August was fairly dry in many locales, which assisted growers by allowing them to get off to a good start with land preparation. Seasonally hot and wet weather punctuated by afternoon showers has been pretty much the norm for the past few weeks. Temperatures in most areas have been averaging about normal with high in the low to mid 90’as and nighttime lows in the mid 70’s. Although some areas received as much as five to ten inches as Tropical Storm Hanna formed in the Gulf last week, many southern Peninsula localities received less than an inch of rain for the week and some growers will be irrigating if rain is not forthcoming.

High temperatures and dry conditions during the earliest plantings in August were responsible for some amount of scalding and plant loss in places and high temperatures continue to stress transplants.

Fall crop planting and land preparation is going strong across all south Florida growing areas and planting will accelerate in the next few weeks. For the most part there have been no major glitches this season, although a few southern Peninsula localities reported that rainfall from Hanna delayed some activity. Dade County producers continue to market light supplies of okra.

FAWN Weather Summary

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<th>Date</th>
<th>Air Temp (°F)</th>
<th>Rainfall (Inches)</th>
<th>Hours Below Certain Temperature</th>
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<td>Max</td>
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<td>93.1</td>
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</table>

Welcome back and best wishes for a great season!
The short term forecast from the National Weather Service in Miami calls for partly cloudy skies with a possibility of scattered thundershowers today and tomorrow. Looking ahead, forecasters are watching tropical depression 10 which is currently south of Jamaica and shows some possibility of strengthening. There is still a good bit of uncertainty as to eventual movement and timing of this storm. But current models forecast heavy rains for south Florida with 3 inches or more in 5-day outlook. Temperatures should top 90 most days with nighttime lows in the mid 70’s.

For additional information, visit the National Weather Service in Miami website at http://www.srh.noaa.gov.mia

Insect and disease activity has been relatively light to date.

Around Immokalee, growers and scouts are reporting that some of the early plantings of tomato had higher than expected silverleaf whitefly in August but with the resumption of near daily rains in September the numbers have dropped off in most locations. Respondents are also reporting slightly above normal levels of whiteflies on young peppers and eggplants. Indications are that counts are ranging from 0.5 per plant to as high as 3-4 per plant at field margins and hotspots.

The situation on the east coast is similar with respondents from Palm Beach and Homestead noting mostly low whitefly numbers on tomato and eggplant.

With the recent proliferation of nicotinoid insecticides from a number of manufacturers (Admire, Platinum, Provado, Actara, Assail) growers are reminded that there is the potential for development of cross-resistance since they are all in the nicotinoid class. Practice good resistance management and never follow a soil or foliar application of a nicotinoid with another application of the same or a different nicotinoid.

Reports from Palm Beach County indicate relatively low worm pressure in pepper and tomato. These are mostly beet armyworms although some loopers have been noted as well.

Growers in Homestead are seeing increasing worm pressure including beet and southern armyworms, loopers, and hornworms.

Around Immokalee, growers are finding a few worms. So far, scouts indicate that worm pressure appears to be lower than this time last season. Growers are seeing mostly beet armyworms, with a smattering of southern armyworms, tomato fruitworms, and hornworms.

A few pinworms are being reported in the Homestead area.

Respondents are reporting very low levels of leafminer activity in all areas. In all cases, levels are below threshold levels and are not being specifically targeted for control.

There have been a few reports of broadmites starting up on pepper around Palm Beach and Immokalee.

Respondents in Homestead report seeing a few cucumber beetles beginning to show up on cucumbers and squash.

To date, disease pressure has been light in most areas.

Growers on the east coast and in southwest Florida are reporting some losses due to damping off attributed to pythium on a variety of crops including tomato and pepper. Incidence and severity has mostly been low unless a field directly under a storm cell and the grower happened to be the unfortunate recipient of several inches of rain.
There have been a few reports of transplants coming infected with pythium from the transplant house.

