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SOUTH FLORIDA VEGETABLE PEST AND DISEASE HOTLINE

January 19, 2016

A line of severe thunderstorms raced across the state early Sunday morning bringing heavy winds and rains. NWS reports tornadoes touched down in Manatee County and straight line winds of 60-80 mph were measured in some areas. High winds this past week battered crops and some lodging was reported.

An el Nino- like pattern seems to have set in bringing cooler wetter weather to South Florida. A series of fronts impacted south Florida over the past few weeks moderating temperatures and bringing unsettled weather and abundant rainfall. Heavy rains and foggy mornings have provided conducive conditions for disease development.

Crops coming to market include light volumes of cabbage, collards, cucumber, eggplant, green beans, herbs, lettuce, kale, pepper, squash, sweet corn, Swiss chard, tomato, and various specialty items. The unusual weather this fall and winter has had negative impacts on yields and quality. High winds have

FAWN Weather Summary

Date	Air Temp °F		Rainfall	Ave Relative Humidity	ET (Inches/Day)
	Min	Max	(Inches)	(Percent)	(Average)
Balm					
12/21 – 1/18/16	39.41	86.49	4.11	85	0.06
Belle Glade					
12/21 – 1/18/16	48.33	87.12	3.96	90	0.07
Clewiston					
12/21 – 1/18/16	45.90	87.28	3.27	85	0.07
Ft Lauderdale					
12/21 – 1/18/16	53.85	85.41	6.35	83	0.07
Homestead					
12/21 – 1/18/16	53.20	84.96	602	87	0.07
Immokalee					
12/21 – 1/18/16	43.20	90.32	4.35	67	0.07
Okeechobee					
12/21 – 1/18/16	48.81	87.98	4.75	79	0.06
Wellington					
12/21 – 1/18/16	49.71	86.94	4.39	86	0.07

battered plants and scarred some fruit. In some places, excessive moisture has caused soft rot issues on greens, pepper and tomato. Low yields have led to high prices for many items.

The National Weather Service forecast indicates that high pressure will continue to build over the southeast United States and the winds will turn to the northeast by Wednesday morning. Conditions will remain dry and the weather will continue to be quiet through the middle of the weak. This air mass is also fairly cool, and will keep the temps across the area below normal for a few days.

As the high builds further to the south, the wind will turn more to the east by Wednesday afternoon, bringing some moisture back to the area, and modifying temperatures. So, after a chilly start Wednesday morning, which should see lows in the upper 30s west of the lake, low 50s over the southeast metro areas, South Florida will begin a warming trend. Highs Wednesday will be around 70.

Low pressure over the high plains, will be the next weather maker for south Florida. This will begin to turn the wind more to the south by Friday morning bringing moisture back, along with a chance for showers and storms from Thursday night into Saturday morning.

There could be showers and a few thunderstorms that produce some gusty wind as the front pushes through on Friday but nothing like this past weekend. Behind this front, another cooler air mass will settle in over the remainder of the weekend, into the beginning of next week, which should see quiet weather conditions.

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

Insects

Worms

Cooler weather appears to have slowed down worms in many areas but growers and scouts are still reporting some problems.

In the EAA, worm continue to cause problems in leafy greens, corn and crucifers.

Around Homestead, reports indicate that melonworm is active in squash and cucumber. Armyworms are present in a variety of vegetable crops in low numbers. Diamondback moth remains an issue in cole crops.

Growers and scouts in SW Florida report that worm pressure has slowed but note they are still seeing some random flare ups of beet and southern armyworms along with a few hornworms.

Whiteflies

Around Immokalee, whiteflies are building in places along with TYLCV which could spell some problems for the spring crop.

Reports indicate that whitefly populations are increasing in Miami-Dade County and growers are finding adults and other development stages on a variety of vegetable crops.

On the East Coast, respondents indicate that whiteflies are mostly low but are increasing in some tomato and eggplant fields requiring regular control measures.

Reports from the EAA indicate that whiteflies are active in cole crops.

The recommended crop destruction technique, includes the destruction of existing whitefly populations in addition to the physical destruction of the crop. Growers should:

a. Promptly and efficiently destroy crops within 5 days of final harvest to decrease whitefly numbers and sources of plant begomoviruses like TYLCV.

b. Use a contact desiccant ("burn down") herbicide in conjunction with a heavy application of oil (not less than 3 % emulsion) and a non-ionic adjuvant to destroy crop plants and to quickly kill whiteflies present.

c. Time burn down sprays to avoid crop destruction during windy periods, especially when prevailing winds are blowing whiteflies toward adjacent plantings.

d. Destroy crops block by block as harvest is completed rather than waiting and destroying the entire field at one time.

