



UNIVERSITY OF  
FLORIDA

E X T E N S I O N

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# SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

December 17, 2004

A strong cold front brought the first icy blast of the season to South Florida on Tuesday night dropping the mercury into the mid- 30s in many normally colder interior production areas. Breezy conditions prevented frost formation in most locations and little or no crop injury has been reported. Cold conditions should help toughen plants for cool weather to come.

Prior to this temperatures had been unseasonably warm with temperatures averaging a few degrees above normal. In most areas, daytime highs ranged in the low to mid 80's with nighttime lows in the 50's and 60's. Precipitation was variable with most areas experiencing showers and recording some rainfall. Foggy conditions and heavy night dews have been widespread and have contributed to disease development.

Cool mostly dry weather in most areas has permitted cultural and harvesting operations to progress normally over the past few weeks.

### 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
<b>Bradenton</b>											
11/22 –12/16/04	35.9	82.8	1.67	9.6	6.6	22.6	11.1	6.4	31.8	3.8	63.1
<b>Ft Lauderdale</b>											
11/22 –12/16/04	42.9	85.4	0.22	0.0	5.5	23.3	20.3	1.8	6.3	2.5	23.5
<b>Fort Pierce</b>											
11/22 –12/16/04	37.7	83.7	0.10	13.8	12.1	13.1	8.7	5.0	21.4	53.2	28.1
<b>Homestead</b>											
11/22 –12/16/04	41.3	84.5	2.52	0.0	13.2	2.5	21.2	1.5	10.5	43.5	6.0
<b>Immokalee</b>											
11/22 –12/16/04	35.1	85.2	0.41	18.8	4.0	10.2	31.5	2.8	56.5	58.7	16.3

Merry Christmas to all

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**Harvest of crops has been active to meet the holiday demand.** Crops coming to market include cucumbers, eggplant, endive, escarole, green beans, lettuce, okra, pepper, radishes, squash, sweet corn, tomatoes, watermelon and specialty items. Quality has been good. Prices have descended to more normal levels following the dizzying heights reached before the Thanksgiving holiday.

**The short-term forecast from the National Weather Service in Miami calls Temperatures across South Florida are expected to warm up through this weekend.** Minimum temperatures will range from the low to mid 50s across the interior and west coast to the lower to mid 60s along the east with maximum afternoon temperatures in the low to mid 70s.

**Another surge of cold air is expected to affect South Florida by the end of the weekend.** A strong low-pressure system will develop across the great lakes region and move rapidly eastward dragging a cold front across the Florida peninsula Sunday. Latest data suggest the front will move through south Florida Sunday afternoon with a rather dry and cold air mass following through after the front. While temperatures will likely start to fall Sunday night and Monday...the coldest temperatures should be expected Monday night and Tuesday morning.

**Temperatures Monday night and Tuesday morning across South Florida are expected to be near freezing, especially in areas around Lake Okeechobee and north of Alligator Alley.** Given the uncertainty in the forecast...all interests in the interior sections of south Florida should monitor weather information as we head into the early part of next week...in case this forecast trend continues and freeze watches or warnings become necessary.

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

## **Insects**

### **Leafminers**

**Respondents around Southwest Florida, indicate that leafminer pressure continues to build with more fields reaching threshold levels.** In some places pressure is moderate to heavy and scouts report finding stippling and adults in plants only a week in the ground. Leafminers are present in a variety of crops including beans, tomato and eggplant.

**Respondents in Homestead area report that leafminer pressure is still high in young beans and tomato.**

**Leafminer activity has increased in the Manatee Ruskin area over the past 2 weeks.**

**Growers in Palm Beach report that leafminer damage is light to moderate and seems to be almost everywhere on a wide variety of crops.**

**With the on-set of cooler weather across the peninsula, growers across the state can expect to see an increase in leafminer pressure.** Leafminers attack many crops but are particularly damaging on celery, crucifers, cucurbits, okra, potato and tomato. In south Florida, populations peak between October and March while in central Florida they are a problem in both spring and fall.

**The two major species of leafminer that cause problems in vegetables in Florida are the vegetable leafminer (*L. sativae*) and most commonly (*Liriomyza trifolii*) - sometimes referred to as the celery leafminer but which has no approved common name.** The adults are small yellow and black flies about the size of a gnat. The female punctures or "stipples" the leaves with her ovipositor to lay eggs in the leaf tissue or to feed on sap.