The combination of abundant soil moisture and elevated temperatures conspire to make the fall planting season a prime time for vegetable growers in Florida to encounter problems with *Pythium* spp. on a variety of vegetables. Pythium typically attacks roots causing damping off, seedling blights, root rots and wilting of affected crops. In some instances, Pythium may affect the above ground portions of crops.

*Pythium myriotylum* and *P. aphanidermatum* are generally most abundant in Florida because they are adapted to high soil temperature. The optimum temperatures for their growth and infection of plants range between 86 and 98 °F.

The host range for *Pythium* spp. is extremely wide. Vegetable crops commonly infected include beans, cucurbits, peppers, southern peas, strawberries, and tomatoes. A number of broadleaf and grassy weeds may host *Pythium* spp. and serve as important sources of inocula.

Pythium is one of the “water molds.” It thrives in moist soils and multiplies and spreads rapidly under wet conditions. Although Pythium is capable of producing several spore types, zoospores and oospores are most important. Zoospores are mobile. They are produced rapidly and in great numbers and contribute to the organism’s ability to cause disease almost “over night.” Zoospores may be detected within half an hour after a site is flooded and can “swim” for up to 30 hours and move three or more inches through soil.

Oospores are extremely durable and can survive in soil and infected crop debris for more than 10 years.

Pythium is often associated with root rots and pre emergent and post emergent damping off. One of the characteristics of tissue infected with *Pythium* spp. is the presence of water-soaked or greasy appearing tissue. This is distinct from the orange to red to dark, sunken lesions caused by *Rhizoctinia solani*.

Infection with *Pythium* spp. also causes wilting of numerous crop species. Plants affected by Pythium root and stem rots commonly exhibit yellowing of the lower leaves.

In small plants planted thickly, such as greenhouse transplants, Pythium can infect and colonize the plants with the result that the entire plant is destroyed. Look for water-soaked tissue in this situation. It is also common to see white mycelial growth in such situations.

Excess fertilizer, flooded soils, insect feeding, and nematode feeding may also contribute to dysfunctional roots. For accurate diagnosis, it is best to submit samples to a reputable diagnostic laboratory.

Resistant cultivars do not exist so control of Pythium depends on a variety of tactics. Crops should be planted on raised beds in well-drained soils.

Pre-plant soil fumigation is effective if applied correctly. Soil solarization has successfully suppressed *Pythium* in some cases. If a solarization or a soil fumigant is used, raised beds are important since fumigated soil has minimal or no beneficial organisms to compete against pathogens.

A number of chemical treatments are available for the control of damping off. Seed treatments containing mefenoxam (Apron) work best. Mefenoxam should be used in combination with a broad-spectrum fungicide to avoid the development of resistance.

Fungicidal drenches such as Ridomil Gold and Ultra Flourish (mefenoxam) are effective for the suppression of seedling blights and root rots if applied before infection occurs.
Several biological control agents, including actinomycetes and other bacteria and fungi, are available commercially for suppression of Pythium and other soil borne pathogens. Their success rate has been variable.

Some soils are naturally suppressive to diseases caused by Pythium or may become suppressive by increasing organic matter or manipulating soil pH. Incorporation of cover crops prior to planting may support competing organisms in the field, but in some cases may result in increased populations of the pathogen. Sunn hemp has been implicated in this regard.

With the anticipated loss of methyl bromide as a soil fumigant, it is likely that crops that are now commonly grown with methyl bromide/chloropicrin fumigation, such as tomatoes, peppers, strawberries, will incur greater incidence of disease problems from Pythium spp.

Growers in all areas are reporting mostly low levels of bacterial spot on pepper and tomato. A few respondents are reporting higher incidence in fields that had received high rainfall totals.

Bacterial spot is one of the most serious diseases of tomato and pepper in Florida because it can spread rapidly during warm periods with wind driven rains, and because fruit symptoms reduce marketability. Bacterial spot is caused by the bacterium, Xanthomonas campestris pv vesicatoria. Entry into the plant occurs through natural plant openings or wounds made by wind driven soil, insects, or cultural operations. Bacterial spot can be seed transmitted, but most inocula comes from volunteers or infected debris from tomatoes or peppers in the soil. Temperatures of 75-87°F are ideal for bacterial spot but infections can occur at higher or lower temperatures.