See Management of Whiteflies, Whitefly-Vectored Plant Virus, and Insecticide Resistance for Vegetable Production in Southern Florida - http://edis.ifas.ufl.edu/in695

Thrips

Around Southwest Florida, *Thrips palmi* have showed up on some farms causing problems in pepper, eggplants and beans.

Reports from Palm Beach County indicate that thrips remain mostly low but are beginning to increase in some pepper fields.

In Miami Dade County, thrips remain numerous and include common blossom thrips, melon thrips, and Florida flower thrips. Growers indicate they are have problems controlling thrips with insecticides and are trying other measures including using metalized plastic mulch and adjusting timing of planting.

To avoid problems, Dr Dak Seal advises growers:

A. Do not use insecticides unless you are sure about pest status of the thrips on your crop. In order to be sure, get your thrips identified by the nearest available thrips authority (extension agents, scouts, researchers, etc.). Some thrips can be harmless or even beneficial.
B. Once the species is confirmed to be a harmful one, immediately plan your IPM program.
C. Scout fields regularly to confirm the level of infestation- if population is below threshold level, use environmentally compatible products, such as Trilogy, Neemix, Requiem, and Grandevo. These products can be used alone or in combination (Trilogy + Requiem or Neemix + Grandevo).
D. If thrips populations are showing increasing pattern, use Radiant in combination with Movento followed by Closer/Exirel. All of these above mentioned insecticides will provide suppression of thrips populations but none of them is silver bullet.

Elsewhere around South Florida thrips remain very low in most locations and appear to be mainly Florida flower thrips.

Dr. Hugh Smith Entomologist at UF/IFAS GCREC reminds growers that it is important that growers experiencing thrips problems in strawberry and other crops identify the thrips species through their scouting service or by contacting their county extension agent. There is increasing evidence that Florida

flower thrips continue to be susceptible to most insecticides labeled for thrips. Florida flower thrips are the most common flower thrips associated with horticultural crops in Hillsborough and adjacent counties. Western flower thrips and common blossom thrips are less common, but seem to be more difficult to control with insecticides. Chilli thrips are also of concern in strawberry and other crops.

Pepper Weevil

Pepper weevil numbers remain low in most East Coast locations but are around and beginning to build up in some older plantings.

Around Immokalee, weevils continue to be a major problem in pepper and some older fields have a high populations present.

Respondents in Homestead, report that weevils are increasing but numbers remain mostly low.

Chemical control is difficult because all stages but the adult are protected within the fruit, so that only the adult weevil is vulnerable to insecticides. Frequent sprays may be necessary starting in the initial stages of infestation in order to avoid unacceptable levels of damage.

Spraying needs to commence at the first sign of weevils or with flowering in fields with a history of problems. Vydate has been the standard control and has given pretty good results when applied weekly in trials at the Southwest Florida Research and Education Center. A total of 24 pts can be applied for the season. Unfortunately, there is very little Vydate available due to an industrial accident at the manufacturing facility.

Other products that have performed well in trials include Capture (bifenithrin), Kryocide (cryolite), Venom (dinotofuran) and Actara (thiomethoxam). The diamides such as Coragen may provide some suppression.

Unfortunately applications are limited and growers are still trying to work out the timing of applications to achieve the best results.

Consult UF/IFAS recommendations for currently labeled insecticides for pepper weevil control in Florida vegetables.

Broad Mites

Around Southwest Florida, broad mites continue to cause problems in pepper and eggplant and growers and scouts report they are seeing populations jump in a number of fields.

On the East Coast, broad mites are fairly common and persistent showing up early in many in pepper and eggplant fields.

Broad mites remain spotty around Miami Dade County

Strawberry producers in Hillsborough County are reporting some problems with broad mite which is very unusual.

Leafminer

Around Southwest Florida, leafminer number are slowly increasing and are hammering growers in a few places.

On the East Coast, leaf miner pressure has increased over the past few weeks but numbers remain mostly low.

Reports from Homestead indicate that leafminers are increasing in a variety of vegetable crops.

Respondents in the EAA report a slight uptick in leafminer activity in the leaf crop.

Dr Dak Seal Entomologist at UF/IFAS TREC advises that there are 10 genera of parasitoid wasp populations that attack leafminers and they can be very effective in providing control especially at the beginning of the cropping season if growers avoid harsh pesticides and use bio-rational products.

Growers can use Spintor, Radiant, Coragen, Durivo, Agrimek, Trigard and some neonicotinoids such as Venom for leafminers when populations are high.

Aphids

Grower and scouts in the EAA are reporting some problems with in leafy vegetables.

On the East Coast, aphids are fairly common in pepper and are being seen in low numbers in most ages of plants. A few aphids are also being reported in squash.

Elsewhere around South Florida aphis remain mostly low.

Corn Silk Fly

Around Belle Glade, silk fly adults are present in corn and numbers seem to be declining.

