Tomato

Gary E. Vallad, GCREC Plant Pathology

On 4 Sep 2008, plots were established at the University of Florida's Gulf Coast Research and Education Center in Balm, FL to assess the effect of several biopesticides on the severity of bacterial leaf spot (BLS) caused by *Xanthomonas perforans* on tomato in Florida. Transplants of the TYLCV resistant cultivar SecuriTY 28 were transplanted at 18" spacing to 21 ft plots along 300 ft long, raised beds with 5 ft center-to-center bed spacing. Beds were covered with a silver virtually impermeable mulch and irrigated with a drip system. Treatments (Tables 1 and 2) were applied on a weekly basis, beginning 28 Aug with transplants and continuing the day after transplanting on 5 Sep, 12 Sep, 17 Sep, 23 Sep, 3 Oct, 10 Oct, 16 Oct, 23 Oct, 30 Oct, 7 Nov, 13 Nov, and 18 Nov. A CO_2 back pack sprayer calibrated to deliver 60 gal/A for the first seven applications, and 90 gal/A for the subsequent applications at 40 psi. Biopesticides were applied along with low label rates of copper (Cuprofix Ultra 40D, 1.5 lbs/A) and mancozeb (Penncozeb 75DF, 2 lbs/A); a copper-mancozeb treatment (Trt 14) was also included as a standard. A non-treated control (Trt 15) was included to measure disease pressure. Treatments were arranged in a randomized complete block design with each treatment repeated 4 times. The experiment was inoculated 17 Sep and 30 Sep with a suspension (10^6 cfu/ml) of *Xanthomonas perforans*. Plots were monitored, and rated using the Horsfall-Barratt scale to assess the percentage of canopy affected by bacterial leaf spot. Disease ratings on 9 Oct and 15 Oct assessed the entire plant canopy, while later ratings on 27 Oct and 13 Nov only assessed the top half of the canopy. Marketable yield was assessed from two separate harvests of the center 10 plants in each plot. Only extra large and ripe fruit were harvested on 14 Nov followed by a complete harvest of all fruit on 2 Dec.

Weather conditions were favorable for disease development with 11 rain events of 0.1 inches or greater during the trial. Inoculations on 17 Sep and 30 Sep coincided with rain events. The severity of BLS was rated four times during the trial. The percentage of the canopy affected by disease ranged from 5.6% to 13.8% on 9 Oct and from 18.5% to 32.8% on 15 Oct. Because of the extent of disease, only the top half of the tomato canopy was rated for BLS on 27 Oct and 13 Nov, and ranged from 0% to 16% and from 8.4% to 39.0%, respectively (data not shown). Significant differences ($P = 0.0839$) in the severity of BLS were only observed among treatments on 13 Nov, but only treatment 3 exhibited statistically less disease than the copper-mancozeb standard (Trt 14) (data not shown). However, when cumulative disease over the course of the trial was assessed, as expressed by the area under disease progress curve (AUDPC), spray programs that included Kasumin (Trt 10), Citrex (Trt 9), HMO 736 (Trt 8), SeaCide (Trt 7), Omega Grow Plus (Trt 6), and Actigard (Trts 2 – 4) exhibited significantly less disease relative to the copper-mancozeb standard (Trt 14) (Table 1).

The treatment effect was significant on the marketable yield of total ($P = 0.0340$) and extra large fruit ($P = 0.0429$) based on weight; expressed as the number of 25 lb cartons/A

(Table 1). Lower yields and greater disease severity was mostly associated with the non-treated control (Trt 15). However, improved disease control with biopesticides didn't necessarily improve marketable yield. The best marketable yields were associated with Serenade Max (Trt 5) and Taegro (Trt 12), which statistically yielded better than the copper-mancozeb standard (Trt 14). Treatments that included Actigard (Trts 2 – 4) typically yielded lower, but only Trt 3 was significantly less than the copper-mancozeb standard (Trt 14). Overall, spray programs that included HMO 736 (Trt 8), Citrex (Trt 9), and Kasumin (Trt 10) gave the best level of BLS control without compromising yield.

Table 1. Effect of treatments on the LS Mean (95% confidence interval) tomato yield by market class and culled fruit.