Symptoms of bacterial spot appear as small, water-soaked, greasy spots about 1/8 inch in diameter on infected leaflets. On tomatoes, distinct spots with or without yellowing occur. Individual leaf spots may coalesce with each other, resulting in the browning of entire leaflets. Fruit spots often begin as dark specks with or without a white halo. As spots enlarge, they become raised and scab-like.

In pepper, symptoms are similar to those in tomato, except that spots may be lighter in color and fruit lesions may appear blistered. In mature plants, leaflet infection is most concentrated on older leaves and defoliation may occur in severe infections.

Other diseases may cause leaf spots that appear similar to those of bacterial spot. Positive diagnosis requires lab tests.

An integrated approach is needed to manage this disease. Sanitation is important. Pepper and tomato volunteers and solanaceous weeds should be destroyed between crops. Transplant houses should be located well away from tomato or pepper fields. Purchase only certified disease-free transplants.

Since water movement spreads the bacteria from diseased to healthy plants, workers and farm equipment should be kept out of fields when fields are wet because the disease will spread readily under wet conditions.

There are commercial pepper varieties that are resistant to races 1, 2 and 3, but researchers have identified no fewer than ten different races of Xanthomonas campestris. Since no variety incorporates resistance to all known races, it is important that growers use varieties that have resistance to races that occur in their area. Research indicates that use of resistant varieties over time will cause a shift in the make-up of bacterial spot populations toward races for which a given cultivar lacks resistance. The race situation is similar but less clear in tomato. No resistant tomato varieties are available commercially.
It is important to apply sprays before and during rainy periods. If conditions are favorable, frequent spraying may not be sufficient to maintain bacterial spot below damaging levels.

Tests support the traditional recommendation of copper and maneb or mancozeb for bacterial spot control. Attention to application techniques is as important as choice of material in achieving adequate control. In trials, bacterial spot control was better with applications twice a week compared to once a week. The effectiveness of copper is limited, because of the widespread occurrence of copper tolerance among strains of X. campestris pv. vesicatoria.

Some respondents are reporting good results using copper rotated with Oxidate for bacterial spot control.

Growers should be aware that the use of organosilicate adjuvants and applications of magnesium might increase the incidence and severity of bacterial spot infections.

Recent trials at the UF/IFAS North Florida Research and Education Center using a combination of bacteriophage and the SAR elicitor Actiguard have demonstrated promising results.

When using Actiguard, experience in the field indicates that it is important to follow labeled rates and to hold off on applications until plants are well established in the field and have grown out of transplant shock to avoid yield suppression.

Some growers have reported success, using bacteriophages (bacterial virus) for the control of bacterial spot. Phages are most effective when applied at night or very early in the morning as they are rapidly deactivated by sunlight and drying. Work by Dr Tim Momol at UF/IFAS North Florida Research and Education Center has shown that applying phage in conjunction with powdered skim milk and sucrose can significantly enhance UV stability.

Growers and scouts on both coasts report finding a very low percentage of Tomato Yellow Leaf Curl infected tomatoes. In some instances, indications are that the plants were infected in the transplant house.

Scouts in Homestead indicate finding some early blight infections on transplants coming from the plant house as well. Part of an entire IPM approach to disease management should include inspecting transplants for problems prior to setting them in the field.

A few scattered cases of suspected tomato little leaf have been noted in southwest Florida in low areas in fields that have experienced high rainfall.

Reports from Palm Beach indicate some problems with tobacco mosaic virus on jalapeno peppers. Indications are that the disease is associated with infected seed lots.