In Miami Dade County corn silk fly adults are showing up in most corn fields but populations remain low.

Spider Mites

Growers and scouts report that spider mites have been horrible in strawberries around Hillsborough County.

Twospotted spider mites will develop resistance if treated repeatedly with the same mode of action; fortunately several materials are registered for twospotted spider mite control in strawberry. These include Acramite 50 WS (bifenazate, mode of action unknown), Agri-Mek SC (abamectin, MOA # 6), Savey (hexythiazox, MOA #10A, Zeal (etoxazole, MOA # 10B), Kanemite 15 SC (acequinocyl, MOA # 20B), Portal (fenpyroximate, MOA # 21A), Oberon 2SC (spiromesifen, MOA 23), and Nealta (cyflumetofen, MOA # 25). Since each of these miticides kills by contact; they have no systemic or translaminar properties, thorough coverage is essential.

Around Palm Beach County, reports indicate that spider mites are becoming problematic in eggplant requiring treatment in a number of locations.

Diseases

Bacterial Spot

Around Southwest Florida, bacterial spot continues to cause problems in tomatoes. Infections on many new plantings remain low in the bush. Bacterial spot remains sporadic in peppers with some fields dropping leaves while others are still clean depending on the resistance package of the cultivar.

On the East Coast, bacterial spot has increased in severity and incidence in a lot of pepper and tomato. Bacteria is widely present in most hot varieties. Scouts report some bacteria showing up in race 1-5 resistant bell peppers. Growers report that race 1-10 resistant pepper varieties remain clean while bacterial spot is starting to become widespread in many fields where other varieties have been planted.

Bacterial spot is increasing in severity and occurrence in pepper and tomato in the Homestead area.

Target Spot

Around Immokalee, target spot remains rampant in tomato but some growers indicate that it had slowed down a bit prior to last week's rains.

On the East Coast, target spot incidence is high in some older tomatoes and is also reaching high levels in some cucumber fields.

Newer fungicides such as Endura, Scala, Inspire Super, Reason Tanos and Fontelis have provided growers with new tools to manage this disease. Consult UF/IFAS recommendations for currently labeled fungicides for target spot control in Florida tomatoes.

Early Blight

Low levels of early blight continues to show up on tomatoes around South Florida

Foliar symptoms generally occur on the oldest leaves and start as small, pencil-point-size, brownish to black lesions. These leaf spots enlarge up to ½ inch (1.3 cm) in and usually have readily visible, concentric rings that look somewhat like a bull's-eye. These concentric leaf spots are distinctive enough to make early blight one of the easier tomato diseases to diagnose.

The area around the spot may become yellow, as may entire severely affected leaves. Early blight symptoms are most pronounced in the lower canopy. Under favorable conditions, significant defoliation of lower leaves may occur, leading to sunscald of fruit.

Green or red fruit may be infected by the fungus which invades at the point of attachment between the stem and fruit, and through growth cracks and wounds made by insects. Dark lesions enlarge in a concentric fashion and may affect large areas of the fruit. Mature lesions in fruit are typically covered by a black velvety mass of fungal spores.

Stem lesions are dark, slightly sunken and enlarge concentrically. Basal girdling and death of seedlings may occur.

Alternaria

In the EAA, respondents report significant issues with Alternaria particularly on older beans which saw a lot of rain.

Alternaria is also being seen on cilantro around South Florida, mandating fungicidal sprays for disease-free cilantro.

Report from Homestead indicate that Alternaria leaf spot is increasing on some cucurbits such as bitter melon.

Erwinia soft rot

A number of pepper and some tomato growers around South Florida are reporting problems with Erwinia soft rot causing usually high fruit losses in the field as fruit literally melt down just before harvest. This problem has been favored by this season's high humidity, frequent rain fall and unseasonably warm temperatures.

On pepper, the fleshy fruit peduncle is highly susceptible and is frequently the initial point of infection. Both ripe and green fruit may be affected. Initially, the lesions on the fruit are light to dark-colored, water-soaked, and somewhat sunken. The affected areas expand very rapidly, particularly under high temperatures, and tissues lose their texture.

The problem with bell pepper is the presence of openings around the calyx that can allow rain water to actually enter the fruit. Any pathogens, such as Erwinia, would be carried inside to that warm, moist, protected environment. Once this occurs, no amount of postharvest sanitizing will remove it.

In later stages, bacterial ooze may develop from affected areas, and secondary organisms follow, often invading the rotted tissue. The affected fruit hang from the plant like a water-filled bag.

Growers should avoid cultural operation and harvesting while plants are wet. Tanos tank mixed with copper may provide suppression if applied preventatively in the field. Good irrigation management may reduce cracking and may also reduce problems with soft rot.

