GAINES COUNTY IPM NEWSLETTER

Manda G. Cattaneo, Extension Agent - IPM
101 S. Main RM B-8
Seminole, TX 79360
(432)758-8193 office
(432)758-2039 fax

http://gaines-co.tamu.edu
http://www.tpma.org
http://ipm.tamu.edu
mgcattaneo@ag.tamu.edu

Volume II, No. 11 August 7, 2009

General Situation

Nodes Above White Flower (NAWF) ranges from 3 to 8 with a majority of the cotton fields at 6 NAWF. Peanuts are continuing to peg and have small to large pods. Disease incidence has increased during the last couple of weeks. Pythium pod rot has been observed in several peanut fields. Sclerotinia Blight, caused by *Sclerotinia minor*, has also been observed in some peanut fields. Verticillium wilt continues to be observed in cotton fields. However, the Verticillium wilt incidence seems less prevalent this year than the same time last year. Nematodes have been very active in a lot of fields. In addition to these diseases, we have also observed limited amounts of Alternaria stem blight and Bacterial blight was identified in a small section of one field near Loop.

Peanut Disease Update from Dr. Jason Woodward, Texas AgriLife Extension Plant Pathologist

My phone has been ringing off the hook with calls regarding Pythium pod rot. Most of the calls pertain to management options; however, there is also interest in proper diagnosis. Pythium pod rot can be caused by several *Pythium* spp. with *P. irregulare*, *P. myriotylum*, and *P. ultimum* being most prevalent in the region. There are no above ground symptoms associated with Pythium pod rot; however, symptoms can be observed on the pods. Pythium generally has a greasy, wet appearance. Rotted pods dark black and often have soil adhering to them (see *Figure 1*). Similar symptoms can be seen with Rhizoctonia pod rot; however, this disease is typically characterized by a dry-rot appearance. Field diagnosis of peanut pod rot is difficult, as advanced stages of diseased pods result in complete decay. Conformation in the laboratory is often required in diagnosing pod rot. Products are limited and unfortunately costly when it comes to management of Pythium. According to producers I have spoken with the performance of Ridomil has been more consistent than Abound in the past. While Abound is registered for use in peanut, the label only indicates suppression of Pythium pod rot. Several things should be considered when it comes to applying Ridomil. One should first refer to the fungicide label as there are several formulations of the product. While I have limited experience working with Ridomil, studies have shown that the fungicide is quickly absorbed by the leaf. When applying liquid formulations of Ridomil chemigation is the preferred application method. If applied by ground rig, every attempt at getting the fungicide delivered to the pod zone should be utilized (i.e. increasing carrier volumes, increasing the size of droplets, and applying irrigation immediately after fungicides applied). When using granular formulations, such as Ridomil/PCNB applications should be made to dry foliage as the granules may get tied up on the leaves. Activity of the fungicide will consist of lesions drying up and having a leathery appearance; however, it may take several days before this is observed. Keep in mind that reducing use rates may shorten the level of residual activity need later in the season; therefore, you must continue to diligently scout fields after applications are made. A subsequent application may be warranted later in the

***Figure 1*. Pythium pod rot**

season. The use of Abound at this time may suppress disease development until harvest, while offering some level of control for other diseases such as leaf spot, and southern stem rot. If you have any questions regarding Pythium pod rot or any other peanut diseases contact me at jewoodward@ag.tamu.edu, or 806-632-0762.

Description of Alternaria stem blight in Cotton

Described by Dr. Jason Woodward in the August 22, 2008 *FOCUS on South Plains Agriculture* Newsletter

Alternaria stem blight, caused by *Alternaria macrospore*, is a disease characterized by a circular pattern in the field, which may often be confused with a lightning strike. These areas range in size from a few feet in diameter to approximately ¾ of an acre. Infected areas do not significantly increase in size, nor does the disease spread throughout the field. Initial infections occur on the leaf margin and exhibit a distinct purple discoloration. As the disease progresses, this discoloration becomes apparent on the mid-rib, continuing down the petiole, into the stem. Infected stems become necrotic, and the terminals have a curved appearance (see *Figure 2*). Overall, *A. macrospore* is considered a weak pathogen, and typically requires some form of stress for the disease to develop. Results from lab experiments indicated that *A. macrospore* can carryover on cottonseed; therefore, considerations may need to be made with regard to infected seed blocks. This disease has been observed on both conventional and transgenic varieties from both stripper and picker backgrounds.

