Berry/Vegetable Times

December 2008

Calendar of Events

Jan.13, 2009 Pesticide License Testing. Hillsborough County Extension Office, Seffner. 9 am. For more information call Mary Beth Henry, 813-744-5519, ext 103.

Feb. 5, 2009 Organic Transition Program, Manatee County Extension Office, Palmetto. 9:30- 4:00. See article for more information.

Feb. 13, 2009 Strawberry Field Day, Gulf Coast Research & Education Center, Balm. 12:30 p.m. See article for more information.

March 10, 2009 Resources for Producers Meeting, Hillsborough County Extension Office, Seffner. 1:00 p.m. More information coming.

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From Your Extension Agent… Grower New Year Resolutions

As 2008 wraps up and we look toward 2009 what most people do is make a list of New Year's resolutions so here is a list for fruit and vegetable producers for this coming year.

- First off since this is a new year the Florida Minimum Wage Poster will need to be changed. On January 1, 2009 the new minimum wage for the state will become $7.21 per hour. So be sure to change your poster and to help you meet your first resolution there is a copy of the poster in both English and Spanish at the end of the newsletter.
- Our second resolution will be to pass our Worker Protection Standard (WPS) inspection. To do this we are going to be sure all our employees are given WPS training before their sixth day of work, our central posting is not faded and the emergency contact information is listed, our spray records are complete and posted at central posting, and our

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My Plan

Craig Chandler

Many Berry/Vegetable Times readers have probably heard by now that I'm retiring from my position as strawberry breeder for the University of Florida. Some of you have asked me "What's going on? (You're too young to retire.)" "What are you going to do?" "What do you have planned?" Thinking that those of you with whom I don't communicate regularly might also be curious about what's going on, I've decided to write something in this issue about my future and that of the UF strawberry breeding program.

First, the program. The breeding program is in good shape. There are numerous promising selections, in various

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decontaminations sites are well supplied. When we give WPS training we are going to instruct our workers on what a pesticide is, the types of effects pesticides can have on a person, where to find information on what has been sprayed and how the worker can protect themselves from pesticides. We are going to be sure that anyone that sprays or handles containers of pesticide concentrates is trained as a handler. In doing all this we hope to be rewarded in the new year by passing our inspection.

- In this new year if we should have a freeze and need to run water for freeze protection we will remember to do the freeze report for the Southwest Florida Water Management District and turn the report in on time(within 2 weeks of the freeze event).
- Another resolution will be to regularly scout our fields or have them scouted so we can make informed decisions about our spray program and only spray when and with exactly what we need based on what problem has been identified in our field. For a good IPM (Integrated Pest Management) program and also to save money you want to be sure to be wise about the chemicals you spray and not spray more than is needed.
- Our final resolution helps with all the other resolutions-that is to keep up with what is going on in the industry, in research, and in government regulations. To do this we will read this newsletter, attend industry meetings, and IFAS meetings like the 2009 Strawberry Field Day to keep well informed. This also will help us keep up with our pesticide license CEUs so we will be able to renew our license and not have to take the test again.

As we put this year to rest and start on a brand new year let's stick to our resolutions and have a great 2009!

May you and your families have a safe and wonderful holiday season,

Alicia Whidden

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Organic Transition Workshop

Florida Organic Growers (FOG) will partner with UF/IFAS to present a free workshop Thursday, Feb. 5 from 9:30 a.m. to 4:00 p.m. at the Manatee County Extension Office in Palmetto for farmers interested in transitioning to organic production. The workshop is intended for commercial producers interested in transitioning to organic production and will include an update on financial support for organic transition made available by the 2008 Farm Bill.

The workshop is part of FOG's program that offers farmers free technical assistance to transition to organic production. By pairing growers with crop advisors experienced with organic production methods, the program gives growers the support, technical know-how and assurance they may need or desire to successfully make the transition. Organic regulations allow certification of split operations so producers have the option of transitioning a portion of their total acreage. The U.S. organic food industry has grown from $1 billion in sales in 1990 to an estimated $23 billion in 2008 and is expected to average 18 percent annual growth through 2010.

"The organic marketplace continues to expand and Florida growers may want to

seriously consider the market opportunities," FOG Executive Director Marty Mesh said.

In addition to assisting transitioning growers, the program is open to any Florida fruit or vegetable producer who is interested in reducing pesticide use or switching to lower-risk chemicals. Interested growers please contact Matt Vargas at (352) 377-6345 or matt@foginfo.org. More information, including the application to participate in the program, can be found at www.foginfo.org/epa.