In the Glades, bacterial infections have also been observed on lettuce, however, these do not appear to be caused by *Xanthomonas campestris pv. vitians*, the bacterial leaf spot pathogen. Infections are almost invariably linked to extensive leaf miner activity. Controlling leaf miners should result in significant reduction in bacteria lesions.

Bottom rot

Dr Richard Raid, Pathologist at the UF/IFAS EREC, reports that bottom rot on lettuce caused by *Rhizoctonia solani* is causing major problems in the EAA. The disease starts at the basal stem and infects leaves in contact with the ground, and the mycelial web moves right up into the head. Although you can cut above it in some cases, trimming is sometimes so severe that you can't make head weight. Dr Raid notes that the disease may slow down with cooler weather but will not disappear. Fungicide programs pretty much have to be preventative, getting soil coverage at or even before thinning.

Rhizoctonia

Rhizoctonia has also been causing problems in beans and beets around South Florida.

Downy mildew

Respondents in Palm Beach County report that downy mildew continues to affect squash and cucumber and has reached high levels in some plantings.

Around Southwest Florida, downy mildew remains a problem on cucumbers and squash and incidence is high in older squash and cukes.

Downy mildew is also active on cucurbits in the Homestead area.

Symptoms of cucurbit downy mildew are characterized by foliar lesions, which first appear as small chlorotic patches on the upper side of the leaves. These lesions may appear water-soaked, especially during periods of prolonged leaf wetness caused by rainfall, dew, or irrigation. Later symptoms may coalesce into large necrotic areas, which may result in defoliation and reduction of yield and marketable fruit.

Spray programs for downy mildew are most effective when initiated prior to the first sign of disease since once a planting becomes infected; it becomes more and more difficult for fungicides to control downy mildew. A range of fungicides is available for the control of downy mildew depending on the crop. Newer oomycete specific products are useful in combatting the disease.

Lettuce downy mildew, caused by *Bremia lactucae,* has been observed and confirmed in the Glades.. Growers should be on a consistent preventative program using mancozeb and a phosphite, and now that the disease is present should consider working in some of the more specific fungicides with translaminar or systemic activity such as Revus, Zampro, Ranman, Reason, Forum, Presidio, Previcur flex, Aliette, etc. A new fungicide, Orondis, has been demonstrated as being very effective on Bremia in Florida, and could be a good candidate for the rotation. Growers can check with their suppliers and read the label carefully before using for plant back, use patterns, and rates.

Downy mildew on crucifers (cole crops) has also been confirmed. Given the cool, wet weather, growers should be on a preventative fungicide program. In general, fungicides that are labeled for lettuce downy mildew also perform well against *Hyaloperonospora parasitica*, the crucifer downy mildew pathogen. Again, check labels before applying.

Powdery mildew

Around Immokalee, powdery mildew is common in squash and cucumbers.

Powdery mildew is also showing up on some pepper around SW Florida.

On the East Coast, powdery mildew is present at low levels in squash.

Powdery mildew is also causing problems on squash around Homestead.

Fusarium wilt

Low levels of fusarium are also showing up around Southwest Florida.

With phase-out of methyl bromide, the occurrence and severity of soilborne pathogens like fusarium wilt are becoming a more frequent sight across the state.

While there are resistant tomato varieties for fusarium wilt many are resistant to races 1 and 2 but only a few are resistant to all 3 races and often times these are more susceptible to bacterial spot and may produce fruit which are smaller than the standards growers are used to.

Gummy stem blight

Gummy stem blight is around at low levels in watermelon.

Phytophthora

Growers and scouts report that *Phytophthora capcisi* is causing a number of problems in areas affected by recent heavy rains.

Around Homestead, severe losses are being reported in squash affected by recent flooding.

On the East Coast, Phytophthora is causing problems on peppers and squash especially in areas where it is traditionally a problem and soils have been saturated by recent rains.

Pythium

Respondents in the EAA report that, aerial Pythium is present on snap beans in a number of locations. Like white mold caused by Sclerotinia, this can cause additional losses in during transport and storage.

Pythium is also causing problem in a number of areas in Homestead and the East Coast affected by recent heavy rains. Cucumber growers around Homestead are reporting problems with cottony leak caused by pythium.

Southern Corn Leaf Blight

Respondents in the EAA note that southern corn leaf blight remains active in sweet corn in the Glades and has increased in severity following recent rains undoubtedly aided by unseasonably warm weather. Incidence is around 5-10 lesions on 3 leaf plants in the worst affected areas.

Southern corn leaf blight is caused by the fungus *Bipolaris maydis*. Mature foliar lesions can be rounded on the sides but they tend to be parallel-sided, often restricted by the veins.

Lesions are light tan in the center with a reddish-brown border. A greenish growth near the center of the lesion may be evident if spores are present. Mature lesions range from 1/4 to 1 1/2 inches in length and may be tapered, flat or serrated on the ends.

