



UNIVERSITY OF
FLORIDA

E X T E N S I O N

Institute of Food and Agricultural Sciences

Hendry County Extension

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SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

January 23, 2004

Mostly cool dry conditions prevailed across the region over the past two weeks. Temperatures averaged from near normal to a few degrees below normal with daytime temperatures in the upper 60's to low 70's with nighttime lows ranging in the low 50's, 40's and a few nights in the upper 30's.

Storms on January 18 and 19 brought rains to much of the region dropping up to 2 inches in some places. Fog and heavy dews have also been common throughout the region over the past few weeks.

Planting and harvesting is proceeding at a normal pace. Watermelons are beginning to be planted around Immokalee and planting of spring crops is ongoing in the Manatee/Ruskin. A number of growers report that cool nights have been slowing crop growth and development.

Crops coming to market include snap beans, cabbage, celery, cucumbers, eggplant, endive, escarole, lettuce, peppers, radishes, squash, strawberries, sweet corn, tomatoes, and specialty crops. Quality is mostly good and some growers are reporting banner yields of tomatoes.

FAWN Weather Summary

Date	Air Temp (°F)		Rainfall (Inches)	Hours Below Certain Temperature (hours)							
	Min	Max		40°F	45°F	50°F	55°F	60°F	65°F	70°F	75°F
Bradenton											
1/9 – 1/22/04	37.6	75.0	0.84	22.7	12.7	22.9	9.9	7.9	27.4	70.2	87.5
Ft Lauderdale											
1/9 – 1/22/04	45.2	79.6	0.00	0.0	0.0	13.2	44.7	13.0	10.8	27.1	54.4
Fort Pierce											
1/9 – 1/22/04	41.1	77.3	1.90	0.0	24.3	22.3	43.4	33.6	1.0	48.2	82.1
Homestead											
1/9 – 1/22/04	45.2	80.0	0.69	0.0	0.0	49.9	41.8	39.1	31.8	11.0	69.1
Immokalee											
1/9 – 1/22/04	37.3	78.3	1.80	18.2	53.5	52.6	34.5	33.2	7.8	35.6	74.1

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COOPERATIVE EXTENSION WORK IN AGRICULTURE, FAMILY AND CONSUMER SCIENCES, SEA GRANT AND 4-H YOUTH, STATE OF FLORIDA, IFAS, UNIVERSITY OF FLORIDA, U.S. DEPARTMENT OF AGRICULTURE, AND BOARDS OF COUNTY COMMISSIONERS COOPERATING

The short-term forecast from the National Weather Service in Miami indicates that a high pressure is expected to move south and be centered right over west central Florida Saturday morning ... advecting cold and dry air right into our back yard. Strong radiational cooling tonight may result in frost and temperatures near 32 degrees are a possibility for interior areas Saturday morning, especially along and north of the Tamiami trail and away from the coasts and away from Lake Okeechobee. Farm areas of Dade may see temperatures around 40 Saturday morning. We are still in the most dangerous time of year for south Florida freezes so need to watch this situation closely for a borderline event.

Temperatures will moderate as the front moves through and winds veer to the south bringing a rapid warm-up by Sunday. A stalled front and unsettled weather will result in a chance of showers through much of next week.

For additional information, visit the National Weather Service in Miami website at <http://www.srh.noaa.gov/mfl/newpage/index.html>

Insects

Growers and scouts report mostly low insect pressure across the area.

Whiteflies

Respondents in the Manatee/Ruskin area indicate that spring tomato plantings are under way but note that there are there are still a few old tomatoes fields around and report finding plenty of whiteflies.

East Coast growers report that whitefly numbers are variable depending on location with some hot spots being reported. Whiteflies are present in eggplant, pepper, squash and tomatoes. Pressure has been persistent in squash and moderate incidence of silverleaf has been reported. Respondents also note finding numerous whitefly adults and eggs on pepper.

Growers and scouts in Southwest Florida note that whiteflies populations are on the rise but note they have not reached the high numbers seen last year at this time other than in a few scattered locations. Scouts indicate that immatures are building up in some potato and older pepper and tomato fields and some infield transmission of tomato yellow leaf curl has been reported in younger plants at 1st tie.

