Cotton Comments

OSU Southwest Oklahoma Research and Extension Center
Altus, OK

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Crop Update

Over the past several days, the summer weather arrived with a vengeance. Based on Mesonet data, August 1st had the highest single day in 2016 for evapotranspiration (ET) for cotton planted May 15th. The Mesonet Irrigation Planner indicated August 1st had 0.36", 0.48", and 0.42" at Altus, Tipton, and Hollis, respectively. With all irrigated cotton blooming, we are now at peak water use for the crop. For the past week, ET at Altus totaled 1.85", 2.27" at Tipton, and 2.13" at Hollis. Dryland cotton in many areas is holding up very well, but other areas that were shorted with rainfall during July are hitting high stress at this time. Some dryland fields came into bloom at 9 nodes above white flower, which indicates outstanding yield potential. This also indicates that we have sizeable plants out there. This large biomass comes with a high moisture requirement. Hopefully we will get some badly needed precipitation across the area to keep the dryland crop moving in the right direction. It appears that we have somewhere around 278,000 acres planted in 2016 based on Oklahoma Boll Weevil Eradication Organization data. This is up nearly 30% from our 215,000 acres planted.

RB

Insect Update

Reports are being received that an outbreak of stinkbugs occurred two weeks ago in a large number of fields. Jackson County cotton traditionally has low stink bug populations, and stink bugs usually don't have widespread migration in the area. This coincides with Bacterial blight being observed in numerous fields. Bacterial blight symptoms could potentially be confused with stink bug damage on bolls unless properly examined. It is important to understand the differences in these maladies.

Photos courtesy University of Tennessee

Stink bug feeding results in carpel wall punctures, whereas lesions from Bacterial blight infections initiate on the outer surface of the carpel wall. Suspected stink bug damaged bolls should be opened and closely examined for wart-like growths on the interior of the carpel wall (see photo above). For more information and photographs of Bacterial blight, see the July 15th Cotton Comments Newsletter. Click here for more information.

A poorly timed disruptive spray could cause the unnecessary elimination of beneficial arthropods. This disruption in beneficials could cause a later outbreak of aphids and/or spider mites.

Weekly scouting should continue for all pests as the crop has now moved into the boll production stage. Moth counts continue to be below the long-term average with the exception of the Beet armyworm pheromone trap at Tipton.

Stink Bugs

Stink bugs in Oklahoma cotton were not a concern until the advent of Bt varieties. Transgenic Bt cotton resulted in fewer insecticide applications for control of lepidopterous pests and soon after, stink bugs were occasionally noted as damaging pests. Although not typically found in economically damaging populations in most southwestern Oklahoma fields, some areas do have issues.

Green Stink Bug

Conchuela Stink Bug

Brown Stink Bug

Photo courtesy http://stinkbugsguide.net/

The following information was taken from the Online Texas A&M AgriLife Extension Cotton Insect Management Guide, which is available here:

Texas A&M AgriLife Extension Stink Bug Management Guide

This website also provides action thresholds and chemical control suggestions for this pest. Stink bugs are shield-shaped, flat and vary in size around 3/8 to 5/8-inch in length, and are about one-half as wide as their length. While the adult brown stink bug is light brown in color, the green and southern green stink bugs are bright green and similar in appearance. They can be distinguished from one another by color of the bands on their antennae. The southern green stink bug has red bands while the green stink bug has black bands. The conchuela stink bug adult is dark brown to black with a red border and a red spot on the tip of the abdomen. The harlequin bug is primarily a pest of mustards and cole crops and will occasionally infest cotton. Adult stink bugs may live for several weeks. Stink bugs get their name from the foul smelling substance they exude from glands on their thorax. This chemical smell is meant to deter predators and warn other stink bugs of danger. This scent gland also plays a role in females attracting mates.

The reason stink bugs appear to concentrate in one part of the field and not others is due to the female's egg laying habits. A single female may lay 300 to 600 eggs, in clusters of 30 to 80 eggs. Egg clusters appear as rows of pale-green, pink or white barrels laid primarily on the underside of leaves. Eggs will typically hatch in 2 to 4 days under ideal conditions, but may require up 2 weeks when temperatures are cool.