Lesions caused by southern corn leaf blight are much smaller (up to ½ inch wide and 1 inch long) than those caused by northern corn leaf blight. Southern blight lesions are also lighter in color (light tan to brown), and have parallel sides rather than the tapering sides of lesions caused by *E. turcicum*.

When severe, lesions may become so numerous that they coalesce and turn the entire leaf necrotic. Southern blight, like northern blight, moves from the lower canopy to the upper canopy. Fungal sporulation may be observed with a simple hand lens on foliar lesions following periods of high humidity.

Fungicides should be applied early, particularly if the forecast is for warm, humid weather. As with northern corn leaf blight, the sterol inhibitors and strobilurin fungicides are most efficacious. These products should be used together with a broad spectrum protectant to minimize development of fungal resistance.

Northern corn leaf blight

Northern corn leaf blight has also made an appearance on corn with the arrival of cooler temperatures**. Both** SCLB and NCLB can be controlled using a good fungicide program.

Common Corn Rust

Common corn rust has been observed at low levels and may soon become a major factor now that conditions have become more favorable (cooler temperatures).

Both common rust and southern corn rust produce similar symptoms with the formation of spore-bearing, reddish-orange to brown pustules (uredia) on leaves or husks.

Common rust typically produces pustules without a peridium or covering over the pustule. The pustule of southern corn rust is normally persistent. The color of the spore mass of common rust tends to be chocolate brown while that of southern corn rust tends to be orange.

The shape of the pustule also varies between the two diseases. Common rust tends to have elongated pustules and southern corn rust has somewhat rounded pustules**.**
Another distinguishing characteristic is the fact that the formation of pustules on the lower surface of the leaf is delayed and often absent with southern corn rust.

Identification of which rust is present can be done quickly with a microscope. The rounded urediospores of common rust tend to be uniform in diameter whereas those of southern corn rust are oblong in shape.

Spray programs should begin at the first sign of rust. Foliar blights and rust may be successfully controlled using fungicides, if host-plant resistance is insufficient. Strobilurin and triazole fungicides work well should be used in a program with the broad-spectrum protectant mancozeb. Several sprays may be required.

Bean Rust

Bean rust is starting to show on beans in the area, so growers should be on the lookout.

Cercospora leaf spot

Lettuce growers in the Glades are reporting some problems with Cercospora leaf spot. Leaf spot is caused by the fungus (*Cercospora longissima*). Leaf spot is generally a fall disease due to the warm weather and has been particularly active this fall due to unseasonable hot weather.

The disease is generally controlled incidentally with a prophylactic program of various strobulurin fungicides. Fontelis has also proven effective in providing control.

Inoculum comes in from weeds, so keeping clean ditch banks and disking down harvested fields are the cultural practices used to reduce this disease.

Cercospora has also been rampant in celery and beets.

Cladosporium

Reports from the EAA note that Cladosporium and Stemphylium leaf spots deserve serious attention on spinach, requiring fungicide applications. Both diseases may be seed-borne.

Basil Downy Mildew

Downy mildew pressure in basil has been relentless and growers have to work hard to keep it in check.

Although few fungicides are specifically labeled for this disease, some broadly labeled fungicides which are labeled under the herb crop grouping on current labels, such as Ranman, Quadris and Amistar (Azoxystrobin) and the phosphonic acids have shown efficacy in managing the disease.

Recently Revus received a label for use in basil and provides excellent control of downy mildew when used early as a soil drench. These fungicides are most effective when applications are started before or just after initial symptoms are found.

Tomato Chlorotic Spot Virus

Around Southwest Florida, scouts are reporting no significant tospovirus recently, with only a few scattered single plant here and there in a few tomato fields.

The situation is similar in Palm Beach County with only a few scattered infected tomato and pepper plants being reported.

Homestead remains the ground central for Tomato chlorotic spot virus and growers report that they are beginning to see more symptoms of the disease in tomato. Incidence has jumped in a number of fields reaching 50% in a couple of places.

The tospovirus, Tomato chlorotic spot virus (TCSV) was first identified in Florida in field grown tomato plants in Miami-Dade and Hendry Counties in 2012 emerged as a major problem in Miami Dade this past season where it is caused significant problems for tomato growers.

Finding TCSV infections in transplant houses is an alarming new development as it could aid the spread of this virus around South Florida and beyond.

Early symptoms of infection are difficult to diagnose. In young infected plants the characteristic symptoms consist of inward cupping of leaves and leaves that develop a bronze cast followed by dark necrotic spots.