Figure 2. **Necrotic terminal of a cotton planted infected with Alternaria stem blight**

Description of Bacterial Blight

Described by Dr. Terry Wheeler in the August 10, 2001 *Focus on Entomology* Newsletter

The foliar phase of the disease is termed "angular leaf spot." Leaf symptoms are angular, dark, shiny spots, which follow the outline of the cells, hence the name Angular Leaf Spot (see *Figure 3*). Symptoms on bolls appear as small and waxy-looking, sunken, rounded to irregular, water lesions. As the infection progresses, the lesions will enlarge and may blacken. Once the carpel wall of the boll is breached, secondary microorganisms can colonize the boll. Subsequently, the lint may be discolored, resulting in staining and thus low grades. This disease can be very devastating to susceptible varieties given the correct environmental conditions. These bacteria may originate from debris of diseased cotton plants or planting seed. Plants may get infected when bacteria from infected plants are carried by insects or when infested soil gets splashed up onto leaves, bolls or other plant parts. Bacteria may enter stomata on the leaves or wounds cuased by insects, hail, blowing sand, equipment, etc. The primary method of controlling bacterial blight is by planting resistant varieties. The Texas AgriLife Research and Extension ***2009 cotton Bacterial blight Recommendations*** by Dr. Terry Wheeler, Research Plant Pathologist, and Dr. Jason Woodward, Extension Plant Pathologist can be found at http://lubbock.tamu.edu/cotton/pdf/2009Bacterial.pdf

Figure 3. **Bacterial blight on cotton**

Recap of the Gaines County Ag Tour

Specials *Thanks* to our Program Sponsors: Captial Farm Credit, Carter & Company Irrigation, Inc., Commercial State Bank, Danley Insurance, Birdsong Peanuts/Gaines County Farm Supply, Kubecka Operating Co./Ag Aero, Nolen Ag Services, Inc., TriCounty Producers Coop – Loop, Valley Irrigation & Pump Service, Inc., Western Peanut Growers Assocation, and Wittenburg & Higginbotton, J.V.

I would also like to thank State Representative Delwin Jones for attending our field day and for his continuous support of Agriculture.

Dr. David Kerns, Extension Entomologist, covered the insect situation. David said that Lygus numbers have not been high in Gaines County cotton but they are present in low number in a number of fields. Populations tend buildup primarily in high input, growthy cotton where the canopy is full and there is a lot of shading. Based on drop cloth samples, if the total number of Lygus equals or exceeds 4 per 6 row-ft (2 per drop cloth sample); then an insecticide application is justified. Bolls less than 1 inch in diameter are susceptible to Lygus damage, and these small harvestable bolls should be protected. In a study conducted in 2008, Lygus infesting cotton in late August and early September resulted in a loss of 238 lbs of lint due primarily to Lygus induced small boll shed.

Bollworms continue to be a threat to non-Bt cotton. Several area fields have been treated for bollworms over the past few weeks. As the season progresses we can expect to see bollworms to increase. Pyrethroids continue to be the standard insecticides for bollworm control. However, there has been at least one control failure incident with pyrethroids targeting bollworm in Gaines County. The reason for the poor control is not certain but may be related to coverage. There has been some speculation that resistance may also be playing a role. Bollworms on the Texas High Plains, historically have not expressed resistance to pyrethoids. However, recent data from Swisher County suggest that some low level of resistance may exist. Even if a low level of pyrethroid resistance does exit, control with a pyrethroid should still be possible along as coverage is adequate, and the insecticide rate is not too low. Where achieving adequate coverage is problematic (rank cotton), increase the rate of the pyrethroid and if possible, spray the field using a ground sprayer. If you have to go out by air, use at least 5 gallon of spray per acre. As an alternative to a pyrethroid, you may consider using Belt or Coragen. However, choosing these products over a pyrethroid will not necessarily alleviate problems associated with coverage.