Hatching southern green stink bugs
Photo courtesy Texas A&M AgriLife Extension

Stink bugs have piercing-sucking mouthparts and damage cotton by piercing bolls and feeding on the developing seeds. Their feeding activity usually causes small bolls to abort but can result in dark spots about 1/16-inch in diameter on the outside of larger bolls where feeding occurred. These dark spots do not correlate well with the wart formation on the inside of the boll to be used in scouting. There may be several spots on a boll without internal feeding. The external lesions are associated with wart-like growths on the inner carpal wall where penetration occurred. Seed feeding may result in reduced lint production and stained lint near the feeding site. Stink bugs are also known to facilitate the infection of boll rotting microorganisms. Because of their size, adults and fourth and fifth instar nymphs have the greatest potential for damaging bolls.

Oklahoma generally only has green and brown stink bugs that can cause economic damage in some areas. However all stink bugs are found in Oklahoma. Many products used to control stink bugs can be disruptive to beneficial arthropods, therefore, contact Extension personnel if a question arises.

Cotton Aphids


Photos courtesy of University of Arkansas

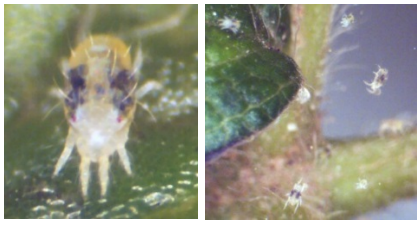
Cotton aphids are small, soft-bodied insects commonly referred to as “plant lice”. Aphids occasionally occur on cotton in such high numbers that control measures should be implemented. Build ups are localized and usually occur after the use of insecticides that are harsh on beneficial arthropods, including pyrethroid types. The insects are found on the underside of leaves and along the terminal stem, causing misshapen leaves with a downward curl and stunted plants. The insect damages cotton directly by sucking juices from the plant and indirectly by secreting honeydew. The honeydew is sticky and can lower the grade of lint. Sticky cotton may result in significant problems during the spinning process at mills. A sooty mold can develop on the aphid honeydew and discolor the lint. For more information please click on following.

Texas A&M AgriLife Extension Aphid Management Guide

Due to the high probability of beneficial arthropod control of cotton aphids, if this pest is found, any potential control measures should be carefully considered. If you have any questions concerning aphid populations, call this office.

Spider Mites

Spider mites can be distinguished from insects since they have eight legs rather than six.



Spider mites often attack cotton when insecticides have removed beneficial arthropod populations which normally keep this pest in check. Infestations are generally aided by hot, dry weather. In most cases, infestations will be localized in a field. Spider mites damage cotton by feeding on the plant juices and the foliage will turn a reddish or yellowish color under a heavy infestation. Mites are small in size and are generally found on the underside of the leaves. A close inspection is necessary to determine if mites are present. Before considering control measures please contact this office.

For a complete guide to spider mites, click here:

Texas A&M AgriLife Extension Spider Mite Management Guide

Beneficial Arthropods

Preservation of beneficial arthropods becomes crucial now to curb future potential outbreaks of cotton aphids and spider mites. Click on the following link to better understand the role of beneficials to control cotton aphids.

University of Arkansas Aphid Threshold and Putting Beneficial Insects to Work

Also take into account the presence of other beneficial insects.

