FOCUS on South Plains Agriculture

A newsletter from the Texas AgriLife Research and Extension Center at Lubbock

Indian corn in transgenic corn research plots at Lubbock. Photo Credit: Patrick Porter

Volume 52 number 14 30 August 2013

---

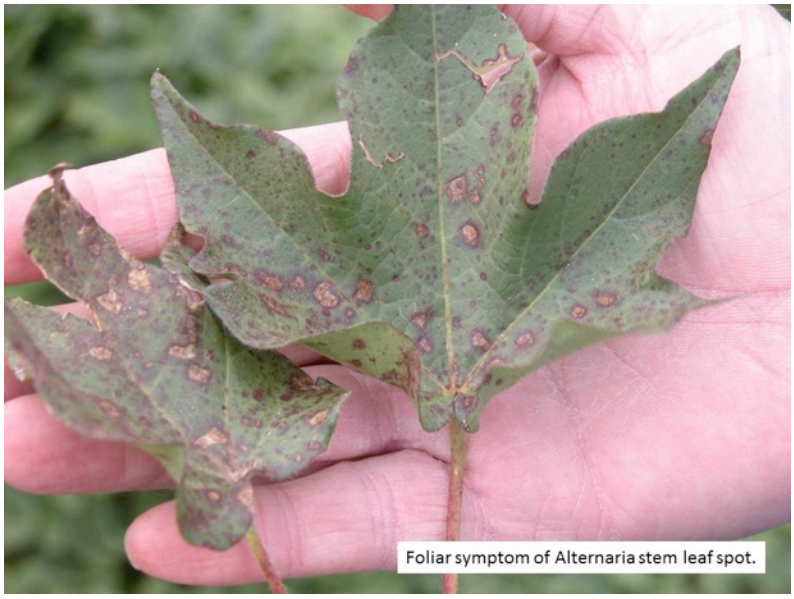
http://texashighplainsinsects.net

http://lubbock.tamu.edu/focus

Contents:

Cotton Disease Update

Alternaria stem blight reports coming in. There have been a few isolated occurrences of Alternaria stem blight (caused by *Alternaria macrospora*). This disease frequently occurs in the region. Areas of the disease generally occur in circular pattern and are easily confused with lightning strikes. These areas range in size from a few feet in diameter to approximately ¾ of an acre. Initial infections occur on the leaf margin and exhibit a distinct purple discoloration. As the diseases 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. Overall, *A. macrospora* is considered a weak pathogen, and typically requires some form of stress for the disease to develop. Historically, Alternaria stem blight has been most severe in years where drought stress has been experienced; however, rainfall is required to initiate infections. As a result there were no reports of this disease in 2011 or 2012; whereas, numerous fields were identified form 2006-2009. The disease has been observed on both conventional and transgenic varieties from both stripper and picker backgrounds. While infected plants may ultimately die, there is little effect on the overall yield as the disease does not spread throughout the field. A similar disease, Alternaria leaf spot, has been observed over the last few seasons as well. While this disease can cause rapid defoliation, the impacts on yield are minimal (as the defoliation often occurs late in the season, as the crop is senescing). Development of Alternaria leaf spot also occurs more frequently when the crop has undergone stressful conditions, such as drought, followed by a heavy rainfall typically in September. Additional observations of leaf spot have been made in cotton exhibiting symptoms of salt damage. While Alternaria stem blight and leaf spot are minor diseases, the increasing frequency of infected fields should be monitored. If you have any questions regarding these, or any other cotton diseases, please feel free to contact Jason Woodward, via e-mail at jewoodward@ag.tamu.edu, or telephone 806-632-0762. **JW**



Foliar symptom of Alternaria stem leaf spot.

Field symptoms of Alternaria stem blight in cotton. Note distinct circular pattern and purple discoloration.

Necrotic terminal of cotton plant associated with Alternaria stem blight.

Corn and Sorghum Insects

Late planted corn mite and fall armyworm risk

The threat of spider mites in corn is still with us, although not as high as in the last couple of weeks in most places. Corn that is at least two weeks from full dent stage should be scouted. The "two week" qualifier is because our current miticides take at least 10 days to exert full effect and corn is subject to yield loss from spider mites until it reaches full dent. Spider mites have been especially tough to control this year in some places, and many fields have already had two and sometimes three miticide applications.

Additionally, Monti Vandiver, IPM Agent in Bailey and Parmer counties, is reporting astounding numbers of fall armyworm larvae in one of his late planted corn fields that is just now reaching tassel. This matches up to what I am seeing in my early dent stage late planted corn at Lubbock; at least one fall armyworm larva (and as many as three) in every ear. This does not seem to be a regional phenomenon and may only be local (but see Worm-O-Rama below). There is not much that can be done once fall armyworms are in the ear, but late corn that is just tasseling should be scouted and treated promptly if necessary. We don't have economic thresholds for fall armyworm

but we do know they can do an awful lot of damage. The July 5th edition of FOCUS discusses our research on yield loss to fall armyworm and optimal spray timing.