TRT	Treatments, rates, and application timing[y]	Marketable Yield (25 lb cartons/A)		Marketable Yield (fruit/plot)		Culls	
		Total	Extra Large	Total	Extra Large	% of total by weight	AUDPC[z]
1	Prophyt 2 pt (1 - 6), Prophyt 4 pt (7 - 12), Cuprofix Ultra 40D 1.5 lbs (5 - 13), Penncozeb 75DF 2.0 lbs (2 - 13)	636 (514 - 759)	299 (181 - 418)	122 (99 - 145)	39 (24 - 55)	9.6 (4.4 - 14.9)	817 (612 - 1021)
2	Actigard 0.25 oz (1 - 8), Prophyt 2 pt (1 - 6), Prophyt 4 pt (7 - 12), Cuprofix Ultra 40D 1.5 lbs (5 - 13), Penncozeb 75DF 2.0 lbs (2 - 13)	692 (570 - 814)	322 (203 - 441)	136 (113 - 160)	46 (30 - 61)	10.7 (5.4 - 15.9)	490 (286 - 694)
3	Actigard 0.25 oz (1 - 8), Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	605 (483 - 728)	296 (177 - 414)	114 (90 - 137)	41 (25 - 57)	13.7 (8.5 - 19)	438 (234 - 642)
4	Actigard 0.75 oz (1 - 8), Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	749 (627 - 872)	456 (337 - 574)	134 (110 - 157)	60 (44 - 76)	13.4 (8.2 - 18.6)	510 (305 - 714)
5	Serenade Max 1 lb (1 - 13), Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	886 (764 - 1008)	512 (393 - 631)	158 (135 - 181)	63 (47 - 78)	11.5 (6.2 - 16.7)	682 (478 - 886)
6	Omega Grow Plus 2% v/v (1 - 13), Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	691 (569 - 813)	342 (223 - 461)	128 (104 - 151)	49 (34 - 65)	8.9 (3.7 - 14.2)	503 (299 - 707)
7	SeaCide 1% v/v (1 - 13), Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	707 (585 - 829)	398 (279 - 517)	132 (109 - 155)	51 (36 - 67)	9.6 (4.3 - 14.8)	419 (215 - 623)
8	HMO-736 14 oz (1 - 13), Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	803 (681 - 926)	470 (351 - 588)	139 (115 - 162)	58 (42 - 74)	7.6 (2.4 - 12.8)	501 (296 - 705)
9	Citrex 1.5 lbs (1 - 13), Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	812 (689 - 934)	494 (375 - 612)	142 (118 - 165)	60 (44 - 75)	9.4 (4.2 - 14.7)	536 (332 - 740)
10	Kasumin 1 qt/ 50 gal (1,3,5,7,9), Transfix 3 oz/50 gal (1,3,5,7,9), Cuprofix Ultra 40D 1.5 lbs (2,4,6,8,10 - 13), Penncozeb 75DF 2.0 lbs (2 - 13)	801 (679 - 923)	451 (332 - 569)	143 (120 - 166)	61 (46 - 77)	8.3 (3 - 13.5)	520 (316 - 725)
11	Tiadanil 250 ppm (1 - 13), Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	779 (656 - 901)	373 (254 - 492)	143 (120 - 167)	44 (28 - 59)	10.5 (5.3 - 15.7)	765 (561 - 969)
12	Taegro 1.5 lbs (1 - 13), Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	819 (697 - 942)	524 (406 - 643)	141 (118 - 164)	72 (56 - 87)	15.2 (10 - 20.5)	622 (418 - 826)
13	Gentamycin 3.5 lbs (1 - 13), GWN6500 8 oz/50 gal (1 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	778 (656 - 900)	463 (344 - 582)	133 (110 - 157)	61 (45 - 77)	12.8 (7.6 - 18.1)	669 (465 - 874)
14	Cuprofix Ultra 40D 1.5 lbs (2 - 13), Penncozeb 75DF 2.0 lbs (3 - 13)	743 (621 - 866)	414 (295 - 532)	140 (117 - 163)	58 (42 - 73)	8.9 (3.6 - 14.1)	708 (504 - 912)
15	Non-Treated Control	670 (548 - 792)	291 (172 - 410)	138 (115 - 162)	41 (25 - 57)	10 (4.8 - 15.2)	731 (527 - 935)
	P > F	***0.0340***	***0.0429***	***0.4094***	***0.1187***	***0.6961***	***0.0823***

Midseason Observations and Preliminary Results with Methyl Bromide Alternatives.

J.W. Noling, Citrus Research & Education Centerand
Alicia Whidden, Hillsborough County Cooperative Extension Service

This season, like many others which have preceded it, is turning out to be pretty unique. November and December were unseasonably cool, and on an area wide basis, plant growth and development was reflecting the lack of heat units. In many fields, plant canopies still have not converged between adjacent plants either within or across the row. Early January brought a few weeks of warm weather which enhanced plant growth and canopy convergence in many, but not all fields. With production strongly related to temperature and plant size, is it any wonder that there still isn't significant production in many fields.