Reports from Miami-Dade County indicate that whiteflies are present in bean, potatoes and tomatoes.

Although the whitefly situation appears to be better this year than at this same time last season, this is a critical time for growers to maintain vigilance and keep up whitefly control measures to avoid a buildup of whiteflies and prevent the movement of infected whiteflies carrying TYLCV into the spring crop.

In older plantings growers should strive to maintain control of adults with oils, soaps and materials OTHER THAN nicotinoids. A strong emphasis should be placed on PROMPT destruction, block by block, as harvest is completed, including oil with herbicide for quick burndown and control of existing whiteflies in those blocks, thus minimizing movement out to other blocks.

Remember that a big part of an effective resistance management program is not following an application of a nicotinoid with another application (soil or foliar) of the same or different nicotinoid. Please think twice before doing this!! While they may work now, then what? What will you use next time? There are NO new adulticides coming down the pipe, at least not in the near future. While you may feel you have no alternatives right now, the nicotinoids may be the only thing standing between a decent crop and disaster. If we were to lose the nicotinoids to resistance, we likely would not be able to grow tomatoes in South Florida.

Neonicotinoid Resistance Management Strategies for SW Florida – the following recommendations have been developed through a collaborative effort of UF/IFAS faculty, chemical manufacturers and IPM consultants. (**Neonicotinoids include Admire, Platinum, Provado, Actara and Assail**)

Recommendations:

- 1 Two-month crop free period from mid-June to mid-August
- 2 Correct crop destruction technique means control of existing whitefly populations in addition to the physical destruction of the crop.
 - Prompt and efficient crop destruction between fall and spring crops to maximally decrease whitefly numbers and TYLCV sources available to infect subsequent crops.
 - Use a burn down herbicide such as Paraquat or Diquat in conjunction with a heavy application of oil (2-4 % solution) to quickly kill whiteflies.
 - Time burn down sprays to avoid crop destruction during windy periods, especially when prevailing winds are blowing whiteflies toward adjacent plantings.
 - Destroy crops block by block as harvest is completed rather than waiting and destroying an entire field.
- 3 Reduce overall whitefly populations by strictly adhering to cultural practices including:
 - Plant whitefly-free transplants
 - Delay planting new fall crops as long as possible and destroy old crops immediately after harvest to create or lengthen a tomato free period
 - Control whitefly infested weeds, abandoned crops, and volunteer plants.
 - Control whitefly weed host reservoirs on field edges and ditchbanks.
 - Manage weeds within crops to minimize interference with spraying;
 - Avoid u-pick or pin-hooking operations unless effective control measures are continued
- 4 Use a proper whitefly spray program. Follow the label!
 - On transplants, either do not use a neonicotinoid or apply *one time* 7-10 days before shipping; use products in other chemical classes, including Fulfill, before this time;
 - Use a neonicotinoid. Admire (16 ozs/acre) or Platinum (8ozs/acre), at transplanting. Use products of other chemical classes as the control with the neonicotinoid diminishes
 - Do not use Admire at less than 16 oz/a or Platinum at less than 8 oz/acre
 - Do not use a split application of Admire or Platinum (i.e. do not apply at transplanting and then again later)
 - Never follow a soil or foliar application of a neonicotinoid with another soil or foliar application of the same or different neonicotinoid on the same crop or in the same field within the same season (i.e. do not treat a double crop with a neonicotinoid if the main crop had been treated previously, unless the double crop is planted at least 60 days after the main crop).
- 5 **Do unto your neighbor, as you would have him do unto you.** Looking out for your neighbor's welfare may be a strange or unwelcome concept in the highly competitive vegetable industry. Growers need to remember that should SLW develop full-blown resistance to the neonicotinoids, it's not just the other guy that will be hurt—everybody will feel the pain! This is why the Resistance Management Working Group has focused on encouraging region-wide cooperation in this effort.

- 6 **Knowing what is going on in the neighbor's fields is important.** Growers should try to keep abreast of operations in upwind fields, especially harvesting and crop destruction, which both disturb the foliage and cause SLW to fly. Now that peppers have been added to the list of TYLCV hosts, growers will need to keep in touch with events in that crop as well.