2008 Florida Ag Expo - Smaller, but Successful

Christine Cooley

With nearly 700 in attendance at this year's Ag Expo, the venue was a little more cozy than past years. However, the response

was outstanding. Vendors and participants alike were pleased with the new set up which housed the vendors in 1/2 of the auditorium while presentations were given on the other side. Post-event surveys from attendees mentioned an interest in seeing more organic topics during the presentations. Everyone seemed to prefer the one-day event verses stretching the expo over two days as in the past. Vendor surveys were also very positive with comments such as "Up and Coming Show", "We have participated the past couple of years and hope to continue", "Good grower contact at this event", and "Show had fewer 'just looking' attendees vs. real 'I need to' growers". Thanks to everyone who participated and we look forward to another successful expo in 2009.

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stages of evaluation; a new, highly qualified breeder will be hired by spring 2009; and the program has sufficient operating capital (mostly from royalties collected on cultivars released from the program) despite a continuing decline of state dollars to the university.

Now, my plan. I will retire from my position at the end of June 2010. This will allow the new breeder and me to overlap for one full season and ensure a smooth transition. I have been managing the UF strawberry breeding program for over 20 years, and, honestly, I am finding it increasingly difficult to maintain the level of energy and passion needed to successfully manage a program that includes research and development, extension, industry relations, and graduate student education. Beyond June 2010, however, I don't have a detailed plan for the rest of my life. But I do know I want to continue to work with plants and I want to continue to write.

I will consider special strawberry projects, if they come along, but at this point I'm leaning more toward doing something in the area of urban landscaping. For example, currently I'm on a crusade, of sorts, to reduce the over-pruning of sabal palms (our state tree) and live oaks in residential and commercial landscapes. (Yes, I admit, I've been a closet tree-hugger for many years.)

I would also like to have time to work on some projects (possibly a book or other type of publication) with my wife, Lynda, who many of you know is a talented botanical illustrator. And last, but certainly not least, I am planning to have more time to spend with my family and friends.

Asian Cockroaches Are Eating Strawberry Fruit

James F. Price and Curtis Nagle

The Asian cockroach (Fig. 1) has been recognized to remove seeds from strawberry fruit and eat seed contents, but additionally this insect eats holes in the fruit that masquerade as sap beetle damage. There are quick remedies for this though.

The Asian cockroach was not known in the US until 1986 when the first invaders were identified in Lakeland and found 1 year later in Brandon and Tampa. Now they have folks swatting over much of the Southeast. I first encountered a few of them in Plant City strawberry fields at the beginning of the episode and now I can record them at 54,000 per acre in some late-season strawberry spots. Others have estimated Asian cockroaches at up to 250,000 per acre in suburbia.

The Asian cockroach looks much like our small German cockroach, but is much more prone to fly. It is sometimes called the "flying cockroach". It is the cockroach that Floridians may see abundantly among leaves and mulch in their yards and gardens. It is not commonly found in homes.

Ripe fruit have been appearing on my 2008-2009 UF GCREC strawberry entomology crop for about 2 weeks and I have been finding fruit excavated by the Asian cockroach almost as long. Feeding damage consists of holes in the fruit surface with slightly larger, dry excavations behind the holes. Tiniest cockroaches make the small holes, slightly larger than a strawberry seed. Hole sizes range to the largest almost as big as a pencil eraser formed by adults common later in the season.

Sap beetles have been blamed for this damage in the past, but the excavations by sap beetles are rarely dry but instead quickly become soupy.

Insecticides of pyrethrins such as Pyrenone Crop Spray®, Pyganic®, and Pyreth-It® are registered for cockroach control and are permitted for use on strawberries. Additionally, the pyrethroids Danitol® and Brigade® are permitted on strawberries and performed very well for Asian cockroach control in spring 2008 GCREC experiments.

Photos and additional information about this insect is provided in an excellent publication available on UF IFAS EDIS at http://creatures.ifas.ufl.edu/urban/roaches/asian_cockroach.htm

Fig. 1: Adult Asian cockoach

The use of trade names in this publication is solely for the purpose of providing specific information. It is not a guarantee or warranty of the products names and does not signify that they are approved to the exclusion of others of suitable composition. Use pesticides safely. Read and follow directions on the manufacturer's label.

Mark Your Calendar for the 2009 Strawberry Field Day

There will be a strawberry field day at GCREC on Friday, February 13th. Details have not yet been finalized, but current plans are for the event to start at 12:30 with a complimentary lunch in the auditorium, followed by several short presentations. (We are hoping that one of these presentations will be an update on what the California strawberry industry is doing in terms of food safety, methyl bromide alternatives, etc.) Then we will move to the field to see promising selections and new disease, pest, and cultural management practices. You won't want to miss this educational event. Come learn from the experts, and this can be your lucky day!