Tomato chlorotic spot virus causes necrosis in tomato leaves and stems, and causes ringspots and other deformations of the fruit. The symptoms are nearly identical to those of groundnut ringspot virus and laboratory diagnosis is necessary to distinguish on from the other.'=

It is known from studies conducted in Brazil, that TCSV can be transmitted by a number of species of thrips and that some thrips are more efficient vectors than others. Like other tospoviruses, tomato chlorotic spot virus replicates in its vector as well as in the plant. While the vector status of many thrips species is known with regard to transmission of tomato spotted wilt virus, only five thrips species have been tested for their ability to transmit TCSV. Currently western flower thrips and common blossom thrips are known to be vectors.

The use of virus-free transplants, scouting, insecticides to control thrips, rouging infected plants, SAR elicitors such as Actigard, and UV-reflective mulch will likely be effective in managing TCSV.

Resistance to TSWV seems to confer resistance to TCSV in trials conducted in Miami Dade County and elsewhere.

Tomato Yellow Leaf Curl

Incidence and occurrence of TYLCV remains mostly low and spotty on tomatoes around South Florida, although a few hotspots have been reported in a couple of fields where incidence is higher.

Respondents indicate that incidence in some fields in Homestead have reached 40% infection.

News You Can Use

El Niño Soaking South Florida's Dry Season

Paul Rusnak
Florida Grower
January 12, 2016

The dry season has been anything but so far in South Florida, and the notorious climate pattern known as El Niño is the likely culprit.

According to National Weather Service meteorologists, most of South Florida saw continued above-average rainfall in December across the South Florida Water Management District's 16-county region. District meteorologists reported today that a total of 3.75 inches of rain fell Districtwide in December, representing 199% of average, or 1.87 inches above average.

Eastern Miami-Dade County recorded its wettest December since recordkeeping began in 1932, and was the wettest region in the District for the month, with 10.89 inches of rain. The total represented 500% of average, or 8.71 inches above average for the month.

Broward County experienced its wettest December since 1958, with 7.11 inches, representing 316% of average, or 4.86 inches above average.

Palm Beach County saw its wettest December since 1994 with 6.52 inches of rain, representing 234% of average, or 3.73 inches above average.

According to the National Weather Service, this year's extra strength El Niño climate pattern will contribute to a wetter and stormier dry season across much of Florida. Along with more storm chances will come an increased risk of tornadoes.

UPDATED on Jan. 18, 2016: Over the weekend, two people were killed when an EF-2 tornado ripped through a mobile home park in Manatee County.

The previous week, strong storms accompanied a cold front that swept through the state. Reports indicated an EF-2 tornado touched down in Cape Coral, causing considerable damage.

http://bit.ly/1PdLnpf

USDA Expands Microloans to Help Farmers Purchase Farmland and Improve Property

Producers, Including Beginning and Underserved Farmers, Have a New Option to Gain Access to Land

WASHINGTON, Jan. 19, 2016 — Agriculture Deputy Secretary Krysta Harden today announced that the U.S. Department of Agriculture (USDA) will begin offering farm ownership microloans, creating a new financing avenue for farmers to buy and improve property. These microloans will be especially helpful to beginning or

underserved farmers, U.S. veterans looking for a career in farming, and those who have small and mid-sized farming operations.

"Many producers, especially new and underserved farmers, tell us that access to land is one of the biggest challenges they face in establishing and growing their own farming operation," said Harden. "USDA is making it easier for new farmers to hit the ground running and get access to the land that they need to establish their farms or improve their property."

The microloan program, which celebrates its third anniversary this week, has been hugely successful, providing more than 16,800 low-interest loans, totaling over $373 million to producers across the country. Microloans have helped farmers and ranchers with operating costs, such as feed, fertilizer, tools, fencing, equipment, and living expenses since 2013. Seventy percent of loans have gone to new farmers.

Now, microloans will be available to also help with farm land and building purchases, and soil and water conservation improvements. FSA designed the expanded program to simplify the application process, expand eligibility requirements and expedite smaller real estate loans to help farmers strengthen their operations.

Microloans provide up to $50,000 to qualified producers, and can be issued to the applicant directly from the USDA Farm Service Agency (FSA).

This microloan announcement is another USDA resource for America's farmers and ranchers to utilize, especially as new and beginning farmers and ranchers look for the assistance they need to get started. To learn more about the FSA microloan program visit www.fsa.usda.gov/microloans, or contact your local FSA office. To find your nearest office location, please visit http://offices.usda.gov.

Agriculture: Crucial to security, at risk from ‘a variety of threats’

Ron Smith
Southwest Farm Press
12-02-2015

U.S. agriculture’s strength may also be its weakness. The diversity, integration of enterprises, and independence of farm operations allow producers a great deal of freedom in crop selection, marketing, and production practices. Those advantages may also make the nation’s agriculture vulnerable to both natural and intentional biological agents.