Suggestions for breaking the whitefly cycle can be found in an article by Dr. Jane Polston in last years Tomato Institute Proceedings, available online at the SWFREC website at http://www.imok.ufl.edu/veghort/docs/tom_inst_2002_091202.pdf

Leafminers

Growers and scouts in the Homestead area, report mostly moderate leafminer pressure primarily in beans, potatoes and tomatoes.

Around Southwest Florida reports indicate leafminer pressure varies greatly between locations but I think overall the pressure is lower than normal for this time of the season around here. Scouts indicate that many of the older tomato and potato fields have very active parasites.

Dr Gregg Nuessly, Entomologist UF/IFAS EREC notes that leafminers can sneak up on growers during the winter, particularly when the temperature is cool for several weeks followed by a warming trend as we saw recently. The cooler temperatures tend to collapse the partially overlapping generations onto each other. Then when it warms significantly the adults emerge en masse and can at least temporarily overwhelm the natural enemies ability to keep them under control. Therefore, growers and scouts should check their fields for leafminer escapes.

For more information on leafminers, visit the UF/IFAS Featured Creatures website at http://creatures.ifas.ufl.edu/veg/leaf/vegetable_leafminer.htm and http://creatures.ifas.ufl.edu/veg/leaf/a_serpentine_leafminer.htm

Worms

Growers and scouts indicate that worm pressure is relatively low across south Florida although some reports of occasional new hatches of beet and southern armyworm as well as a few loopers continue to be reported.

Mites

Growers and scouts on the East Coast report finding a few two-spotted and red and spider mite in eggplant, tomato and specialty items especially along field margins and ditch banks. Broadmites are still present in pepper in low numbers in several locations.

Around Southwest Florida, spidermites are present in eggplant, tomato and cucumbers and growers report they have been causing problems in a few locations. A few broadmites continue to be reported on pepper especially in older pepper.

Reports from Homestead report finding a few broad mites and spider mites on eggplant and pepper.

Aphids

Aphids remain mostly low around Southwest Florida with some winged aphids moving around. Reports not that a few bean, cucurbit, pepper and potato fields being colonized. Growers note an increase in aphid

activity in specialty brassicas. Respondents report finding both green peach aphids as well as black bean aphids.

Growers around Palm Beach report that aphids have been active on a variety of crops including pepper, squash and tomatoes depending on the location. Pressure has been persistent in squash and specialty crops including oriental brassicas. Growers report moderate levels of silverleaf in squash.

Around Belle Glade aphids are present in lettuce and beans. Growers should be on the lookout for both black bean aphids (*Aphis fabae*) and black legume aphid (*Aphis craccivora*) in legume crops.

In Homestead, respondents indicate that aphids are widely present in beans, cucurbits, pepper, potato and tomatoes.

Thrips

Respondents in Homestead report some problems with thrips in pepper.

Thrips populations remain very low around southwest Florida with most reports coming from the Naples area.

Thrips numbers are also low around Palm Beach although some isolated reports of *Thrips palmae* damage still continue to be received.

Gregg Nuessly notes that growers should be aware of insect movement south on weather fronts during winter. He notes that significant migration of western flower thrips (*Frankliniella occidentalis*) have been associated with cold fronts in December through January in previous years and suggests that bean, pepper and eggplant growers may want to intensify their sampling for thrips proceeding such fronts.

Pepper Weevils

Respondents around southwest Florida indicate that pepper weevils remain low overall with a few locations reporting some build up in older pepper.

Growers and scouts on the East Coast report mostly low to moderate pepper weevil activity with a few scattered hot spots being reported.

Around Homestead, respondents report pepper weevils remain at mostly low levels with higher incidence in hot varieties.

Diseases

Growers and scouts report that relatively low disease pressure but recent rain; foggy mornings and heavy dews have favored disease development in some places.

Late Blight

Late blight has been positively diagnosed on potatoes in the Immokalee area. Reports indicate that scattered lesions have been found on a single farm. The scattered occurrence of the lesions indicates that this is most likely a secondary infection. The initial source of inoculum has not been identified.

Although the grower embarked on an aggressive control program employing a tight spray schedule including a variety of recommended fungicides following identification of the disease, reports indicate that fresh active lesions were found following last week's wet weather.