A few isolated reports of southern blight are coming in from scattered areas around southwest Florida. Tomato plants with southern blight (Sclerotium rolfsii) display lesions on the stem at or near the soil line. These lesions develop rapidly, girdling the stem and resulting in a sudden and permanent wilting of the plant. White mats of mycelia are produced on the stem and in the adjacent soil. In a few days, tiny tan to brown spherical sclerotia about 0.06 inch in diameter appears on the mycelial mat. The presence of abundant sclerotia is a good diagnostic feature.

High temperatures (above 85°F, 29°C) favor the disease. The fungus attacks a wide range of plants and survives for long periods in soil as sclerotia. Disease incidence and severity are dependent on the number of sclerotia in the soil.
Soil fumigation and cultural methods such as deep plowing to bury plant refuse to help destroy sclerotia are the main controls.

Up Coming Meetings

Palm Beach County

September 25, 2002  WPS Train the Trainer  1:00-3:00 PM
UF/IFAS EREC Conference Center
Belle Glade, Florida

Program Cost is $5. Call 561-996-1655 to register.

October 16, 2002  General Standards/Core Test Review  8 AM - 10 AM
Agricultural Row Crop Test Reviews  1 PM - 3 PM
Testing - Any Category  8 AM - 4 PM

Belle Glade Extension Office
2976 State Road 15
Call 561-996-1655 for more information.

Southwest Florida

September 18, 19, 2002  Pesticide Applicator Training and Testing
Hendry County Extension Office
1085 Pratt Boulevard  Sept 18 – CORE, Private, Row Crop
LaBelle, Florida 33935  Sept 19 – Tree Crop, Aquatic

Contact 863-674-4092 for details

September 20, 2002  DOT Workshop for Ag Interests  8:30 AM – 2:00 PM
Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida

Contact 863-674-4092 for details

September 24, 25, 2002  Spanish Language Pesticide Applicator Training and Testing
Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida

Contact 863-674-4092 for details  (Note: test is in English)

September 26, 2002  FMC Product Update  Noon – 2:00 PM
UF/IFAS Southwest Florida Research and Education Center
Hwy, 29
Immokalee, Florida

Contact 863-674-4092 for details
“2002 FLORIDA AGRICULTURAL FAST FACTS DIRECTORY” NOW AVAILABLE

TALLAHASSEE -- Florida Agriculture Commissioner Charles H. Bronson today announced the availability of the “2002 Florida Agricultural Fast Facts Directory” which provides a statistical examination of Florida’s food, fiber and forestry industries.

The 168-page directory, published by the Florida Department of Agriculture and Consumer Services in conjunction with the U.S. Department of Agriculture, combines information that previously was printed in various separate publications.

In addition to agricultural statistics and specialized data, the “Fast Facts” contains price histories and production levels of various commodities, a listing of agricultural groups and associations in Florida, agricultural news stories, and a listing of publications and producer assistance services offered by the Department.

“The directory is of interest to those involved in commerce, education and government who need information about Florida’s second-largest industry,” Bronson said. “It’s a quick reference for everyone -- from teachers seeking data for school projects, to agricultural producers wishing to determine the impact of their crops and livestock on the state and the nation.”

“Fast Facts” is available free upon request while supplies last. To obtain a copy, call (850) 488-9948, or visit www.florida-agriculture.com (click on “Publications”), or write to:

“2002 Agricultural Fast Facts Directory”
Florida Department of Agriculture and Consumer Services
Mayo Building, Room 435
407 Calhoun Street
Tallahassee, FL 32399-0800

Websites

UC Pest Management Guidelines - The UC Pest Management Guidelines database supplies the University of California's official guidelines for pest monitoring techniques, pesticides, and non-pesticide alternatives for managing insect, mite, nematode, weed, and disease pests in agricultural crops, floriculture and ornamental nurseries, commercial turf, and in homes and landscapes. Good information and pest and disease photos.
http://www.ipm.ucdavis.edu/PMG/crops-agriculture.html