**Leafminer injury is readily visible to the grower but healthy plants can tolerate considerable damage without excessive loss of vigor and yield.** The Florida Tomato Scouting Guide sets action thresholds at 0.7 larva per plant for young plants with less than 2 true leaves and 0.7 larva per 3 terminal leaflets for larger plants. Heavily damaged leaves will often drop, due in part to entry of pathogenic organisms into old mines.

**An integrated pest management program that stresses conservation of natural enemies is the primary tactic for the successful control of leafminer.** Chemical control is difficult due to the feeding habits inside the leaf of the host plant. Insecticides that specifically target the leafminer are recommended as use of broad-spectrum materials may decimate beneficial insects including those that attack leafminer. This often results in a larger leafminer problem if the pesticide reduces field densities of leafminer parasites.

**Fortunately, populations are often prevented from reaching truly damaging levels by a number of parasites that attack leafminers.** Several parasites for this insect have been recorded in Florida, but parasitic wasps such as *Opius*, *Diglyphus* are most common. Wasp larvae develop on or in the leafminer larva or pupa. The host ceases to feed and the parasitoid egg or larva is visible through the leaf epidermis using a hand lens against strong light. In scouting fields, growers should be careful to note the number of parasitized mines before deciding to apply insecticides.

**Due to its feeding habit, this pest is resistant to many insecticides.** Cyromazine (Trigard) alternated with abamectin (Agrimek) are effective against leafminer in tomato. Both of these products have limited crop registrations and must not be used on unregistered crops. Spinosad (Spintor) has also given good results and is labeled on a wide range of crops.

**Rotate products in different classes.** Trigard, Agri-Mek and Spintor are all in chemical different classes Do not apply more than 2 consecutive applications of a single product. Use labeled rates; most experts agree that too low or too high are to be avoided. (Agri-Mek is 8oz, Trigard 1/6lb per acre) Some other materials that may be used to conserve beneficials include azadirachtin (Neemix) and insecticidal oils. Both products are approved for use by organic growers.

**Field sanitation is an important control tactic that is overlooked.** When crops are not present in the fields, leafminers can survive on a variety of broad-leaf weeds. These plants serve as reservoirs for pest. Practice good sanitation and eliminate old crop residue immediately after harvest.

## Whiteflies

**Reports from Homestead indicate that whitefly numbers are high in many tomato fields.** Whiteflies are also present in pepper and note that broadmite infestations are highest in field with high whitefly populations. Whiteflies are sporadic in beans with higher counts in places and are still problematic in cucurbits.

**Growers in Palm Beach County note that whitefly numbers are beginning to build in a number of places where nicotinoids have run out and reports indicate growers are applying IGR's and other controls as needed.**

**Respondents in the Manatee/Ruskin area report that whitefly numbers are increasing in a number of locations.**

**Around Southwest Florida, whitefly numbers remain mostly low but growers and scouts report finding nymphs and higher numbers of adults in older plantings.** Some migration has been noted with very high numbers of adults (15-30 per plant) being reported on young plants in at least one location.

**As fall crops come off, it is important to practice good sanitation to avoid movement of whiteflies into later plantings and a buildup in populations that carry over to the spring crop.**

## **Nicotinoid Resistance Management Recommendations**

- Reduce overall whitefly populations by strictly adhering to cultural practices including:
  - Plant whitefly-free transplants
  - Delay planting new crops as long as possible and destroy old crops immediately after harvest to create or lengthen a tomato free period
  - Do not plant new crops near or adjacent to infested weeds or crops, abandoned fields awaiting destruction or areas with volunteer plants
  - Use UV-reflective (aluminum) plastic soil mulch
  - Control weeds on field edges if scouting indicates whiteflies are present and natural enemies are absent
  - Manage weeds within crops to minimize interference with spraying;
  - Avoid u-pick or pin-hooking operations unless effective control measures are continued
- Do not use a nicotinoid like Admire on transplants or apply only once 7-10 days before transplanting; use other products in other chemical classes, including Fulfill, before this time;
- Apply a nicotinoid like Admire (16 ozs/acre) or Platinum (8ozs/acre) at transplanting and use products of other chemical classes (such as the insect growth regulators Courier® or Knack® as the control with the nicotinoid diminishes. Note: Courier and Applaud are the same active: buprofezin. Courier is labeled for whitefly on tomato and snap bean. The mode of action is chitinase inhibitor. Dimilin and Knack are juvenile hormone mimics labeled for whitefly control on fruiting vegetables.
- Never follow an application (soil or foliar) of a nicotinoid with another application (soil or foliar) of the same or different nicotinoid on the same crop or in the same field within the same season (i.e. do not treat a double crop with a nicotinoid if the main crop had been treated previously);
- Save applications of nicotinoids for crops threatened by whitefly-transmitted plant viruses or whitefly-inflicted disorders (i.e. tomato, beans or squash) and consider the use of chemicals of other classes for whitefly control on other crops.