Botrytis fruit rot control

Natalia Peres and Jim Mertely

Botrytis fruit rot or "gray mold" is caused by the fungus *Botrytis cinerea*. This fungus attacks a wide variety of crops. Strawberry leaves may be infected in the nursery. After transplant, the fungus colonizes the old dying leaves, producing spores that infect new leaves and early flowers and fruit. These spores will serve as the main sources of inoculum for the eventual infection that usually occurs during the main strawberry crop. Fruit infection may occur by two main routes. The most important is colonization of flower parts such petals and stamens (photo 1). The other is by direct contact of healthy fruit with diseased fruit and dead leaves (photo 2). Past research has shown that spore production and infection are promoted by temperatures between 60 and 77°F combined with long wet periods due to rain, fog, or heavy dew. Conditions like these during the upcoming bloom period could trigger an epidemic of Botrytis fruit rot later in February. Such "epidemics" are actually the result of slowly progressing infections which start in the flowers and culminate in visible symptoms 2 to 4 weeks later on green fruit, ripening fruit, and harvested fruit in the cooler.

Up to this point in the current season, only one period conducive for Botrytis has been occurred at the beginning of November and minor losses have been observed. However, since spores of Botrytis are always around in strawberry fields, all that is needed is favorable conditions for spore production and infection and thus precautionary measures should still be taken. To avoid losses to Botrytis, newly opened FLOWERS should be protected with fungicides. During the upcoming main bloom period (usually mid-January to mid-February depending on the cultivar planted) the bloom should be sprayed with one of the several effective fungicides available for control of Botrytis fruit rot. These include Captevate, Elevate, Pristine, Scala, Switch and Thiram. Except for Thiram, the other fungicides should not be used for more than two consecutive applications or more than a total of four applications per season. Keep in mind that Captevate is a combination of Captan and Elevate, and that Pristine and Switch also offer some control against anthracnose fruit rot.

To reduce overall inoculum levels, diseased fruit should be removed from the plants, and preferably from the field. In addition, harvested fruit should be cooled as rapidly as possible to slow disease progress in storage. We are currently testing the first prototype of a web-based predictive system for timing fungicide applications for control of Botrytis and anthracnose fruit rots. The system takes into account temperature and leaf wetness conditions that favor disease development and fungicide applications are recommended only when conditions are favorable for disease. Results from our field trials have shown that the number of fungicide applications for control of Botrytis fruit rot could be reduced by half without affecting disease incidence when using the predictive system for timing fungicide sprays compared to our current recommendation of preventive applications. The web-based system should be readily available for growers to use in the next strawberry season. So, stay tuned!

Photo 1

Photo 2

Fungicides registered for use on Florida strawberries

Product name (active ingredient)	Fungicide Group	Maximum Rate Per Acre Per Application	Season	Min. Days To Harvest	Pertinent Diseases	Remarks
Abound (azoxystrobin)	11	15.4 fl oz	1.92 qt	0	Anthracnose Powdery mildew Botrytis (suppression only)	Do not make more than 2 sequential appl. and no more than 4 appl./crop year. See label for instructions on dipping transplants
Aliette WDG (fosetyl-Al)	33	5 lb	30 lb	12 hr	Phytophthora diseases	Do not tank mix with copper fungicides
Bumper 41.8 EC (propiconazole)	3	4 fl. oz.	16 fl. oz.	0	Anthracnose Powdery mildew	Do not make more than 2 consecutive applications
Cabrio EG (pyraclostrobin)	11	14 fl oz	70 fl oz	0	Anthracnose Powdery mildew Leaf spot Botrytis (suppression only)	Do not make more than 2 sequential applications and no more than 5 appl./crop year
Captan 50 WP (captan)	M3	6 lb	48 lb	1	Anthracnose Botrytis fruit rot Leaf spot	Rate per treated acre. Special label for FL allows up to 24 applications per season
Captan 80 WDG (captan)	M3	3.75 lb	30 lb	1	Anthracnose Botrytis fruit rot Leaf spot	Rate per treated acre. Special label for FL allows up to 24 appl./ season
Captec 4L (captan)	M3	3 qt	24 qt	1	Anthracnose Botrytis fruit rot Leaf spot	Rate per treated acre. Special label for FL allows up to 24 appl./ season
Captevate 68 WDG (captan + fenhexamid)	M3 + 17	5.25 lb	21 lb	0	Botrytis fruit rot Anthracnose	Do not make more than 2 consecutive applications
(copper) many brands[1]	M1 or M9	varies	varies	1-2	Angular leaf spot	Frequent use of copper fungicides may cause foliar burn
Elevate 50 WDG (fenhexamid)	17	1.5 lb	6 lb	0	Botrytis fruit rot	Do not make more than 2 consecutive applications
Iprodione 4L AG (iprodione)	3	2 pt	2 pt	N/A	Anthracnose (suppression) Botrytis fruit rot Phomopsis soft rot	Do not make more than 1 application per season. Do not apply after first fruiting flower