Few diseases spread as quickly as late blight. The disease can easily devastate a tomato or potato field within a few weeks if it is not properly controlled.

Late blight is caused by the fungus *Phytophthora infestans*, which is a specialized pathogen of potato and, to a lesser extent of tomato. The disease thrives under cool and wet conditions. Temperatures between 50 and 80°F combined with moist conditions such as rain, fog, heavy dews, or relative humidity above 90 percent are conducive for disease development. Night temperatures in the mid-fifties with daytime temperatures from the mid-fifties to mid-seventies are ideal for this disease. Temperatures in the lower range stimulate the formation of many swarm spores (zoospores) from the sporangia. This situation dramatically increases the potential for disease spread.

Since the disease can spread so rapidly, growers should scout their fields thoroughly each day, especially when cool and wet conditions conducive to disease development prevails. Since late blight symptoms may be confused with symptoms of other diseases, the following diagnostic pointers may help growers distinguish between the late blight and other diseases.

Late blight symptoms on leaves appear as irregularly shaped brown to purplish lesions with indefinite border lesions that can span veins. The lesions may be seen any time of day, on any stage of plant growth and on leaves of any age. Velvety, white fungal growth may appear on the lower surface of affected leaflets early in the morning before leaves dry and/or in the lower canopy.

On stems, purplish lesions may be seen any time of day and may be found any where on the stem. Cottony, white growth of fungus on stems with lesions can often be seen early in the morning and/or in the lower canopy. Stems with lesions are brittle and break easily. Lesions are confined to epidermis and cortex. Leaf rolling and wilting is often associated with stem lesions and purpling of leaflets may occur in some varieties.

Several control measures including use of certified seed and destruction of cull in addition to careful scouting are absolute necessities if late blight is to be properly controlled. Remember that prevention is the key to success

Currently, fungicides are the most effective means of controlling late blight and will remain the primary tool until cultivars with resistance to this disease become available. Fungicides slow the rate at which the disease develops in the field by creating a protective barrier on the foliage. Just applying a chemical, however, does not necessarily equate with effective disease control. Relative effectiveness of a product, coverage, and timing must be factored into the equation for maximum benefit.

Numerous fungicide products are registered for late blight control. They are often grouped as protectants or systemics. Protectants, as the name implies, protect foliage from infection by spores. Protectant chemicals must be well distributed over the leaf surface and must be applied before spores land on leaves. They are ineffective against established infections.

Systemic products become distributed locally within plant tissues and protect foliage from infection by spores. They may kill some established infections and may suppress production of new spores.

Although growers have been able to effectively control late blight by sanitation, cultural methods and judicious use of fungicides, the situation became more complicated in recent years by the development of resistance to certain fungicides such as metalaxyl. Growers should be aware of this problem and be careful

exercise resistance management strategies rotating fungicides with diverse modes of action into their spray programs.

In Florida, it has been observed that seldom does a widespread late blight epidemic occur on tomatoes in the Manatee-Ruskin area unless the disease was present in the Immokalee area and/or Dade County. Therefore, growers in the central part of the state should monitor the late blight situation further south. Similarly, growers in the Immokalee area should be aware of the late blight situation further south.

Bacterial Spot

Respondents around the Homestead area report that bacterial spot is active in pepper and tomato.

Around Immokalee, new bacterial spot infections are being reported in some younger tomato and pepper. Growers report that some older plantings are still struggling with bacteria and note that bacteria has been jumping on to fruit following recent wet nights and mornings.

East Coast growers report mostly low incidence and occurrence of bacterial spot mostly in older tomato and specialty types including heirlooms varieties as well as on pepper in some places.

Target spot

Growers and scouts around Immokalee indicate that target spot continues to be a problem especially on mature tomato plants and note that fruit infections have reduced pack-out in some places.

Respondents in Palm Beach report that target spot is widely present on tomato. Incidence and severity is mostly low.

Growers around Homestead report that target spot is still active on tomato.

Sclerotinia

Grower and scouts on the east Coast report increased incidence of sclerotinia mostly in pepper and also in some tomato fields following recent wet nights.

Respondents in Homestead report that white mold has appeared on tomato, beans, and eggplant in the past week.