## **Aphids**

**Growers in Palm Beach report finding both winged and wingless aphids with some isolated severe infestations on specialty items in blocks where sprays were probably missed.**

**Around Southwest Florida aphids are present in a number of scattered locations in a variety of crops including pepper and tomato.** Reports indicate that pressure is variable declining in places and increasing in others.

**Reports from Homestead indicate increasing aphid pressure in tomato along with heavy pressure in squash where aphid transmitted virus problems have also increased substantially.** Aphids are also present in beans and eggplant.

**Some increase in aphid activity has been noted in the Ruskin area.**

## **Worms**

**Growers and scouts in the Manatee Ruskin report that worms are still active around the area.**

**Reports from Homestead note that fall armyworms are still causing problems in corn but are not nearly as widespread as earlier in the season.**

**Around Southwest Florida, respondents indicate that worm pressure has declined but they are still around with scouts continuing to find scattered eggs and new hatches. Depending on the location and crop beet armyworm, southern armyworm and tomato fruitworms are all present.**

**Reports from the Glades note fairly high pressure from fall armyworms on sweet corn.** Growers in Palm Beach County indicate that worms are still widely present on a variety of crops with many growers still applying Bt's twice a week although the present cool weather may allow them to stretch that interval out.

### **Pepper weevil**

**Growers and scouts in Homestead report heavy weevil pressure in hot varieties with lower numbers in bells and other sweet varieties.**

**Pepper weevils have been reported in a number of new locations around Immokalee. Over all pressure remains relatively low but scouts note finding some pods with signs of oviposition apparent.**

**Scouts indicate that this is unusual in that weevils are not normally on so many locations this early in the season.** Both larvae infested fruit and adults on buds/blooms at low levels have been detected. Infested fields still have very few infested fruit at this time so early insecticide efforts should help to keep them down and delay further population buildup.

### **Broadmites**

**Growers and scouts in Palm Beach report scattered broadmite damage on peppers in some places.**

**Around Southwest Florida broadmites are still present on pepper and eggplant in scattered locations but activity appears to be waning.**

**Broad mites are still active in eggplant and pepper in the Homestead area.** Scouts note that numbers are highest in fields where whiteflies are most active.

**It has long been documented that broad mites are carried between or within crops on the legs of white flies, honeybees and other insects.** This phenomenon is known as phoresy, and remains an unusual and important means of dispersal mechanism in broad mites.

**A few broadmites are present on pepper in West Central Florida.**

### **Spider Mites**

**Reports from Palm Beach County indicate that spider mites are still active on eggplant in places.**

**Reports from southwest Florida indicate low spider mite numbers in a few scattered locations.**

**Respondents in Homestead report increasing problems with red spider and two spotted mites on eggplant and cucumbers.** Strawberry producers report very low mites.

### **Thrips**

**Growers in Homestead report increasing problems with *Thrips palmi* in beans, cucumber, eggplant, and pepper.**

**Reports from around southwest Florida indicate low populations of thrips being found in pepper and tomato blossoms.**

## Silk Fly

**Silk fly adults are increasing in numbers in sweet corn in Homestead and the Glades.** Growers have been scheduling sprays in the afternoon when flies are most active.

## Diseases

**Reports indicate that disease pressure has picked up in a number of places in response to foggy morning and heavy dews.**

### Late blight

**Late blight has been reported in both tomato and potato in a number of locations around Immokalee.** Incidence remains low in most places but occurrence has been fairly widespread with numerous loci of infection scattered across some fields.

**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. 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 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 anywhere 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. Newer products such as Curzate (DuPont) boast “kick back” action that can help arrest infestation if applied within 48 –72 hours of initial infection.

**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.** Since late blight has been confirmed on both potato and tomato in Immokalee growers in other areas are advised to adhere to a preventative spray program.

**To date, no reports of late blight have been received from other areas of the state but reports from Homestead indicate that growers are applying protective fungicide sprays as a preventative.**

### **Downy Mildew**

**Growers and scouts report that downy mildew is widely present on cucumbers and squash in scattered locations around Southwest Florida.** Incidence and severity is high in some locations.

