Weather conditions across SW Florida remain **seasonably cool and dry**. A strong cold front moved across the area on December 1st, dropping nighttime temperatures to the low 40’s and upper 30’s for a few days before returning to more normal readings. Daytime temperatures, recorded at the **FAWN** weather station in Immokalee, have mainly fluctuated between the upper 70’s to low 80’s, while nighttime readings have varied between the low 50’s to the mid 60’s. **No significant rainfall** has been recorded over the last 14 days. While the **FAWN** weather station recorded total precipitation of 0.16 inches for the period, many areas saw no precipitation at all. There have been several foggy mornings as well as heavy dews over the past two weeks. Over all growing conditions have been excellent over the past two weeks. The five day forecast calls for the passage of a mild cool front tomorrow with the possibility of showers to tomorrow and again on the weekend.

**Harvest** of most crops is **underway** with beans, cucumbers, eggplants, melons, peppers, pickles, squash, sweet corn and tomatoes now moving to market. **Crops are looking good**. Fruit set and sizing is good. **Insect and disease pressure** has been relatively **light**.

**Leafminers** have **increased greatly** over the past two weeks. Most **respondents** are reporting that **populations** are now **exceeding actionable thresholds** and that **controls** have been **applied**.

**Armyworms** numbers have been relatively stable at low levels in most areas, although there have been some reports of **local outbreaks** of both beet and southern armyworms.

There have been several reports of **pickleworms** and **melonworm** in cucurbits. Some cucumber and squash producers are reporting problems with pickleworms damaging fruits and attacking young fruit causing them to abort. Cantaloupes have also been affected. **Scouting** is **important** in the early detection of these pests. Be aware that **Bt’s may not be adequate** to control pickleworms.

Reports indicate that **silver leaf whitefly** populations remain low for the most part, although some respondents have indicated that whitefly **numbers** are **coming up fast** in some hot spots. Counts as high as 10 per plant have been reported. The appearance of high whitefly numbers along with the presence of scattered tomato yellow leaf curl infected plants is cause for concern. **Growers** are advised to **monitor this situation** carefully and initiate appropriate control methods as necessary.
Broad mite populations are beginning to decline according to most accounts. Broad mites are still around on pepper but not nearly at the levels reported for the past few weeks. Sulfur is generally sufficient to manage mites if detected early. Repeat applications about 5 days apart are necessary to target newly hatched eggs. Some growers have reported good results using tank mixes of Trilogy and AgriMek.

Pepper weevils are widely present at low levels, most reports are indicating that populations are beginning to increase especially in older fields. Most reports are of adults showing up in traps although a few respondents are reporting infested fruit; some with exit holes being observed.

Bacterial leaf spot is widely present in tomato and pepper. Most reports indicate that the bacteria situation has been fairly quiet over the last two weeks. A number of respondents have noted some bacterial leaf spot activity with new lesions being spotted following periods of fog or heavy dews.

The incidence of tomato yellow leaf curl remains fairly low. Most respondents are seeing only isolated occurrences of single infected plants here and there, although each week brings reports of a few more infected plants. We have seen a number of TYLCV infected plants that have been present in fields over several weeks. These should be destroyed upon identification to help potential eliminate sources of inoculum. Older plants can easily be destroyed in place by cutting them off at ground level. Growers are advised to monitor whitefly populations, especially on older plantings where the efficacy of Admire applications may being to wear off. IGR’s and/or chemicals other than imidacloprid based compounds may be needed to ensure continued whitefly suppression as the season progresses.

Several respondents are reporting low levels of early blight and target spot especially in older plantings of tomato.

Downy mildew as well as powdery mildew is being reported primarily on squash and cucumber from several locations. Gummy stem blight is has also been active in cucumbers and melons.

A condition, being called “little leaf” had been observed on tomato on widely scattered sites around Immokalee earlier in the season. Symptoms of this condition are characterized by unusual growth consisting of interveinal chlorosis in young leaves. Subsequent growth becomes severely distorted with leaflets along the mid-rib failing to expand properly resulting in a “little leaf” appearance. In addition, leaflets are twisted and distorted. Overall the appearance is reminiscent of viral or phenoxy herbicide symptoms.

Most respondents have indicated that plants affected by “little leaf” have largely grown out of this condition over the past few weeks. This indicates a physiological rather than pathological cause for this condition, unfortunately there is no definitive test available for the diagnosis of “little leaf.”

Given the fact that the early tomato crop is nearly finished and reports indicate the number of whiteflies and the incidence of TYLCV are on the rise across the area, growers are again reminded of the importance of sanitation and prompt destruction of crop residues in an IPM program.

Field sanitation is one of the most important tactics in vegetable pest and disease management. The best thing that growers can do for themselves and their neighbors is to clean up crop residues promptly after harvest. Sanitation is an important IPM technique that should not be over looked as an effective, preventative tool against many vegetable pest and disease problems. Sanitation includes any practice that eradicates or reduces the amount of pathogen inoculum, pests, or weed seeds present and thus helps reduce or eliminate subsequent pest and disease problems.