“Perhaps now, more than any time in our history, agricultural industries are at risk from a variety of threats that have the potential to severely disrupt our economy and food supply, and cause great harm to our public health sector,” said Tammy Beckham, Dean of the College of Veterinary Medicine at Kansas State University, in testimony at a House Agriculture Committee hearing.

Beckham, along with Ambassador John Negroponte, a former U.S. Deputy Secretary of State, testified on the importance of agriculture to national security.

“One specific kind of threat focuses on the risks of biological attack on U.S. agriculture,” said Negroponte. “The consequences of a successful attack range from economic damage to threats to food safety and public health. Although there have been no large-scale attacks, it is important to strengthen surveillance, monitoring, and tracking, and to enhance nationwide laboratory networks to insure food, veterinary, plant health, and clean water. As federal retirements continue apace, we need to build up talent in these areas for the future.”

House Agriculture Committee Chairman K. Michael Conaway, R-Texas, explained the reasoning behind a hearing on agriculture and national security. “Many may wonder why the Committee on Agriculture would hold

a hearing on national security. A former chairman of this committee, the Kika de la Garza of Texas, would often ask, 'How long can a nuclear submarine stay under water?' The simple answer: Until it runs out of food."

Agriculture/Security Link

With the declining number of Americans involved in production agriculture, Conaway said, many members of Congress are not aware of the link between agriculture and national security. His position on the Armed Services Committee and as chairman of the Agriculture Committee gives him a unique perspective on the important relationship, he said.

"Agriculture and national security are intertwined in many different ways — whether it is insuring that food is available to meet nutritional needs for both those within our own borders and those around the world, or insuring that food coming into our borders is disease- and pest-free, or guaranteeing that farmers and ranchers have the needed policy tools in place to continue producing food and fiber."

Ranking Committee Member Collin Peterson, D-Minn., echoed Conaway's sentiments. "A strong agriculture sector and stable food supply are critical to national security. And agriculture has an important role to play when it comes to our country's national security interests — something I don't think a lot of people really understand."

Conaway noted that the ongoing transitions in the way American farmers produce food, in addition to the growing volume of food imported from countries with less regulation and oversight, emphasizes the importance of vigilance for both home-grown food and imported products.

Six Important Segments

Negroponte cited six important segments necessary for food security — infrastructure, biodefense, resource strategy, agricultural research, trade policy, and support for international agricultural development.

"Agriculture is extremely dependent on roads, rail, electricity, water, and other physical infrastructure," he said. "It is important for federal departments and agencies to further advance efforts to protect critical infrastructure and key resources by preventing, deterring, and mitigating deliberate efforts to destroy, incapacitate, or exploit them, by working across agencies and with state and local governments and the private sector."

The risks of biological attack on U.S. agriculture are significant, he said. "The consequences of a successful attack range from economic damage, to threats to food safety and public health. Resource Strategy is crucial, "since agriculture is so tied to energy, water, and other resources. We may consider these items themselves to be of strategic importance. In decades to come, water could become to global strategy what petroleum is today, since declining food security could contribute to large-scale political instability and conflict. These problems could be aggravated by climate change — which may disrupt resource availability."

Agricultural Research, he said, will be crucial to increasing food production to feed a world population of 9 billion by 2050. Also, a growing middle class will demand more and different kinds of food.

"Given the constraints on land, water and other resources, the only way to do this is to boost productivity. Unfortunately, funding for vital research at the U.S. Department of Agriculture and the Consultative Group on International Agricultural Research (CGIAR) has stagnated, while the need to produce food becomes more pressing. This needs to change."

Market Access Critical

Trade Policy will need tweaking, Negraponte said. “One vital consideration is market access — both for U.S. exporters and those in other countries. Exports boost U.S. farm income and create jobs, and trade can fill in gaps in local food supplies and allow access to lower cost products. Beyond this, exports from poor countries also can support their farm incomes and boost regional and global food availability. Stronger trade agreements could also work against a repeat of 2008, when more than 30 major food exporters restricted trade in order to stem rising domestic food inflation — at the cost of their trading partners.”

There is “a pressing need to support farming systems in the developing world,” he said. “Boosting agricultural production not only increases world food supplies, but it can reduce the vulnerability of political systems to weather, conflict, and other shocks. Boosting rural incomes can reduce hunger, prevent the emergence of disease, and reduce migration to the cities or as refugees overseas.”

Threats to U.S. food security could come from several sources, said Tammy Beckham. “Threats include a natural introduction of a foreign (trans-boundary) animal, emerging, and/or zoonotic disease, or an intentional introduction of a biological agent (agroterrorism) into our agricultural systems,” she said.