Dr Rick Raid, Pathologist UF/IFAS EREC reports that growers in the Belle Glade area (and other parts of south Florida) are beginning to see some of the vegetable diseases caused by the fungus *Sclerotinia sclerotiorum*. This pathogen causes lettuce drop, white mold on beans, and cottony soft rot of crucifers. A cool to moderate temperature disease, current infections are being favored by our typical winter temperatures.

The pathogen survives as sclerotia in the soil and this may give rise to a fruiting structure (under the right conditions), which provides aerial or wind-blown inoculum (spores). The most effective management programs are aimed at the primary inoculum form, the sclerotia.

While management of this disease begins before planting with fallow flooding of organic soils (nearly 100% effective) during the summers, crop rotation, or deep plowing of heavily infested fields; growers can sometimes achieve control on the currently planted crop using available fungicides. On beans, Topsin M (thiophanate methyl) and Rovral (iprodione) provide some control.

Since the infections frequently occur on senescing blooms, applications should be timed to coincide with blossoming. If applied once, apply at 50-70% bloom or, for better control, apply twice, with the first application at 10-30% bloom and the second at peak bloom. Botran is another chemical registered on beans, which may be used to target Sclerotinia. As usual, read all labels before applying chemicals to check for proper registration, rates, and safety guidelines.

In tomato and pepper, infections also typically start at flowering. Water-soaked spots are usually the first symptom, which is followed by invasion of the stem, girdling, and death of the upper part of the stem that turns a light gray. Large portions of the field may become diseased, producing large, circular, areas of dead plants.

Sclerotinia is a fungus that prefers cool, moist weather, causing diseases of great intensity when temperatures range from 60 - 70°. High humidity with dew formation supports the spread and increases the severity of infections. Topsin has given good results in controlling the disease in fruiting vegetables if applied preventatively.

A good indicator of Sclerotinia is the presence of small, black sclerotia (resting structures) of the fungus. Sclerotia vary in size and shape. Sclerotia can form on the surface of plant parts as well as inside the stems of tomato. Another common indicator of Sclerotinia diseases is the presence of white, cottony-like mycelium of the fungus when weather conditions are cool and moist.

Topsin M 70 WP has an emergency, Section 18 label for use in Florida on fruiting vegetables including tomato, pepper, and eggplant for suppression of white mold caused by *Sclerotinia sclerotiorum* from July 3, 2003 to March 31, 2004. The rate is 0.5 to 1.0 lbs of product per acre. It is for use by ground application only. A maximum of 4 applications per crop are allowed. Do not apply within 2 days of harvest. The maximum amount of product per crop that can be used is 3.5 lb/acre.

Early Blight

Reports from Homestead indicate that early blight is still active on tomato and potato. Alternaria is also present on beans.

Low levels of early blight are also being reported from widely scattered locations in East Coast growing areas.

In southwest Florida, a number of respondents report an increase in the incidence and occurrence of early blight in mature tomato in recent weeks with some fruit infections being reported.

Alternaria leaf spot, caused by the fungus *Alternaria brassicae*, has been observed on Chinese cabbage this fall throughout the Glades. Dr Rick Raid notes that although this disease can be brought into check by some of the broad spectrum protectants, such as chlorothalonil and maneb, strobilurin fungicides registered on this crop have proven to be the most effective. Again, this class of fungicide should be alternated or tank mixed with a broad-spectrum protectant to avoid or reduce the likelihood of fungicide resistance developing and to improve efficacy.

Tomato Yellow Leaf Curl Virus

Around Homestead, new reports of TYLCV infections have been received as whitefly populations build seasonally.

In the Immokalee area, growers and scouts indicate that TYLCV is showing up in more fields. Along with increased incidence and occurrence, there have been some reports of a few young fields that already have over 3% infection rates and some infield transmission of TYLCV in plants reaching first tie.

Growers and scouts on the East Coast report mostly low incidence of TYLCV with a few infected plants showing up here and there. There have been some reports of increased incidence and occurrence in older plantings with secondary infections being observed within fields.

Rust

Dr Rick Raid notes that from this point on, sweet corn growers should be alert for common rust, caused by *Puccinia sorghi*, and northern corn leaf blight, caused by *Exserohilum turcicum*. These two diseases can become quite severe during the spring sweet corn crop. Fungicide applications should be initiated well before disease levels become severe. Locally systemic fungicides such as propiconazole and the strobilurin fungicides are most efficacious. It is recommended that these be alternated or tank mixed with a broad-spectrum fungicide such as mancozeb or chlorothalonil.