Center for Global Food Issues – This is an interesting site features essays by a number of authors that present the case that modern high-yield agriculture is environmental friendly. They argue that using all the chemical and biological tools at our disposal is key to feeding the world's starving masses and that by growing more food per acre leaves more land for nature and prevents widespread habitat loss on a global basis.
http://highyieldconservation.org/background.cfm

Quotable Quotes

Common sense is the collection of prejudices acquired by age eighteen. -- Albert Einstein

You're never too old to become younger. -- Mae West

Once the game is over, the King and the pawn go back in the same box. -- Italian Proverb

The scientific name for an animal that doesn't either run from or fight its enemies is lunch. --Michael Friedman
The Lighter Side

True Story

His name was Fleming, and he was a poor Scottish farmer.

One day, while trying to make a living for his family, he heard a cry for help coming from a nearby bog.

He dropped his tools and ran to the bog. There, mired to his waist in black muck, was a terrified boy, screaming and struggling to free himself.

Farmer Fleming saved the lad from what could have been a slow and terrifying death.

The next day, a fancy carriage pulled up to the Scotsman's sparse surroundings. An elegantly dressed nobleman stepped out and introduced himself as the father of the boy Farmer Fleming had saved.

"I want to repay you," said the nobleman. "You saved my son's life."

"No, I can't accept payment for what I did," the Scottish farmer replied, waving off the offer.

At that moment, the farmer's own son came to the door of the family hovel. "Is that your son?" the nobleman asked.

"Yes," the farmer replied proudly.

"I'll make you a deal. Let me provide him with the level of education my son will enjoy. If the lad is anything like his father, he'll no doubt grow to be a man we both will be proud of."

And that he did.

Farmer Fleming’s son attended the very best schools and in time, he graduated from St. Mary's Hospital Medical School in London, and went on to become known throughout the world as the noted Sir Alexander Fleming, the discoverer of Penicillin.

Years afterward, the same nobleman's son who was saved from the bog was stricken with pneumonia. What saved his life this time? Penicillin.


Potatoes

An old man lived alone in Ireland. He wanted to dig his potato garden, but it was very hard work, because of so many rock and stones. His only son, who would have helped him, was in prison for bank robbery. The old man wrote a letter to his son and mentioned his predicament.

Shortly, he received this reply, "For HEAVEN'S SAKE DAD, don't dig up that garden, that's where I buried the Money!" At 4 A.M. the next morning, a dozen policemen showed up and dug up the entire garden, without finding any money.

Confused, the old man wrote another note to his son telling him what happened, and asking him what to do next. His son's reply was: "Now plant your potatoes, Dad. It's the best I could do from here."
Scientific Lingo Explained

The following list of phrases and their definitions might help you understand the mysterious language of science. These special phrases are also applicable to anyone reading a academic paper or attending a grower’s meeting.

IT HAS LONG BEEN KNOWN... I didn't look up the original reference.

"A DEFINITE TREND IS EVIDENT"... These data are practically meaningless.

"WHILE IT HAS NOT BEEN POSSIBLE TO PROVIDE DEFINITE ANSWERS TO THE QUESTIONS"... An unsuccessful experiment, but I still hope to get it published.

"IN MY EXPERIENCE"... Once

"IN CASE AFTER CASE"... Twice

"IT IS BELIEVED THAT"... I think.

"IT IS GENERALLY BELIEVED THAT"... A couple of others think so, too.

"A CAREFUL ANALYSIS OF OBTAINABLE DATA"... Three pages of notes were obliterated when I knocked over a glass of beer.

"IT IS CLEAR THAT MUCH ADDITIONAL WORK WILL BE REQUIRED BEFORE A COMPLETE UNDERSTANDING OF THIS PHENOMENON OCCURS"... I don't understand it

"THANKS ARE DUE TO JOE BLOTZ FOR ASSISTANCE WITH THE EXPERIMENT AND TO CINDY ADAMS FOR VALUABLE DISCUSSIONS" ... Mr. Blotz did the work and Ms. Adams explained to me what it meant.

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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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