Worm-O-Rama north of Amarillo

Ed Bynum, Extension Entomologist in Amarillo, is passing along reports of high numbers of caterpillars in some places. Stephen Cox, a crop consultant at Sunray, is reporting large numbers of whitelined sphinx larvae (a hornworm). Additionally, Scott Strawn, County Extension Agent - Ag in Ochiltree County, is also reporting large numbers of these hornworms and fall armyworms on the march across towns and roads. The scientific literature says that white-lined sphinx feeds on willow, apple, evening primrose, elm, grape, tomato, purslane and fuchsia. Fall armyworm feeds on a huge number of plants including many of our crop plants such as cotton, sorghum, corn and hay crops, and I would not be surprised to learn that it could eat pickups and handguns.

White-lined sphinx larva. Photo Credit: Jakob Bingham

Sorghum headworm control options

Sorghum has been experiencing above-threshold levels of headworms in many areas. See Managing Insect and Mite Pests of Texas Sorghum (page 23) for thresholds, scouting procedures and suggested insecticides (as of 2007). Monti Vandiver just wrote this excellent summary of considerations for scouting sorghum headworms.

“Estimating the economic injury level for headworms is complicated because the potential yield loss varies with the size of the larvae. That is why it is necessary to record the number of small (up to 1⁄4 inch), medium-size (¼ to ½ inch long) and large (1/2 inch long or longer) headworms. Small larvae consume very little grain (about 10 percent of the total) and about 80 percent of them die in this stage. Therefore, small larvae should not be considered in determining the economic injury level. If most headworms are this size, sample the field again in 3 to 4 days. About 19 percent of medium-size larvae survive beyond this stage. Thus, the potential grain loss from medium-size larvae is only 19 percent of the potential loss from large larvae. Most corn earworm larvae larger than ½ inch will survive to complete development, and these large larvae are most damaging; they consume 83 percent of the total grain consumed during larval development. If most of the larvae are larger than ¼ inch, determine which size (medium size or large) is most common and use the corresponding threshold to make treatment decisions. An Android based threshold calculator can be found at the Google Play Store; http://goo.gl/8mXvv . We also have a web app for other operating systems which can be accessed at http://goo.gl/5k7ZtU . The calculators will require inputs of control cost, grain value, and heads/acre. I have found that in many cases 45000-50000 is a good starting point for irrigated and 28000-32000 dryland; but a quick count of actual heads/ac would be best.” M. R. Vandiver

Some area sorghum also has significant levels of spider mites, and choosing the wrong headworm control option could make the spider mite situation significantly worse. This is a bit complicated, but chemical choice for headworms should depend upon 1) the proportion of fall armyworm to corn earworm in the field AND 2) the presence of mites.

1) **When spider mites are not present**. If mites are not present then a pyrethroid can be used without fear of flaring mites. However, pyrethroids, while generally effective on the corn earworm/cotton bollworm part of the headworm complex, are not especially effective on fall armyworms, especially medium to large fall armyworms. Pyrethroids should not be the sole insecticide in situations where fall armyworm comprises a significant percentage of the headworm population. Tank mix options are Lannate, Lorsban etc. presented in our guide referenced above. Belt or Belt + pyrethroid is also a good option.

2) **If spider mites are present in established colonies**. It now becomes important to preserve the beneficial insects because these usually provide significant control of mites (and our miticides take many days to begin working). In the case where mites are present, then, if a pyrethroid or Lannate, Lorsban or any chemical hard on beneficials is to be used, it should probably be combined with a miticide such as Comite or Onager. (Onager was recently labeled for sorghum.) A different approach would be to forego the insecticides that are hard on beneficials and use Belt, which provides good control of both fall armyworm and corn earworm/cotton bollworm in headed sorghum. (Other insecticides are available as well but we don’t have enough recent headworm experimental data to suggest them yet. I am certainly not saying not to use them, I am just saying that we don’t have the data. Additionally, I should also note that Prevathon and Besiege, which are very good on fall armyworm and corn earworm, are not yet labeled on sorghum but should be labeled by next year.)

The fact of the matter is that headworm control is, in one way, fairly easy. We get excellent coverage because the heads are directly exposed to the insecticide(s). The issues become sorting out the need to control fall armyworm in addition to corn earworm while simultaneously avoiding flaring mites if they are present in the field. So easy is not always so easy. RPP

FOCUS on South Plains Agriculture

Fair use policy

Editors: Patrick Porter and Apurba Barman

SEND US A COMMENT BY E-MAIL

Contributing Authors

Patrick Porter (RPP), Extension Entomologist

Monti Vandiver, Extension Agent IPM, Bailey and Parmer Counties
Jason Woodward (JW), Extension Plant Pathologist

Useful Web Links

Water Management Website, TAMU, Irrigation at Lubbock, IPM How-To Videos, Lubbock Center Homepage, Texas AgriLife Research Home , Texas AgriLife Extension Home, Plains Cotton Growers

County IPM Newsletters

Castro/Lamb, Dawson/Lynn, Crosby/Floyd, Gaines, Hale/Swisher, Hockley/Cochran, Lubbock, Parmer/Bailey, Terry/Yoakum