**Respondents indicate that downy mildew is also active on cucumbers and squash in Homestead.**

**Dr Gerald Holmes, Plant Pathologist at NC State reports growers there experienced the worst case of downy mildew on cucumber in the 2004 season that anyone in NC, VA, MD or DE can remember.** Statewide yield loss have been estimated at 40 % overall. In North Carolina the disease is not normally seen until mid-July and it typically hits squash and pumpkin most severely.

**In the past, cultivar resistance in cucumber has been sufficient to control the disease without fungicide use.** This year, the disease showed up in mid-May and hit cucumber very hard and didn't let up until frost.

**Fungicides did not provide much relief as most growers were caught by surprise, then used products on established infections and often used products that were not very effective.** Dr Holmes put out a trial in late summer that confirmed lack of good control with several materials including Cabrio, Pristine, Quadris and Ridomil Gold Bravo.

**Downy mildew moves around on wind currents and moves north in the spring, and south in the fall.**

**This fall growers have experienced similar problems with downy mildew on cucumber around south-central and southwest Florida and the UF/IFAS Plant Pathology Clinic in Immokalee has reported a higher than number than usual of cucumber samples diagnosed with downy mildew.**

**In North Carolina, Dr. Holmes reports that in his fungicide trial conducted under intense disease pressure, four products worked pretty well --Tanos, Previcur Flex, Gavel and Ranman (soon to be called "Hero" by FMC).** Gerald notes that there are still a lot of questions about how to put these into the ultimate program and notes under his conditions that Tanos plus a protectant fungicide (Bravo, Dithane, Manzate etc) alternated with Previcur Flex plus protectant material would be a real winner as long as applications begin before the disease shows up.

**He notes that all bets are off if products are applied after disease is established.**

### **Bacterial Leaf Spot**

**Dr Ken Pernezny reports that bacterial spot is still causing problems on tomatoes around Palm Beach County.** He notes that in some fields, it is downright bad news. He reports that this is little surprising given that fact that the weather has been fairly dry and cool, but notes that there have been some widespread heavy dews lasting well into the morning.

**Respondents in Homestead indicate that bacterial spot is still active in susceptible tomato varieties.**

**Around Immokalee, bacterial spot has slowed in tomato but continues to spread in some pepper fields.** Reports indicate that the disease is most active in older fields where heavy dews and foggy conditions have aided continued spread while younger planting remains relatively clean. Growers report good control with Tanos/Mancocide tank mixes in rotation with other products.

**Reports from the Ruskin area indicate that bacterial spot activity seems to have stabilized, although it's still around in some fields and just refuses to go away.**

### **Bacterial Blight**

**Growers and scouts around Homestead indicate that bacterial blight has been a major problem in susceptible bean varieties in recent days.**

### **Target Spot**

**Scouts in the Homestead area report active target spot in tomato.** They note that while cool dry conditions have helped slow bacteria spot they may favor diseases like early blight and target spot.

**Around Southwest Florida, target spot is active in many older tomato fields where it continues to consume the foliage in the inner canopy.**

**Target spot is beginning to show up in a few fields around Manatee County.**

### **Early Blight**

**Some east coast growers have reported problems with early blight especially in heirloom varieties.**

**Moderate incidence of early blight has been noted in tomatoes around Homestead.** Alternaria is also present on eggplant.

**Low levels of early blight are also present on tomato in scattered locations around southwest Florida.**

### **Tomato Yellow Leaf Curl Virus**

**Reports from around southwest Florida indicate that TYLCV is gaining momentum with new symptoms developing in the top foliage in several older fields.** Incidence is low in most places but some hotpots with 10% infection or more have been noted. Growers should take precautions to rogue plants where feasible and practice a complete program of IPM and whitefly management including attention to sanitation and crop destruction as we are entering the critical stage where the disease can buildup - setting up conditions for a big spring flare up in about 4-6 weeks

**Growers and scouts in Manatee County report an increase in TYLCV in the tops of some plants, especially in the usual "high risk" fields.** This is reminiscent of last year, which saw an increase late in the season followed by an explosive increase in whitefly numbers when they seemed to come out of the woodwork in the spring. This winter there will probably not be a crop free period, unless Mother Nature steps in. Growers may want to consider using one of the TYLCV resistant cultivars, especially for early plantings, or the use of silver mulch, which did seem to delay the onset of TYLCV last spring.

**TYLCV infections continue to increase around Homestead with many fields now showing 5% infection rates.** Scouts have noted at least one hotspot with 50% incidence of the disease.

## **Southern Blight**

**Scouts in Homestead report finding the first occurrence of southern blight in tomato of the season**

**Around Southwest Florida, respondents indicate that southern blight flared up in several locations.**

## **Powdery Mildew**

**Powdery mildew is wide spread on squash around Southwest Florida.** Incidence and severity is moderate to high in some places. Growers report good results with new "Payday" variety of green squash with powdery mildew tolerance, and note it is looking good under field conditions.