Dr. Randy Boman, Extension Agronomist, covered the importance of soil sampling prior to applying fertilizers and his areawide effort to determine amounts of residual nitrogen that growers need to account for when they are trying to figure out how much nitrogen to apply in a particular field.

Dr. Terry Wheeler, Research Plant Pathologist, discussed a pod rot project that Dr. Jason Woodward, Scott Russell and I are collaborating with her on. The pod rot project is designed to determine if we can more successfully treat pod rot when fungicide applications are made based on a disease threshold rather than by calendar dates. To achieve this goal, we must identify what if any thresholds are better for timing of fungicides than calendar sprays (our treatment thresholds are 1-2%, 3-4%, and 5-6%); and determine how many samples must a consultant take to successfully identify the threshold. We are intensively sampling (101 locations) two peanut fields each week that have a history of Pythium pod rot and we are applying fungicides based on producer application dates (calendar dates) and based on disease thresholds in one of the two fields. In both fields, we observed a rapid increase from very few locations with pod rot, to our lowest threshold. In Gaines co. we went

from 0.2%, 0.2%, 0.3%, to 2.2% and then to 5.3% pod or peg damage in a five week period. At 2.2% and 5.3% damage we had pod or peg rot showing up at 30 and 50% of the sampling locations, respectively.

Figure 4. **Sclerotinia blight white tufts of cottony-like fungal growth at leaf axils. Later stages of the disease show up as bleaching and severe shredding of the stem accompanied by the production of small black sclerotia that resemble mouse droppings.**

Scott Russell, Extension Agent – IPM for Yoakum and Terry Countys discussed his and Dr. Jason Woodwards research on Sclerotinia blight. Sclerotinia blight of peanut, caused by the pathogen *Sclerotinia minor*, is a very devastating disease in West Texas Peanut production. Once present in a field it is essentially impossible to rid one self of the fungus entirely. Sclerotinia blight is a significant pest of peanuts, quickly reducing yields by 10%, upwards to as much as 50% through pod loss at harvest. *Sclerotinia minor* is a soil borne pathogen with the ability to survive extended periods even in the absence of a host. The fruiting bodies (sclerotia) remain viable in the soil for several years, thus limiting crop rotation options. The objective of their research is to develop a forecast model to predict environmental conditions conducive to the development of sclerotinia blight and therefore the most efficient timing of chemical control methods. Environmental factors monitored included: soil temperature at a depth of 4 inches, rainfall or irrigation, and humidity within the canopy. Values are assigned to each factor based on its impact on the development of Sclerotinia blight. If the value of the factor (temperature, humidity etc) had little impact on the development of SB it was assigned a value of zero. The greater the factor's impact the higher the value assigned. They use these values to come up with a daily risk index and this value was summed over five days to calculate a "Five Day Risk Index" (FDI). The FDI was utilized as a trigger (threshold) to initiate a fungicide spray application. Eight treatments were evaluated for the management of Sclerotinia blight of peanut. We will send out results of this research when it becomes available.

The 2009 Nematode and Thrips Trial planted at Raymond McPherson has began to show significant differences between treatments (see *Figure 5*). I would like to thank Dr. Terry Wheeler and Dr. David Kerns for assisting me with this project. The treatments consist of ST 5458B2RF and FM 9063B2RF being coupled with AERIS, AVICTA, Temik 15G at 3.5 lb, Temik 15G at 5 lbs, or no treatment. Gall ratings were conducted on June 10 and soil samples were pulled from each plot on July 17 for nematode counts.