“These threats would result in significant morbidity and/or mortality, cause great economic harm, adversely impact and/or disrupt our food supply, and/or contribute to an adverse public health event. Many of these agents do not require weaponization, can be easily obtained, and exist naturally in areas where terrorist groups such as the Islamic State (ISIS), al-Qa’ida, al-Shabaab, Boko Haram, and others who intend to harm the U.S. operate. In addition, the risk from emerging infectious and/or zoonotic diseases continues to threaten our animal, plant, and public health sectors.

Immediate Action Needed

“We must act immediately to address critical needs,” Beckham said. “There is a critical need for development and licensure of additional vaccines for the remaining serotypes of foot and mouth disease virus and other high-consequence animal and zoonotic disease agents — classical swine fever, African swine fever virus, Hendra virus, Rift Valley fever virus, Ebola, etc. Along with the vaccines, we must develop and validate new diagnostic technologies to help us detect and identify both known and emerging pathogens.”

Stakeholders should be prepared, she says, “for an appropriate response to emerging disease affecting our industries. In addition, we must work closely with our end users, stakeholders, and first responders to develop a robust, integrated biosurveillance system capable of capturing and analyzing data on animal, human, and wildlife health.

“The ability to protect our agricultural industries, food supply, and public health sectors from natural introductions of biological agents, agro-terror threats, and emerging and re-emerging diseases is heavily dependent on an organized, strategic, and well-funded approach. This approach should institutionalize the ‘One Health’ concept, be highly collaborative in nature, leverage all available resources, and encompass an international, global health component.”

Sound agricultural policy has been “an integral piece of our ability to feed and clothe not only our nation, but the world,” Chairman Conaway said. “Agriculture is the backbone of the economy, and throughout history America has been able to not only survive, but thrive, because our agricultural safety net helps farmers weather the bad times. We must never forget that there is no food without the farmer.”

Up Coming Meetings

January 27, 2016 **FDA/FSMA Educational Meeting** **9:30 AM - 1:00 PM**

UF/IFAS EREC
3200 E. Palm Beach Rd.
Belle Glade, FL 33430

Visit http://fsmarules.eventbrite.com to register.
Contact Martha Roberts robertm@ufl.edu (or) 850-509-7282 for more information.

January 29, 2016 **CORE/Private Restricted Use Pesticide Exam Prep Class and Test** **Core – 7:45 AM Private – 1:00 PM**

Hendry County Extension Office
1085 Pratt Boulevard
LaBelle, Florida 33935

Classes are $10 each. Contact Debra at 863-674-4092 or dcabrera@ufl.edu for more info or to sign up.

February 8-9, 2016 **Local Farmer Food Handling Workshop** **Times TBD**

Clayton E. Hutcheson Complex - Exhibit Hall A
UF/IFAS Palm Beach County Extension
559 N Military Trail
West Palm Beach, Florida 33415

Anyone interested in attending can Geoffrey Sagrans of Localecopia at info@localecopia.org

February 15, 2016 **Sweet Corn Pest Management Research Update** **8:30 AM – Noon**

UF/IFAS EREC
3200 E. Palm Beach Rd.
Belle Glade, FL 33430

RSVP to Kathy Krawchuk at klkr@ufl.edu or (561) 993-1517

February 17, 2016 **Lettuce Advisory Committee Meeting** **12:00 PM –**

UF/IFAS EREC
3200 E. Palm Beach Rd.
Belle Glade, FL 33430

February 19, 2016 **Miami Dade Co Annual Agricultural Farm Tour and Luncheon** **8:00 AM**

Miami-Dade County Extension Office
18710 S.W. 288th Street
Homestead 33030

Tickets are $50 and proceeds help fund scholarships.
Contact Lize at 305-248-3311 X 242 or Patty at 305-248-3311 X 225 for more information.

Websites

"Microgreens: novel fresh and functional food to explore all the value of biodiversity" is a project funded by the Italian Ministry of Agriculture and Forestry which aims to increase the public awareness on the importance and value of the great heritage of biodiversity of the Italian and Apulian vegetables which can be exploited to develop novel, fresh, functional and high value food products such as microgreens. Lots of good info here - http://www.gustailbiodiverso.com/wp-content/uploads/2015/11/Microgreens.pdf

FDACs Office of Ag Water Policy - BMP Manuals – In addition to the newly revised Ag Row Crop BMP manual you will also find link to enroll in a BMP program. Go to http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Water-Policy/Enroll-in-BMPs/BMP-Rules-Manuals-and-Other-Documents

South Florida History - Five Centuries in Five Minutes
http://www.sun-sentinel.com/video/originals/news/fl-dubious-history-century-premiumvideo.html

Note: State and local budgets cuts are threatening to further reduce our funding – if you are receiving currently receiving the hotline by mail and would like to switch over to electronic delivery – just drop me an email. It is much quicker and you will get the hotline within minutes of my completing it and help conserve dwindling resources at the same time. Thanks to those that have already made the switch.

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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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