**Growers and scouts operating around Homestead are reporting active powdery mildew in squash**

**Powdery mildew is also present on cucurbits around West Central Florida as well as East Coast growing areas.**

## **Fusarium Crown Rot**

**Fusarium crown rot is beginning to show up on tomato in several locations around southwest Florida.** Fusarium wilt is also present in a few locations.

## **Tomato Spotted Wilt**

**Tomato spotted wilt has been reported from a few isolated locations around Homestead and Southwest Florida.**

**In addition to tomato several other crops including peppers, celery, eggplant, peanuts, lettuce, pineapple, many legumes, many ornamentals, and weeds such as field bindweed and curly dock are hosts of this disease.** Symptoms are multiple and may vary in severity and number observed. Symptoms that may be observed in tomato include: bronzing of young leaves and development of numerous small, dark spots on foliage. Stunted or wilted plants and dieback and streaking of stem tips.

**Fruit quality and yield is reduced and fruit are often deformed with chlorotic ringspots and raised bumps present on fruit, which becomes more apparent on ripening.**

## **Watermelon Vine Decline**

**At least 3 watermelon farms in the Manatee Ruskin area have plants with symptoms, which are similar to the watermelon vine decline.** Samples are being analyzed, but the current thinking is that more than one problem may be involved here. Although not as bad as last year and not spreading as rapidly, symptoms are similar, including vine wilt and death, some stem lesions, vascular discoloration and severe internal rind discoloration in fruit. It may be that our later season has put us into a little cooler weather, thus slowing spread, or we may be looking at other problems. Diagnoses have not been completed. As was typical last year, symptoms don't show up until just before first harvest.

**A few suspect fields have also been examined around Southwest Florida but no firm diagnosis has been made.**

We are still interested in getting as many suspect samples from farms as possible. Please call Phyllis Gilreath at 941-7724524 ext 237 or Gene McAvoy at 863-674-4092 if you have these symptoms.

## New You Can Use

### Update on Mature Vine Decline and Fruit Rot of Watermelon

As almost every watermelon growers knows, a severe watermelon vine decline has severely affected thousands of acres of watermelons across south and central Florida over the past two years. Appearing as crops approach harvest or soon after the first harvest, foliar symptoms included yellowing, wilting of the vines, scorched and brown leaves, and rapid mature vine collapse. Frequently, the interior fruit rind appeared greasy with a brown discoloration, rendering the fruit non-marketable.

Disease progress is very rapid. In some fields, incidence has gone from 10% affected plants to greater than 80% within a week. In some cases, entire fields were lost. In 2004, some growers lost more than 50% of their spring crop.

Research has been underway to determine the cause of vine decline in order to manage or avoid it in the future. Possible environmental and biological (pathogen) causes are being examined. Soil and plant tissue are being analyzed for deficiencies. In an attempt to link cultural practices to the onset and spread of the decline, growers were asked to provide information on all cultural practices performed at the farm.

Various fungi and bacteria were recovered from symptomatic crown, root, foliar, and fruit tissue. In the laboratory, several fungal isolates caused watermelon seedling death following inoculation. However, the role of these fungi as a primary factor or opportunistic invader (and thus only a secondary factor) in vine decline is uncertain and still under investigation.

Watermelons with decline symptoms were also examined for the presence of viruses and virus-like agents. Crude extracts of plant sap from these symptomatic watermelons were filtered to remove fungi and bacteria and used to inoculate greenhouse grown watermelon plants. The inoculated plants developed decline symptoms similar to those observed in the field and died. Other tests indicated the presence of a potyvirus in the declining plants. This potyvirus was identified as *Papaya ringspot virus* type W (PRSV-W), a pathogen commonly observed in south Florida watermelon fields. PRSV-W was purified and used to inoculate additional watermelon plants. However, the purified PRSV-W alone did not lead to the same symptoms of vine decline.

This and other evidence suggest the possible presence of a second virus or virus-like agent that may be involved in vine decline. Research is ongoing to identify the other virus or virus-like agent present in field samples and determine the role it may play in vine decline.

This fall, experiments were placed in previously affected watermelon fields to examine host susceptibility and other factors. Work is continuing to determine the causal agent and possible remedies.