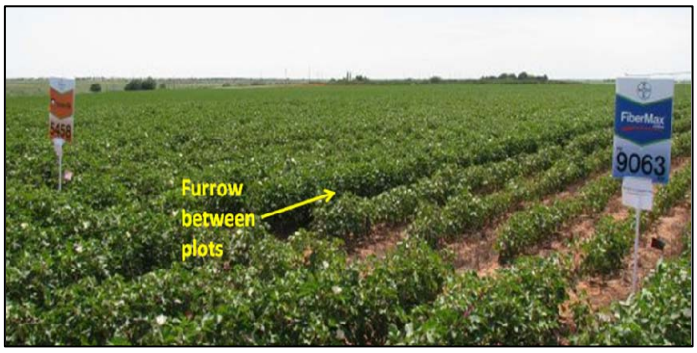

Figure 5. **ST 5458B2RF plot on the left and FM 9063B2RF on the right**

Gall Ratings by Chemical (conducted June 10)

Chemical	Galls/root
Untreated	35.6 ab
AERIS	29.2 b
AVICTA	38.9 a
Temik 15G 3.5 lb AI/A	18.1 c
Temik 15G 5 lb AI/A	15.6 c
Temik 15G 3.5 lb AI/A + Vydate	19.5 c

Gall Ratings by Variety (conducted June 10)

Variety	Average Number of Galls/root
FM 9063B2RF	30.5 a
ST 5458B2RF	24.8 b

Nematode Counts (conducted July 17th)

Variety	Nematodes
FM 9063B2RF	5720 a
ST 5458B2RF	3298 b

We also visited two of the cotton variety performance by water research fields and the Verticillium wilt cotton variety trial. I would like to thank Dr. Randy Boman, Dr. Jason Woodward, and Dr. Terry Wheeler for assisting me with these research fields. Below is a list of the cotton varieties being testing at each location. We are collecting rainfall and irrigation amounts at each of the fields. This will assist us in comparing variety performance as it relates to water availability. Due to time constraints we were not able to visit the nematode cotton variety site, however, I included the list of varieties being tested at this site in the table below.

Please feel free to contact me at mgcattaneo@ag.tamu.edu or 432-788-0800 if you would like to look at these fields.

Variety	**Dryland**	**Limited Irrigation**	**Irrigated**	**Verticillium Wilt**	**Nematode**
Cooperator	Jud Cheuvront	Ricky Mills	Gregory Upton	Max McGuire	Gregory Upton
FM 9160B2RF	x	x	x	x	x
FM 9170B2RF		x		x	
FM 9180B2RF	x	x	x	x	x
FM 1740B2RF	x		x		x
ST 5458B2RF					x
DP 174RF	x	x	x	x	x
DP 164B2RF	x	x		x	
DP 0924B2RF	x		x		x
DP 0935B2RF		x	x	x	x
NG 3348B2RF	x	x	x	x	x
NG 3410RF	x				
NG 2549B2RF		x	x	x	x
AM 1532B2RF	x			x	
PHY 375WRF	x	x	x		x
PHY 315RF				x	
All-Tex ApexB2RF		x	x		x
All-Tex EpicRF	x				
All-Tex PatriotRF				x	
DG 2570B2RF	x	x	x		x

Please join me in Thanking our 2009 Gaines County IPM Program Sponsors

Special Thanks to our Gold Sponsors of $1000

Carter & Co. Irrigation Inc.
Oasis Gin Inc.
Ocho Gin Company
Tri County Producers Coop

Thanks to our Silver Sponsors of $500

AG Aero
Nolen AG Services Inc.
Ocho Corp. Crop Plus Insurance
Western Peanut Growers

Thanks to our Bronze $250 Sponsors

Agriliance
Anderson Welding Pump and Machine
Birdsong Peanuts
City Bank, Lubbock
Crop Production Services, Inc.
First United Bank
Five Points Gin
Gaines County Farm Bureau
Ten High Gin Inc.
Valley Irrigation & Pump Service Inc.
West Gaines Seed and Delinting Inc.
West Texas Agriplex, Inc.
Whittenburg Crop Insurance

Thanks to our $100 Sponsors

McKinzie Insurance
Moore-Haralson Agency PC
Seminole Butane Co. Inc.
State Farm Insurance

Information for this newsletter was obtained from the following publications:

- **August 22, 2008 FOCUS on South Plains Agriculture**
  http://lubbock.tamu.edu/focus/Focus2008/August_22/August_22.pdf
- **August 10, 2001 FOCUS on Entomology**
  http://lubbock.tamu.edu/cottoncd/west/docs/focus/2001/2001_Aug10.pdf