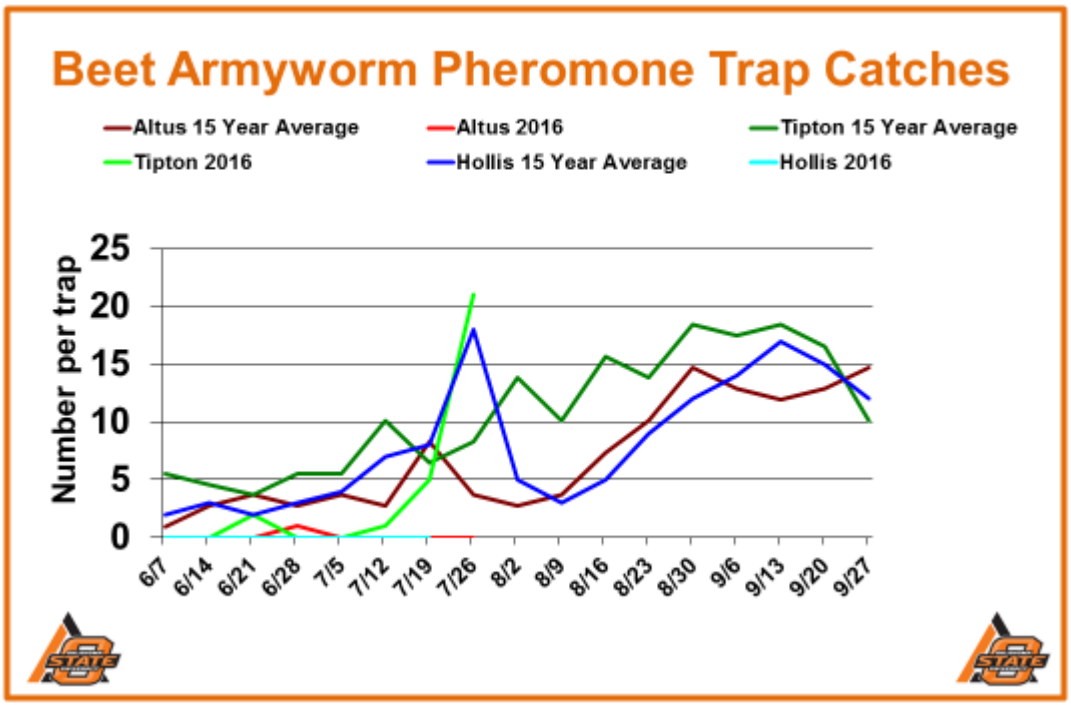
Lady Beetle larva

Lacewing larva

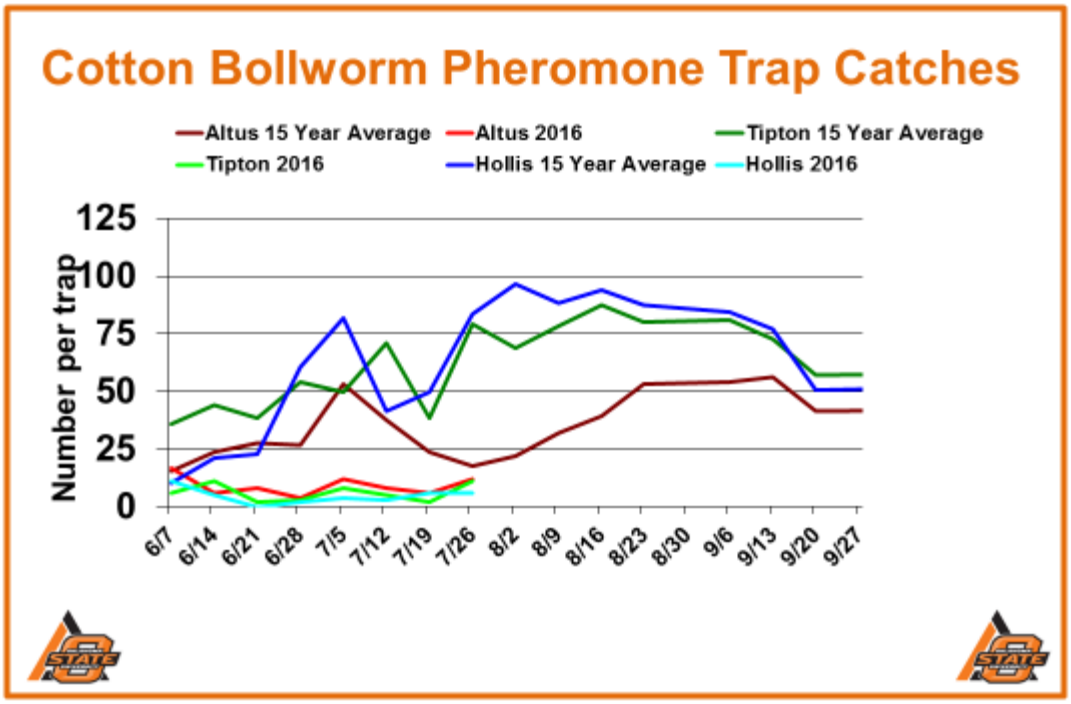
Field Surveys – Week Ending July 29, 2016