Fusarium crown rot

Fusarium crown rot in tomato has flared up in a number of locations around Immokalee.

Growers in scouts in Palm Beach also report finding a few isolated cases of fusarium in pepper and tomato.

Powdery mildew

Respondents in Palm Beach County indicate that they continue to find powdery mildew on squash in a number of locations. Incidence is low to moderate but drier conditions and crop maturity will favor disease development. Powdery mildew has also been found on beans, pepper and eggplant as well.

Powdery mildew is also widely present on squash around southwest Florida. Scouts operating around Immokalee note they are seeing some powdery mildew in older pepper in a few locations.

Gummy stem blight

Growers and scouts around Immokalee report finding gummy stem blight in spring watermelon.

Phytophthora

Reports from the East Coast continue to note widely scattered occurrence of *Phytophthora capsici* on pepper, tomato, and squash. Some increase in incidence and occurrence has been noted following recent rains.

Phytophthora is also showing up in pepper in a few locations around southwest Florida.

Gray Wall

Growers are reporting problems with gray wall in tomato in a number of locations around southwest Florida. Although gray wall or blotchy ripening has been known and described for many years - we still do not have a clear understanding of the exact causes. Many factors have been implicated in this disorder including high nitrogen, low potassium, high soil moisture, high humidity, low light intensity, low temperatures and or temperature fluctuations and soil compaction. In addition to these abiotic causes - bacteria, fungi and TMV have also been implicated in the development of these symptoms.

Some varieties are more susceptible than others and a combination of the above conditions is generally present when the problem is seen. For example, a combination of low light and temperatures high N and high soil moisture seem to result in a greater occurrence than if only one of these factors is present.

Gray Mold

Growers and scouts report finding botrytis in tomato in several locations around southwest Florida. Incidence and occurrence is mostly low.

Up Coming Meetings

Miami Dade County

February 12, 2004 **Transportation of Hazardous Materials and** 6:00 PM
BASF Product Update

John D. Campbell Ag Center
18710 SW 288th Street
Homestead, Florida

Call Mary Lamberts at 305-248-3311 for information

Palm Beach County

February 2, 2004 **General Standards/Core Test Review** 8 AM - 12 AM
Natural Areas Weed Management 1 PM – 3 PM

Palm Beach County Extension Office
559 North Military Trail
Palm Beach, Florida

Contact Laura Powell at 561-233-1700

February 11, 2004 **General Standards/Core Test Review** 8 AM - 12 AM
Private Applicator Test Review 1 PM – 3 PM

Belle Glade Extension Office
2976 State Road 15
Belle Glade, Florida

Contact Laura Powell at 561-996-1655.

Other Meetings

March 23-27, 2004 **ISHS International Symposium on Protected Culture**
in a Mild-WinterClimate
Orlando, Florida, USA.

Contact Dr. Daniel J. Cantliffe at 352-392-1928 ext. 203

June 21-24, 2004

**1st International Symposium on Tomato Diseases
and 19th Annual Tomato Disease Workshop**
Grosvenor Resort at Walt Disney World
Orlando, Florida

For more information, visit <http://plantdoctor.ifas.ufl.edu/istd.html>

November 14 – 16, 2004

17th International Pepper Conference

Naples Beach Hotel and Golf Resort
Naples, Florida

For more information, contact Gene McAvoy at 863-674-4092 or visit
<http://conference.ifas.ufl.edu/pepper>

Websites

The Phytosanitary Alert System gathers on a broad international scale, crucial intelligence about emerging pests and diseases of importance to Canada, Mexico, and the US. In the war against pest invaders it pays to know the enemy- the insects, mites, pathogens, weeds, and molluscs that threaten to enter our borders, colonize, and cause severe economic and environmental damage. Go to <http://www.pestalert.org/main.cfm>

Business Opportunity

Florida Food Products located in Eustis, Florida is seeking a grower to produce limited acreage of specialty watermelons in South Florida. Florida Food Products is a Florida-based international agribusiness specializing in the growing and processing of botanical and vegetable-based ingredients for the beverage, cosmetic, food and nutritional industries. Contact Jerry Brown at 352-357-4141 ext 303.