*By Pam Roberts, Rosa M. Muchovej, Phyllis Gilreath, Gene McAvoy, Carlye A. Baker, and Scott Adkins*

### Soybean Rust Confirmed In Florida

TALLAHASSEE – Florida Agriculture Commissioner Charles H. Bronson has announced that the U.S. Department of Agriculture (USDA) laboratory in Beltsville, MD confirmed soybean rust on samples taken from an experimental test plot managed by the University of Florida/Institute of Food & Agricultural Sciences (UF/IFAS) in Quincy, Florida. The disease was also found and confirmed several days earlier in Louisiana and Mississippi. These southeast U.S. discoveries are the first occurrences of soybean rust in North America. Pathologists strongly suspect that Hurricane Ivan that hit the panhandle of Florida in mid September is responsible for the spread of the disease from South America.

UF/IFAS extension agents were prompted to look in their soybean test plots because of notification by Louisiana State University that soybean rust had been found in their extension service test plots.

The soybean rust pathogen (*Phakopsora pachyrhizi*), which is easily spread through wind-borne spores, is a fungus that causes small pustular lesions on the foliage and pods of soybeans and several other legume hosts, including lima beans. Soybean rust also infects kudzu, the exotic nuisance weed that has spread throughout Florida. While the health of the kudzu plant is not severely impacted by the disease, it serves as a reservoir for the soybean rust pathogen. Forage legumes, such as yellow sweet clover also serve as a refuge for the pathogen in the off-season.

The disease was first recorded in Japan in 1903, and identified for the first time in the Western Hemisphere in Hawaii in 1994. Severe outbreaks in the last few years in South America have heightened concern for the spread of the disease to the North American soybean growers. In other countries, it is not unusual for this pathogen to reduce yields by half or more.

The Department is working jointly with the University of Florida/IFAS and the USDA to mobilize survey efforts to immediately determine the extent of the disease occurrence, coordinate diagnostic activities and conduct training of both surveyors and growers for accurate detection of the disease.

Current management strategies include emphasis on early detection and timely fungicide applications. Over time, soybean rust-resistant varieties may become available.

### Soybean Rust - Minor Hosts

Scientific Name	Common Name	Comments/occurrence
<i>Alysicarpus glumaceus</i>	Alyce clover	Naturalized in West Indies and FL
<i>Cajanus cajan</i>	Cajan, pigeon pea	Widely cultivated in trop. Countries, FL
<i>Centrosema pubescens</i>	Butterfly pea	Frequent in fields; FL, W. Indies & Mex.
<i>Crotalaria anagyroides</i>	Rattlebox	Tropical northern South America, FL
<i>Delonix regia</i>	Royal Poinciana	S FL, wide-branching tree
<i>Lablab purpureus</i>	Hyacinth bean	syn ( <i>Dolichos purpureus</i> ), FL
<i>Lotus americana</i>		
<i>Lupinus hirsutus</i>	Blue lupine	Annual; southern Europe
<i>Melilotus officinalis</i>	Yellow sweet clover	Eurasia; naturalized in N. America
<i>Mucuna cochinchinesis</i>		Velvetbean relative
<i>Pachyrhizus erosus</i>	Yam bean; jicama	C. America; naturalized in south FL
<i>Phaseolus lunatus</i>	Butter bean, lima bean	important edible bean
<i>P. vulgaris</i>	Kidney bean; green bean	widely cultivated in FL and US
<i>Pueraria lobate,</i>	Kudzu	FL
<i>Sesbania exaltata</i>	Colorado River hemp	NY to FL; west to southern CA
<i>Trigonella foenum-gracecum</i>	Fenugreek	Asia & southern Europe; forage, FL
<i>Vicia dasycarpa</i>	Wooly-pod vetch	naturalized in US
<i>Vigna unguiculata</i>	Cowpea, black-eyed pea	Widely planted in warm regions

Typical symptoms on leaves include raised, small brown pustules on the undersurface of the soybean leaf. If you think your plants may be infected with soybean rust, visit the FL DACs Web site [www.doacs.state.fl.us/pi/](http://www.doacs.state.fl.us/pi/) to learn more information about the disease and to call the Department's toll-free helpline number at 888-397-1517 to arrange for an inspection of your plants.

## **Farmer-to-Farmer Program**

The Farmer-to-Farmer Program provides an innovative approach to agriculture, natural resources management, clean energy, and leadership development by linking individuals and communities in developing nations with new ideas, technology and expertise provided by volunteers from farms and agricultural related industries in US.

This program is an awesome opportunity for people to travel and share their expertise in agriculture. The Intertribal Agriculture Council (IAC) is currently working with Winrock International who administers the program to field volunteers under the Farmer-to-Farmer (FTF) Program, funded by the U.S. Agency for International Development.

