



Cotton Comments

OSU Southwest Oklahoma Research and Extension Center
Altus, OK

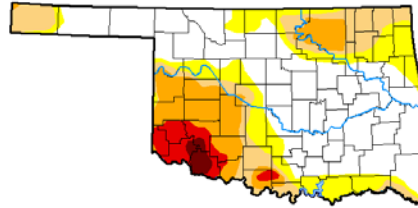


August 23, 2018

Volume 8 No.9

2018 Current Situation

U.S. Drought Monitor Oklahoma



August 21, 2018
(Released Thursday, Aug. 23, 2018)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	50.09	49.91	32.00	18.58	5.77	1.28
Last Week 08-14-2018	30.28	69.72	45.86	25.68	6.30	2.55
3 Months Ago 05-22-2018	45.24	53.76	45.55	40.54	31.09	14.25
Start of Calendar Year 01-02-2018	0.00	100.00	77.15	38.76	0.00	0.00
Start of Water Year 09-26-2017	64.46	35.54	0.77	0.00	0.00	0.00
One Year Ago 08-22-2017	95.03	3.97	0.00	0.00	0.00	0.00

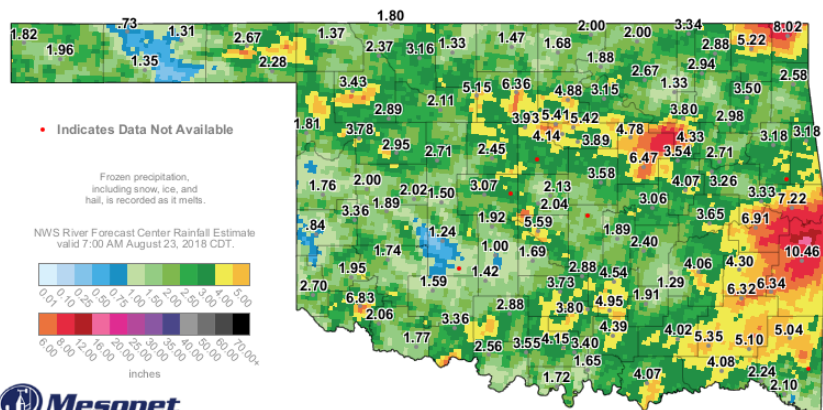
Intensity
 D0 Abnormally Dry D3 Extreme Drought
 D1 Moderate Drought D4 Exceptional Drought
 D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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NCEI/NOAA



<http://droughtmonitor.unl.edu/>



14-Day Rainfall Accumulation (inches)

8:20 AM August 23, 2018 CDT
Created 8:25:10 AM August 23, 2018. CD11. © Copyright 2018

The past two weeks saw record rainfall for August in SOME parts of the state, however the drought persist in others. Hopefully the falls rains will be more generous and the whole state will recover.

Crop Update

The Bollworm complex is becoming more present throughout the state. The general scenario is to find live worms but no damage squares OR find damage squares and no live worms. This indicates that the technology is working where there is live worms and damage squares means the technology is overwhelmed. **The economic threshold is 6% damaged squares with live worms present in Bt cotton.** Please refer to [Cotton Comments Volume 8 edition 8 July 26, 2018](#) for more detail discussion. The crop stage is critical to warrant a control spray. Cotton that is at cutout or past cutout the likelihood that economic damages occurring is very low. Please call this office if in doubt if a control spray is needed. Stinkbug control sprays continue especially along the counties along the I- 40 corridor. We need to once again caution about using **pyrethroids even with a combination of aphicide** to control stinkbugs. This is not because they will not do the job but it is due to the likely aphid infestation that can later occur. Pyrethroids are just too harsh on beneficial arthropods to be viable. It is not the aphids in the field at the time of application one has to worry about – it is the subsequent aphids that move into the field to recolonize it. Adult aphids are always on the move. Aphid reports were on the increase but due to the recent rainfall the population in most areas have decrease. The population in some fields however have rebounded more rapidly and control measure had to be used. Spider mite infestation have also been decrease with the rain. The general feeling is that beneficial arthropods are slow to develop this year especially the Lacewing population. Hopefully this will turn around and aphid population will further decrease. .

Verticillium Wilt is also being reported in some areas. Please read below for more of a discussion.