Employment

ProSource One is seeking an Ag and Citrus Salesperson for their Immokalee location. Interested candidates should contact Mike Harowitz at 772-260-5017 or email maharowitz@agrodist.com for additional information.

News You Can Use

Eggplant Found to Have an Antioxidant Kick

Agricultural Research Service scientists recently made headway unlocking the secrets of Black Magic—a commercial eggplant cultivar representative of U.S. market types. Apparently, when horticulturists named it, they were onto something. Turns out the variety has nearly three times the amount of antioxidant phenolics found in other eggplant cultivars that were studied.

Eggplant contains high levels of an antioxidant compound that may protect the body's cells against oxidative damage, according to studies by two Agricultural Research Service scientists. They found that chlorogenic acid, one of the most powerful antioxidants produced in plant tissues, was the predominant phenolic compound in nearly all the samples analyzed.

Geneticist John R. Stommel of the ARS Vegetable Laboratory and plant physiologist Bruce D. Whitaker of the ARS Produce Quality and Safety Laboratory conducted the research.

In addition to chlorogenic acid, the researchers found 13 other phenolic acids present at varying levels in the commercial cultivars. They also identified several phenolic compounds in two of the wild eggplant relatives that had never before been isolated from plants. Phenolic acids are a simple class of antioxidant phenylpropanoid compounds. Plants produce many different phenylpropanoids to protect themselves against stress and infection.

The scientists are seeking to identify valuable traits worth introducing into popular commercial cultivars for health purposes. The work helps establish new breeding lines, which the commercial seed industry can then use to develop finished varieties that benefit consumers.

USDA Agricultural Research Magazine
January 2004

Correction

Dr Pam Roberts reports that the article, which appeared in the latest issue of Citrus and Vegetable magazine, January 2004 - titled Update on Diseases of Tomato on page 40 – g41 shows a picture of a tomato fruit with the caption bacterial spot. This is incorrect it should be target spot.

CAPs Program Comes To Florida

The Cooperative Agricultural Pest Survey (CAPS) is a joint program, currently in all fifty states, that involves the United States Department of Agriculture and each state's agricultural agency. The CAPS Program in Florida is the largest in the country and is comprised of USDA and Florida Department of Agriculture and Consumer Services-Division of Plant Industry representatives. The primary goal of the program is the early detection of exotic, invasive species, which includes: arthropods, bacteria, fungi, viruses, viroids, nematodes, mollusks, and plants. The benefits of early detection will increase the potential success for early eradication, reduce the threat to Florida's agriculture and natural resources, reduce the threat to neighboring states and countries with which we are involved in commerce with, and reduced costs. Public awareness of the issues surrounding exotic species, through a concerted outreach program, is another focus of the CAPS Program.

For more info contact:

Jim Walker
Pest Survey Specialist
Cooperative Agricultural Pest Survey
DPI-DOACS 1911 SW 34th St.
P.O. Box 147100 Gainesville, FL 32614-7100
Phone (352) 372-3505 X 466
Email: walkerj1@doacs.state.fl.us

International Pepper Conference comes to Naples in 2004

The 17th International Pepper Conference will be held November 14 -16, 2004 in sunny Southwest Florida at the beautiful Naples Beach Hotel and Golf Club situated on the Gulf of Mexico.

For the past 25 years, this conference has attracted prominent scientists, researchers, breeders, horticulturists, pathologists, entomologists, geneticists, physiologists, virologists, extension agents, seed and chemical company representatives, major processors, growers, and chile aficionados from around the world. This conference is now recognized as the premier venue for the dissemination and exchange of information on Capsicum, and the 2004 program will focus on all pepper types including bell, long green/red chile, high color paprika, ancho, pimiento, cayenne, Tabasco, jalapeno, yellow pickling, serrano, and cherry peppers.

Topics to be presented include:

- Breeding and Genetics - germplasm evaluation and utilization, crop physiology and technology
- Horticultural Management and Production -production methods, cultural systems and sustainable approaches
- Integrated Pest Management - insect and disease management, biological control
- Post Harvest Issues - post harvest physiology and technology, economics, marketing and trade

This conference will give growers, processors, brokers and scientists a place to make new business relationships, meet specialists in the different fields, and have access to the latest technology, products and services to perform their respective jobs better.