Farmer-to-Farmer goals are to increase long-term productivity, equity, and responsible resource management to benefit the poor and disadvantaged of the world.

The Farmer-to-Farmer program has many different assignments available and is currently looking to send U.S. volunteers to Asia on short-term technical assistance assignments. They currently have a Corn Milling assignment, a Plant Quarantine and Phytosanitary Certification in Vegetable Crops Assignment, a Tissue Culture and Green House Set-up and Management assignment and two Rice Seed scopes of work involving planting and marketing.

Volunteers donate their time and expertise and the program covers the costs and makes all necessary arrangements. Covered expenses include passport, visa, airfare, lodging, daily per diem for meals and incidental expenses, and required immunizations. The U.S. based staff take care of all travel arrangements, and our field staff in the host country provide in-country logistical support and act as a liaison between the volunteer and the host organization. Interpreters are also provided when necessary.

To learn more about Winrock's volunteer programs go to [www.winrock.org/volunteer](http://www.winrock.org/volunteer). Visit [www.indianaglink.com](http://www.indianaglink.com) for information about the Intertribal Agriculture Council.

If you (or someone at your organization) would be interested in learning more about opportunities with the Farmer-to-Farmer program, please **contact** Tina Larson, Recruiter, Intertribal Agriculture Council at 406-259-3525. Recommendations for potential contacts are also welcome

## **The Society of St. Andrew - Gleaning America's Fields ~ Feeding America's Hungry**

In the aftermath of the recent hurricanes, the work of the Society of St. Andrew in Florida has increased. More Floridians are unemployed and depending on food banks and assistance programs than ever before and they can use your help.

Every fruit and vegetable grower has produce that's culled out, whether for market conditions, blemishes or size. The Society of St. Andrew would like to recover that produce before it's disposed of or plowed under. They can recover small amounts through our gleaning project or large amounts through connections with feeding agencies or sending tractor-trailers to transport it.

The Society of St. Andrew does not ask for the donation of products that are commercially marketable. They seek only the excess, which is not economically or cosmetically marketable, yet is still consumable if recovered quickly.

If you would like to help the Society of St. Andrew combat hunger in Florida, or need more information or have questions, please call Dick Mead, Society of St. Andrew - Florida Regional Director, or Kathy Forth, Society of St. Andrew - Florida Program Coordinator, toll free at 1-800-806-0756, or by e-mail at: [sosafl@endhunger.org](mailto:sosafl@endhunger.org). The Society of St. Andrew's web site is: [www.endhunger.org](http://www.endhunger.org).

## Up Coming Meetings

### Palm Beach County

**January 3, 2005**                      **General Standards/Core Test Review**                      8 AM – 12 PM                      4 CEUs

Clayton Hutchinson Agricultural Center  
559 North Military Trail  
West Palm Beach, Florida

Contact Laura Powell at 561-996-1655.

**January 12, 2005**                      **General Standards/Core Test Review**                      8 AM – 12 PM                      4 CEUs

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

Contact Laura Powell at 561-996-1655.

### Southwest Florida

**January 20, 2005**                      **Worker Protection Standard Training**

Hendry County Extension Office  
1085 Pratt Boulevard  
LaBelle, Florida

Contact Gene McAvoy at 863-674-4092

## Job Opportunity

B & W is the world's largest watercress grower. The preeminent specialty produce operation also grows arugula. Its seasonal farms in six states in the Southeast and Mid-Atlantic regions of U.S. ensure that an unrivaled, year-round supply of fresh product is always available. Family owned and operated for more than 130 years, the B & W label has earned a reputation for consistently high product quality and value among grocers, wholesalers, chefs, restaurateurs and consumers.

B & W offers competitive salary, paid vacations and holidays, co-paid health insurance, IRA bonuses, and an educational plan for employee's children. The company is seeking candidates for the following positions:

The **Grower Manager Trainee** is responsible for management, planning and control of company's farming operations from land prep through quality harvest.

## **Essential Functions:**

- Program and manage agricultural operations of the company.
- Design and implement systems to efficiently manage labor and equipment.
- Generate accurate crop survey and crop forecast.
- Produce spray program according to the crop surveys.
- Maintain proper records for spraying and fertilizing.
- Work closely with packing and quality management to produce the highest quality products.
- Generate new ideas for testing in our research program and work with research department to perform research projects.
- Implement planting plans.
- Create agricultural inputs to annual budget.
- Propose creative solutions to farming problems.
- Help supervise crop harvesting.
- Work closely with quality control to identify ways to enhance quality.
- Comply with all safety requirements.
- Maintain farm data for analysis.
- Train and supervise the assistant growers.
- Job Specification:

The ideal candidate should have a B.S or M.S in horticulture, or related field, with emphasis on olericulture.