The prompt destruction of a crop at the end of the season will immediately end the production of disease inoculum and insects and eliminate the spread of diseases and pests to any other host plants in the vicinity.
Downy and powdery mildew on melons can spread via wind from older, diseased plants to plants in surrounding fields that are still maturing. These diseases are obligate parasites. This means that they can only grow and multiply on living host tissue. Some plant pathogens, such as the bacterium that causes bacterial spot of tomato and pepper, are unable to survive for extended periods of time outside of the host tissue. Plowing or diskng under infected plant debris helps not only by covering up the inoculum but also speeds up the disintegration of plant tissue and kills the pathogen.

**Prompt destruction** of tomato vines will kill off whitefly populations and eliminate transmission of the tomato yellow leaf curl virus to subsequent crops and also eliminate inoculum from late blight and other fungal diseases. This is particularly important in the case of TYLCV, as sanitation and whitefly control, are the only tools currently available for the management of this disease. If high populations of whiteflies are present it is advisable to treat the crop to **kill the whiteflies before destruction**.

Timely **destruction of residues** is also an **important** management tool in **combating** pepper weevils, leaf miner, broad mite, aphids and other insect pests. **Field sanitation** will be come an increasingly important tool to growers in face of the impending loss of methyl bromide – whose ease of use and effectiveness in controlling a wide range of problems allowed us to neglect some of these practical common sense pest management techniques.

**Product Update:** Robert Murray of Rohm and Haas has advised that the **re-cropping interval** for CONFIRM 2Fm on **non-registered crops** has been **reduced to 30 days**.

**Worker Protection Standard Update:**

We have been notified, by the Bureau of Compliance Monitoring that the EPA has selected Florida for an audit of Worker Protection Standard enforcement. Immokalee, that is southwest Florida will be one of the **first areas** targeted. **Joint inspections with state and federal WPS Compliance Monitoring inspectors** will begin in December. Growers and other establishments subject to WPS regulation would be well advised to **conduct a self-audit over the next few weeks**. The Hendry County Extension Office has copies of the WPS inspection form **if you would like one to help you evaluate your compliance level**.

**Scouting** is an **important part** of **integrated pest management** in vegetables. Left undetected, pests can cause serious economic losses. **Scouting** is useful in the identification of the **type** and determination of the **number of pests** present **in a field**. This information is useful in making informed decisions about the appropriate control method and the timing of spray schedules. By limiting insecticide applications to threshold levels, **you can avoid unnecessary spraying and minimize costs**.

**Scouting tips:**

- Record background information on each field, field history including previous crops, irrigation method, cultivar planted, and fumigation and pest control practices.
- Note the stage of growth at each visit.
- Sample at least one six-foot section of row selected at random for every 2.5 acres of tomatoes scouted.
- Note the identification of any flying insects observed when entering the sample area. Several important insects will fly away when approached.
- Sample six plants or six trifoliates per sample. After fruit set, examine 10 fruit per sample for disease and insect damage.
- Record the counts of each pest and beneficial insect at each sample site. Calculate the average level of each pest and beneficial in the field. This average will give an estimate of the true population average for the field.
- **Scouting** should be **the basis** of your **pest management program**.

**Web sites:** Check out the **Florida Edition** of the Crop Production Magazine Online at
United Agri Products Inc (UAP) produces the CPM Magazine Online six times per year. The November issue features articles on Broad Mite Control and Tomato Yellow Leaf Curl by Galen Franz and Charles Mellinger of Glades Crop Care.

Upcoming Meetings

Dec 9, 1999*
Vegetable Field Day and Growers Meeting – 10 AM - 3 PM
SW Florida Research and Education Center
Hwy 29 N, Immokalee, Florida
Contact: Sheila Griffith @ 941-674-4092
*Note – This meeting was erroneously reported as being scheduled for Dec 10, in the Sept – Oct SW Florida Vegetable Newsletter.

Dec 15, 1999
FARM-A-SYST – 1 PM – 3PM
SW Florida Research and Education Center
Hwy 29 N, Immokalee, Florida
Contact: Patrick Ludgate @ 941-338-3232

March 6, 1999

2000 POST HARVEST INSTITUTE
This years topic is “Innovations in Fresh Produce Transportation” – the conference will be held at the University of Florida in Gainesville as well as the Tropical Research & Education Center (Homestead), Southwest Florida Research & Education Center (Immokalee) and Indian River Research & Education Center (Ft. Pierce) via live, video-conferencing.
For more information, contact Ms. Abbie Fox, at 352-392-1928, ext. 235 or Gene McAvoy at 941-674-4092 for information about the Immokalee site.

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The SW 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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