If you have an interest in peppers you cannot afford to miss this conference. It will provide an unsurpassed opportunity for networking and the multi-disciplinary sharing and exchange of the latest scientific and practical information related to pepper breeding, production and processing. All day field tours will provide an opportunity to visit state-of-the-art commercial production fields, packing facilities and breeding stations around Southwest Florida.

For more information, visit the conference web site for a preview of what's to come!

<http://conference.ifas.ufl.edu/pepper>

Quotable Quotes

"Have you ever noticed? Anybody going slower than you is an idiot, and anyone going faster than you is a moron."- George Carlin

Start every day off with a smile and get it over with. -- W. C. Fields

The secret of greatness is simple: do better work than any other man in your field - and keep on doing it. -- Wilfred A. Peterson

What we anticipate seldom occurs; what we least expected generally happens. -- Benjamin Disraeli

Education is what survives when what has been learned has been forgotten -- B. F. Skinner

The game of life is not so much in holding a good hand as playing a poor hand well. -- H.T. Leslie

On the Lighter Side

Out of the Mouths of Babes

Due to a power outage at the time, only one paramedic responded to the call. The house was very, very dark, so the paramedic asked Katelyn, a 3-year old girl, to hold a flashlight high over her mommy so he could see while he helped deliver the baby.

Very diligently, Katelyn did as she was asked. Heidi pushed and pushed, and after a while Connor was born.

The paramedic lifted him by his little feet and spanked him on his bottom. Connor began to cry. The paramedic then thanked Katelyn for her help and asked the wide-eyed 3-year old, "Well what do you think about that?"

Katelyn quickly responded, "He shouldn't have crawled in there in the first place. Smack him again."

The True Cost of Kids

The government recently calculated the cost of raising a child from birth to 18 and came up with \$160,140.00 for a middle-income family. Talk about sticker shock! That doesn't even touch college tuition.

But \$160,140 isn't so bad if you break it down. It translates into \$8,896 a year, \$741.38 a month, or \$171.08 a week. That's a mere \$24.24 a day! Just over a dollar an hour.

Still, you might think the best financial advice says don't have children if you want to be "rich." It is just the opposite.

What do you get for your \$160,140?

Naming rights,--- First, middle, and last!

Glimpses of God everyday.

Giggles under the covers every night.

More love than your heart can hold.

Butterfly kisses and Velcro hugs.

Endless wonder over rocks, ants, clouds, and warm cookies.

A hand to hold, usually covered with jam.

A partner for blowing bubbles, flying kites, building sand castles, and skipping down the sidewalk in the pouring rain.

Someone to laugh yourself silly with no matter what the boss said or how your stocks performed that day.

For \$160,140, you never have to grow up.

You get to finger-paint, carve pumpkins, play hide-and-seek, catch lightning bugs, and never stop believing in Santa Claus.

You have an excuse to keep reading the Adventures of Piglet and Pooh, watching Saturday morning cartoons, going to Disneyland, and wishing on stars.

You get to frame rainbows, hearts, and flowers under refrigerator magnets and collect spray painted noodle wreaths for Christmas, hand prints set in clay for Mother's Day, and cards with backward letters for Father's Day.

For \$160,140, there is no greater bang for your buck.

You get to be a hero just for retrieving a frisbee off the garage roof, taking the training wheels off the bike,

removing a splinter, filling a wading pool, coaxing a wad of gum out of bangs, and coaching a baseball team that never wins but always gets treated to ice cream regardless.

You get a front row seat to history to witness the first step, first word, first bra, first date, and first time behind the wheel. You get to be immortal.

You get another branch added to your family tree, and if you're lucky, a long list of limbs in your obituary called grandchildren.

You get an education in psychology, nursing, criminal justice, communications, and human sexuality that no college can match.

In the eyes of a child, you rank right up there with God.

You have all the power to heal a booboo, scare away the monsters under the bed, patch a broken heart, police a slumber party, ground them forever, and love them without limits, so one day they will, like you, love without counting the cost.

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