In talking with growers, it would appear that there was real benefit in getting planted early this year. Strawberries which were planted after mid October seem to be still behind those planted earlier. How far off is production? One grower indicated to us that over a 1000 flats had been picked by the second week of December last year in one of his big fields, whereas only 4 had been picked this year in the same field. The attached figure illustrates the differences in heat units (degree day accumulations) for this year to date compared to that of last year (Figure 1).

In a survey of the countryside, it is clear that the phase out and eventual loss of methyl bromide has prompted a considerable amount of industry change and grower experimentation with new technologies and production systems. For example, who would have thought double cropping strawberry after strawberry on the same plastic without methyl bromide could have ever been successful. It would also appear that the

Figure 1. Comparison of degree day accumlations during October 1 - January 17 of last year 2007-08 and this year (2008-09) at Dover, FL. The lower number of degree days this year serve to illustrate the generally cooler fall and winter temperatures which have prevailed this year.

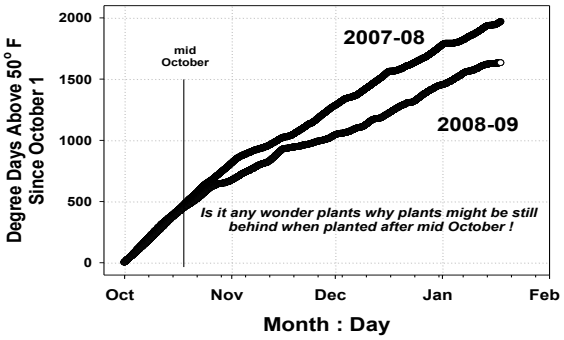
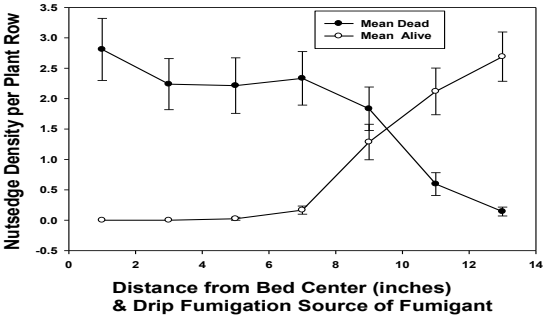


Figure 2. Mean numbers of Dead and Alive Nutsege plants per row emerged through the plastic from the bed center and drip tube source fumigant. Single tape per bed, Telone Inline 35 gpta, 3 hrs.McDonald Farm, Oct 9,2008



success of this system is not necessarily just related to new fields which lack history of pest pressure (ie., nematode). I can say this because some double cropping sites which look very good at this time, are fields which I have previously characterized as cemetery fields, fields where large numbers of plants annually die because of sting nematode parasitism. In contrast, if a nematode problem has never been observed within the field, then it would be reasonable to conclude that there wasn't a true need for benefits of the fumigant anyway. In these double cropped cemetery fields, long injections of a drip applied fumigant was used to kill the previous strawberry crop and nematodes confined within the bed; and another drip fumigant applied again in the fall as a broadspectrum preplant soil treatment under holey plastic. As important to the fumigants for nematode management, are the summer programs which focused on weed

management in the middles and within the plant holes on the bed. As good as the system appears to be performing, I can't say that we don't suffer anxiety thinking about broadscale adoption of the system on the entire farm (rolling the dice) rather than first trialing within individual fields and limited experimentation.

With this in mind, another point that should be made is that it hasn't been demonstrated that we can do this repeatedly on a biannual basis, but it surely indicates how integrated strategies, not dependent upon methyl bromide, can be used to incrementally and successfully manage a pretty significant nematode problem. It is interesting to point out that in Georgia, growers have long demanded as many as 3 to 4 crops on the same plastic to economically justify the agricultural production system. To achieve this requires a good initial fumigation of the bed (new plastic) for weed, nematode, and disease control followed by periodic drip fumigation and herbicide treatment on subsequent crops when problems emerge.

This past season we have seen a considerable amount of new acreage relying upon drip fumigation as the new alternative method to chisel injection with backswept knives for applying the fumigant to soil. Hopefully you have not forgotten the future benefit of the drip fumigation approach, fewer people in the field requiring fumigant training, respirator fit testing and medical certification, personal protective equipment (PPE), and most importantly, reduced buffer zone requirement. With regard to current evaluations, there remains no clear consensus on whether a single drip tape per bed or whether two drip tapes will be required to consistently and effectively disperse the fumigant shoulder to shoulder for nematode control and for sustaining high yields.