					Leaf spot Stem end rot	
Orbit (propiconazole)	3	4 fl. oz.	16 fl. oz.	0	Anthracnose Leaf Spot Powdery mildew	Do not make more than 2 consecutive applications
(potassium bicarbonate) many brands[2]	33	varies	varies	1	Powdery mildew	Do not mix with highly acid products
(potassium phosphite) many brands[3]	33	varies	varies	0	Phytophthora diseases	May cause foliar burn if applied with copper based products
Pristine (pyraclostrobin + boscalid)	11 + 7	23 oz	115 oz	0	Botrytis fruit rot Anthracnose Powdery mildew Leaf spot	Do not make more than 2 consecutive appl. and no more than 5 appl./ crop
Procure 50WS (triflumizole)	3	8 oz	32 oz	1	Powdery mildew	Do not plant leafy vegetables within 30 days or root vegetables within 60 days or rotational crops not on label for one year after application
Quintec (quinoxyfen)	13	6 fl. oz	24 fl. oz	1	Powdery mildew	Do not make more than 2 consecutive applications
Rally 40W (myclobutanil)	3	5 oz	30 oz	0	Powdery mildew Leaf spot Leaf blight	Do not plant rotational crops until 30 days after last application
Ridomil Gold EC Ridomil Gold SL (metalaxyl-M)	4	1 pt/trtd acre	1 ½ qt/trtd acre	0	Phytophthora diseases	See label for use in drip irrigation
Rovral 4 (iprodione)	2	2 pt	2 pt	N/A	Botrytis fruit rot Stem end rot Phomopsis soft rot Leaf spot	Do not make more than 1 appl./season. Do not apply after bloom initiation
Scala SC (pyrimethanil)	9	18 fl. oz	54 fl. oz	1	Botrytis fruit rot	Do not make more than 2 consecutive applications. Do not use more than 2 of 6 appl. in any one season.
Serenade Max (*Bacillus subtilis*)	Biological	3 lb		0	Powdery mildew Botrytis fruit rot Anthracnose	Should to be used in combination with other fungicides
Sonata (*Bacillus pumilus*)	Biological	4 qts		0	Powdery mildew (suppression)	Use in a tank mix or rotational program with other registered fungicides

Sonoma 40 WSP (myclobutanil)	3	5 oz	30 oz	0	Powdery mildew Leaf spot Leaf blight	Do not plant rotational crops until 30 days after last application
(sulfur) many brands[4]	M1 or M9	varies	varies	1	Powdery mildew	Do not use during hot weather
Switch 62.5 WG (cyprodinil + fludioxonil)	9 + 12	14 oz	56 oz	0	Botrytis fruit rot Anthracnose	Do not make more than 2 consecutive appl. Do not plant crops not on the label for 30 days after last application. See special label for instructions on dipping transplants.
Thiram 65 WSB (thiram)	M2	5 lb	25 lb	3	Botrytis fruit rot	Do not rotate treated crops with other crops for which Thiram is not registered
Thiophanate-methyl 85 WDG (thiophanate-methyl)	1	0.8 lb	3.2 lb	1	Botrytis fruit rot Leaf scorch Leaf blight	Fungicides from different chemical groups should be used in spray program for disease resistance management
T-Methyl 70 W WSB (thiophanate-methyl)	1	1 lb	4 lb	1	Botrytis fruit rot Powdery mildew Leaf scorch Leaf blight	Fungicides from different chemical groups should be used in spray program for disease resistance management
Topsin 4.5 FL (thiophanate-methyl)	1	20 fl. oz	80 fl. oz	1	Botrytis fruit rot Colletotrichum crown rot Leaf scorch Leaf blight Powdery mildew	Fungicides from different chemical groups should be used in spray program for disease resistance management
Topsin M 70 WP Topsin M WSB (thiophanate-methyl)	1	1 lb	4 lb	1	Botrytis fruit rot Colletotrichum crown rot Leaf scorch Leaf blight Powdery mildew	Fungicides from different chemical groups should be used in spray program for disease resistance management