- Leafy lettuce experience with large-scale agriculture is preferred.
- Analytical approach to farming.
- Mechanical knowledge and agricultural tools expertise.
- Ability to manage assets - equipment, labor.
- Ability to budget, program, manage, schedule.
- Results-oriented manager.
- Ability to plan ahead and to look at the whole picture.
- Strong managerial skills.
- Strong Teamwork.
- Good Attitude.
- Strong Work ethic.

## **Job Title: Quality Control Technician**

### **Job Requirements:**

- A Bachelor Science Degree, preferably in Food Science or related field
- Good computer skills (Microsoft word/excel)
- Knowledge of vegetable or fruit fresh-cut processing
- Bilingual English and Spanish
- Background on H.A.C.C.P or any other standard programs
- Available to travel and relocate seasonally
- Self motivated, proactive, organized, and with solid concept of team work
- Eager to enhance food quality and food safety
- Strong written and verbal communication skills

## Job Responsibilities:

- Contribute to management of The Quality Control/Assurance Program
- Assist in carrying out research projects
- Perform microbial, chemical, and physical analysis
- Maintain accurate documentation of all QC programs
- Supervise raw material inspections
- Assist in training programs in both English and Spanish
- Contribute to development and advancement of good manufacturing practices and agricultural practices
- Ensure compliance with H.A.C.C.P, State regulations and other programs in place
- Relocate seasonally (company housing)
- Write quality control/assurance reports

Contact: Hernan Parra PHR, Human Resources Director, B&W Quality Growers, Inc, at 772-571-0800 x 122.

## Websites

**AgClimate** - climate is a major factor in virtually all aspects of food, feed, and fiber production and marketing. AgClimate gives the latest forecasts showing how El Niño and La Niña could affect agricultural production and natural resources in the Southeast US and provides important new tools to help producers understand and plan for climatic conditions. Visit the Southeast Climate Consortium's AgClimate website at <http://www.agclimate.org/Development/apps/agClimate/controller/perl/agClimate.pl>

**Bad Bug Book** - This US Food and Drug Administration handbook provides basic facts regarding foodborne pathogenic microorganisms and natural toxins. It brings together in one place information from the Food & Drug Administration, the Centers for Disease Control & Prevention, the USDA Food Safety Inspection Service, and the National Institutes of Health. Go to <http://www.cfsan.fda.gov/~mow/intro.html>

## Quotable Quotes

Sharing makes you bigger than you are. The more you pour out, the more life will be able to pour in.

What you give becomes an investment that will return to you multiplied at some point in the future.

The amount you give isn't important. What matters is what that amount represents in terms of your life.

When somebody shares, everybody wins. Only by giving are you able to receive more than you already have.

## On the Lighter Side

You might be a redneck if

- it never occurred to you to be offended by the phrase, "One nation, under God. . ."
- you've never protested about seeing the 10 Commandments posted in public places.
- you still say "Christmas" instead of "Winter Festival." OR Happy Holiday
- you bow your head when someone prays.
- you stand and place your hand over your heart when they play the National Anthem.
- you treat Viet Nam vets with great respect, and always have.
- you've never burned an American flag.
- you know what you believe and you aren't afraid to say so, no matter who is listening.

- you respect your elders and expect your kids to do the same.
- you'd give your last dollar to a friend.

We have all enjoyed redneck jokes for years. It's time to take a reflective look at the core beliefs of a culture that values home, family, country and God. If I had to stand before a dozen terrorists who threaten my life, I'd choose half dozen or so rednecks to back me up. Tire irons, squirrel guns and grit -- that's what rednecks are made of. Thank God I'm a country boy!

Politically Correct??

A woman goes to the post office to buy stamps for her Christmas cards. She says to the clerk, "May I have 50 Christmas stamps?"

The clerk says, "What denomination?"

The woman says, "Lord help us. Has it come to this?"

Give me 6 Catholic, 12 Presbyterian, 10 Lutheran and 22 Baptists."



**Wishing all of you a Blessed and Merry Christmas  
and the very best for a prosperous and healthy New Year**

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The **South Florida Pest and Disease Hotline** is compiled by **Gene McAvoy** and is issued on a biweekly basis by the **Hendry County Cooperative Extension Office** as a service to the vegetable industry.

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