This past spring and again in the fall, we invested a considerable amount of time monitoring gas concentrations across the bed in fields using either one or two drip tapes per bed. It was clear that some fumigant compounds like Vapam and Kpam did not move far from the drip tape wetting front. What is troubling to understand is why gas concentrations of the various Telone products were identical at the bed shoulders when applied with either one or two drip tapes per bed. In numerous experiments, we have hoped, but have not been able to characterize the benefit of the second tape for dispersing fumigants at higher concentrations across the entire bed, particularly into the bed shoulders. We will continue the research, knowing that pest control (and Concentration x Time products) diminishes with distance from the drip tape. The effects of limited cross-bed fumigant movement was clearly demonstrated with nutsedge control with distance from a single drip tape in a fall drip trial with Telone Inline (35 gal/A). In this trial, effective nutsedge control was achieved up to a distance of 8 inches from the drip tape, falling off very rapidly in the following 6 to 8 inches to the bed shoulder. With regard to the further characterizing of the performance of various drip fumigants, we would like to invite and encourage all of you to view the differences between drip treatments and methyl bromide at the FSGA research farm. All treatment plots are identified with good signage and are patiently awaiting your careful review.

In contrast to a chemical approach, a number of growers have unsuccessfully trialed a nonchemical (ie., nonfumigant), bacterially based system as a replacement strategy for methyl bromide and nematode management. It is clear from the beginning of these grower conducted experiments that the simple addition of microbes to the existing soil community is in itself not enough to create the level of soil suppressiveness necessary for achieving satisfactory nematode control and crop yield. To me it is a leap of faith to believe (and to claim) that a simple cocktail or proprietary

blend of a fermented, unidentified collection of organisms will provide season long control of sting nematode without adequate controls and defined experimentation.

In these severely affected nematode fields, we are current trialing a new bacterial treatment of our own, that of a new sting nematode biocontrol agent, *Pastueria usgae*. This fall we have initiated three separate, small scale field studies to determine the efficacy of drip applications of *P. usgae* endospores to suppress sting nematode populations after planting. We are excited to be finally testing the potential of a post plant applied product to manage sting nematode and rescue a stunted strawberry crop. Hopefully we will have some promising results to share with you in a future newsletter article.

Other post plant nematode options under evaluation include the efficacy of methionine, Dazitol, and Sesamin EC. If the U.S. government approves, we are also hoping to evaluate the resistance of genetically transformed strawberry to the sting nematode. In these plants, a defense-related cystatin genes has been molecularly incorporated to combat nematodes. Cystatins are of great interest for researchers because of their regulatory and protective functions in plant tissues. Cystatins are thought to play a role in the regulation of plant defense against insect predation and other pathogens. We are hoping it will include nematodes.

La Niña Conditions have Abruptly Returned to the Pacific Ocean

Clyde W. Fraisse and Natalia Peres

Sea surface temperatures along the equator in the eastern and central Pacific Ocean have cooled substantially in the last month, marking a return to La Niña. La Niña refers to colder than normal waters along the equator in the eastern and central Pacific, and can be thought of as the opposite of El Niño. The Pacific Ocean had been in the Neutral phase since April of 2008, following a La Niña in the fall and winter of 2007/2008. Multi-year La Niña events are not uncommon in the historical record and are known to bring extended drought to parts of the Southeast.

During the past several months, the atmosphere over the tropical Pacific Ocean has been giving indications that a La Niña might be building. The Southern Oscillation Index, the difference in average surface pressure between the western and central Pacific, has been highly positive since early October. In addition, stronger than normal easterly trade winds have been measured in the central and western Pacific since October and it is these trade winds which drive the change in Ocean temperatures. In spite of these atmospheric signals, the sea surface temperatures had remained near normal or in the neutral range. In late December, however, cold water that had been building below the surface broke through and surface waters cooled rapidly.

This La Niña is expected to last at least through the remainder of the winter and spring seasons. La Niña is known to bring a warmer than normal and dry climate pattern to the Southeast during this time. La Niña events in 1999 and 2000 and more recently in early 2006, were associated with an increase in forest fires across Florida. For more information on climate impacts in the Southeast, see the latest climate outlook at: http://agroclimate.org/forecasts/current_climate_outlook.php

The dry weather during La Niña years is usually not conducive to fungal diseases such as Anthracnose and Botrytis fruit rots. At this point of our strawberry season, these are the two major diseases of concern. Disease inoculum for Botrytis and anthracnose has been low since no major disease events have occurred up to now. With the return of La Niña and expected drier conditions, regular applications of fungicides may not be needed as often to suppress these diseases especially when moderately or highly resistant cultivars such as Strawberry Festival are grown. Strawberry models have not predicted the need for fungicide applications for some time now. So, it may be a good opportunity for growers to extend spray intervals and reduce fungicide costs without a great risk of compromising their profits.