Location	Date of planting	Plant Stage	Insects	Comments
Blaine Irrigated Cotton Inc Enhanced Variety - Schantz	May 26	7.00 NAWF	None Detected	Good
Blaine Irrigated Dow Innovation - Schantz	May 26	8.25 NAWF	None Detected	Good
Caddo Irrigated OVT – OSU Caddo Research Station	May 26	6.75 NAWF	None Detected	Good
Harmon Irrigated RACE – Cox	May 27	8.25 NAWF	None Detected	Good
Harmon Irrigated CAP – Horton	April 28	8.50 NAWF	None Detected	Good
Jackson Irrigated RACE – Darby	May 31	8.50 NAWF	None Detected	Good
Jackson Irrigated PhytoGen Innovation - Darby	May 31	8.50 NAWF	None Detected	Good
Jackson Irrigated OVT – OSU SWREC	May 27	7.00 NAWF	None Detected	Fair
Jackson Dryland RACE - Abernathy	June 9	Pre-Bloom	None Detected	Good
Jackson Irrigated Cotton Inc Enhanced Variety - Abernathy	May 27	8.75 NAWF	None Detected	Good
Jackson Irrigated PhytoGen Innovation Trial – OSU SWREC	May 31	9.00 NAWF	None Detected	Good
Jackson Irrigated Entomology Trials – OSU SWREC	June 7	Pre-Bloom	None Detected	Fair
Tillman Irrigated RACE – Nichols	June 6	Hail damage from July 8 storm event		
Tillman Dryland OVT – OSU Tipton Valley Research Center	June 8	9.00 NAWF	None Detected	Good

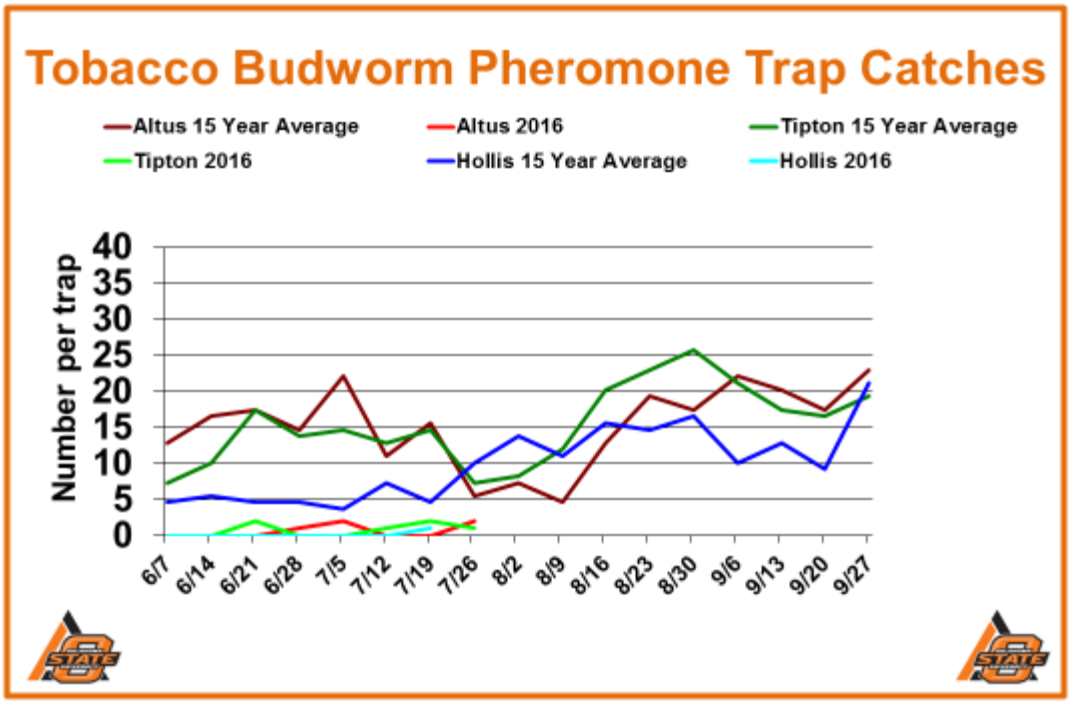
RACE – Replicated Agronomic Cotton Evaluation Trial (Oklahoma Cooperative Extension)
CAP – Cotton Agronomic Plot (Bayer CropScience)
OVT – Official Variety Trial (Oklahoma Agricultural Experiment Station, Altus, Tipton, Fort Cobb)



Beet armyworm moth



Cotton bollworm moth



Tobacco budworm moth

JG

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