[1] **e.g. Kocide 2000, Kocide 3000, Kocide 4.5LF, Kocide 101, Kocide DF, Champion Wettable Powder, Champ DP Dry Prill, Champ Formula 2 Flowable, Cuprofix Ultra 40 Disperss, Copper Count-N, Nu Cop 50 WP, Nu Cop 3L, Nu Cop 50 DF, Nu Cop HB, Badge SC, Basic Copper 53, C-O-C-S WDG, COC DF, Nordox 75WG, Stretch, Tenn-Cop 5E, Top Cop with sulfur**

[2] **e.g. Kaligreen, Armicarb 100, Milstop**

[3] **e.g. Fosphite, Helena Prophyt, Fungi-Phite, Phostrol, Topaz**

[4] **e.g. Micro Sulf, , Sulfur 90W, Super-Six, Microthiol Disperss, Wettable Sulfur, Kumulus DF, Dusting Sulfur-IAP, Thioperse 80%, Yellow Jacket Dusting Sulfur, Yellow Jacket Wettable sulfur**

AVISO A LOS EMPLEADOS

SALARIO MÍNIMO EN FLORIDA

El salario mínimo en Florida es $7.21 la hora, con un salario mínimo de, por lo menos, $4.19 para los empleados que reciben propinas, además de éstas, desde el 1 de Enero de 2009 hasta el 23 de Julio de 2009. En el 24 de Julio de 2009 el nuevo salario mínimo Federal de $7.25 reemplazará el salario mínimo de Florida.

La tasa del salario mínimo se calcula de nuevo cada año el 30 de septiembre, basándose en el Índice de Precios al Consumo. Todos los años, el día 1 de enero entra en vigor el nuevo salario mínimo en Florida.

Un empleador no puede tomar represalias contra un empleado por el hecho de ejercer su derecho a recibir el salario mínimo. Los derechos que protege la Constitución del Estado incluyen el derecho a:

1. Presentar una queja por el incumplimiento, por parte de un empleador, de los requisitos legales de salario mínimo.
2. Informar a cualquier persona acerca del incumplimiento, por parte de un empleador, de los requisitos legales de salario mínimo.
3. Informar a cualquier persona de sus posibles derechos conforme a la Sección 24, Artículo X de la Constitución del Estado, y ayudarle a hacer valer tales derechos.

Un empleado que no ha recibido el total del salario mínimo legal después de notificar a su empleador y de haberle dado al empleador 15 días para resolver cualquier queja por salarios no pagados, puede entablar una acción civil en un tribunal contra un empleador con el fin de recuperar los salarios atrasados más daños y perjuicios y honorarios de abogado.

Un empleador que sea declarado culpable de violar intencionalmente los requisitos de salario mínimo, está sujeto a pagar una multa de $1,000 por cada infracción, pagadera al estado.

El Procurador General u otro funcionario designado por la Legislatura puede entablar una acción civil para hacer cumplir el salario mínimo.

Para detalles, ver la Sección 24, Artículo X de la Constitución del Estado, y la Sección 448.110 de los Estatutos de Florida.

NOTICE TO EMPLOYEES
FLORIDA MINIMUM WAGE

The Florida minimum wage is $7.21 per hour, with a minimum wage of at least $4.19 per hour for tipped employees, in addition to tips. Florida's new minimum wage is in effect as of January 1, 2009 until July 23, 2009. On July 24, 2009 the new Federal minimum wage of $7.25 will replace Florida's minimum wage.

The rate of the minimum wage is recalculated yearly on September 30, based on the Consumer Price Index. Every year on January 1, the new Florida minimum wage takes effect.

An employer may not retaliate against an employee for exercising his or her right to receive the minimum wage. Rights protected by the State Constitution include the right to:

1. File a complaint about an employer's alleged noncompliance with lawful minimum wage requirements.
2. Inform any person about an employer's alleged noncompliance with lawful minimum wage requirements.
3. Inform any person of his or her potential rights under Section 24, Article X of the State Constitution and to assist him or her in asserting such rights.

An employee who has not received the lawful minimum wage after notifying his or her employer and giving the employer 15 days to resolve any claims for unpaid wages may bring a civil action in a court of law against an employer to recover back wages plus damages and attorney's fees.

An employer found liable for intentionally violating minimum wage requirements is subject to a fine of $1,000 per violation, payable to the state.

The Attorney General or other official designated by the Legislature may bring a civil action to enforce the minimum wage.

For details, see Section 24, Article X of the State Constitution and Section 448.110, Florida Statutes.