As more fields are turning into “flower” garden and with accumulation of heat units, more and more bolls are insect safe. Now, the major concern is prevention of “sticky” cotton. Late season aphid control now becomes critical but prudent management is necessary to reduce unnecessary chemical inputs.

I cannot stress enough scouting of the field must be on a weekly basis until termination of the crop.

Late Season Aphid Concerns



Photos Courtesy of Texas A&M AgriLife Extension

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 on aphids, please click on the following link.

[Texas A&M AgriLife Extension Aphid Management Guide](#)

One chemical not mentioned in the above guide is Sivanto™ from Bayer CropScience. It is also labeled for control of cotton aphids. The product rate of 7 to 14 fluid ounces per acre is noted on the label.

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.

Beneficial Arthropods

Preservation of beneficial arthropods becomes crucial to curb future potential outbreaks of cotton aphids and spider mites. The main beneficial predators are Ladybug larvae and Lacewing larvae. The Lacewing larvae tends to be more aggressive and more of an effective predator. Beneficial's population generally will lag ten days behind the initial infestation of aphids.



Lady Beetle larva



Lacewing larva

Late season aphid infestation may result in “sticky cotton” which is caused by aphid honeydew. Prevention of “sticky cotton” is a high priority.



Photos Courtesy of University of California Davis (UC Davis)

The University of Arizona has an excellent publication to explain sticky cotton.

[For Sticky Cotton Sources & Solutions. Please click here.](#)

If an aphid infestation does occur please call this office.

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

Photo courtesy <http://stinkbugsguide.net/>



Conchuela Stink Bug

Photo courtesy of University of California



Brown Stink Bug

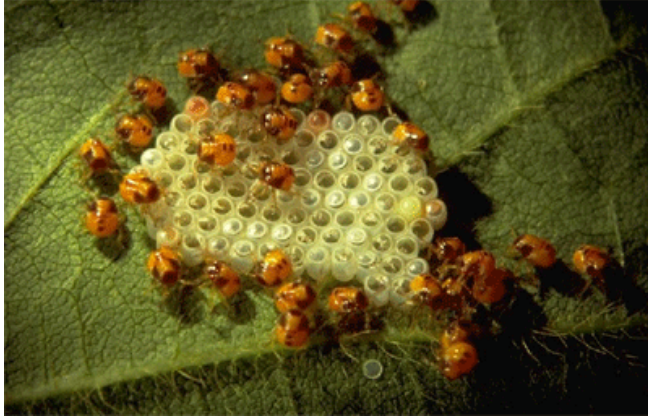
Photo courtesy <http://stinkbugsguide.net/>

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

<http://cottonbugs.tamu.edu/fruit-feeding-pests/stinkbugs/>

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 to 2 weeks when temperatures are cool.



Hatching southern green stink bugs



Stink bug inside damage boll.

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.

Verticillium Wilt Observed

Since August has been fairly cool and we have plenty of moisture in some parts of the state, Verticillium wilt (caused by the fungus *Verticillium dahliae*) has had an opportunity to infect plants in fields where the disease is present. This disease is commonly found in fields that have previously produced cotton, as the fungus can lie dormant in the soil for some time. Where good crop rotation is practiced the disease pressure can be significantly reduced. Rotations with grasses, legumes, and crucifer crops can reduce the inoculum. If fields have significant disease pressure, variety selection is important, and currently is the only economical method to manage this production challenge. Cotton varieties vary greatly with respect to tolerance to the disease. Dr. Terry Wheeler and Dr. Jason Woodward annually publish research trial results. For the 2017 trial publication, click here:

[Verticillium Wilt Trial Results](#)

This disease basically overwinters as a microsclerotia. The microsclerotia then infects plants the next summer. As noted by the name, this is a wilt disease, which means the fungus essentially germinates in the soil and infects via the root system. The disease then plugs the water conveying vessels (xylem) and the hyphae then grow up through the plant. This choking of the water supply in turn causes the plant to wilt. Lower leaves show the first symptoms, which later move up the plant, impacting younger leaves. This disease causes severe wilting and can eventually prematurely defoliate the plant, which in turn reduces the photosynthetic capacity. Boll production can be severely reduced under high disease pressure. Both boll weight and quality are negatively affected.



Early leaf symptoms of Verticillium wilt.



Later leaf symptoms of Verticillium wilt.



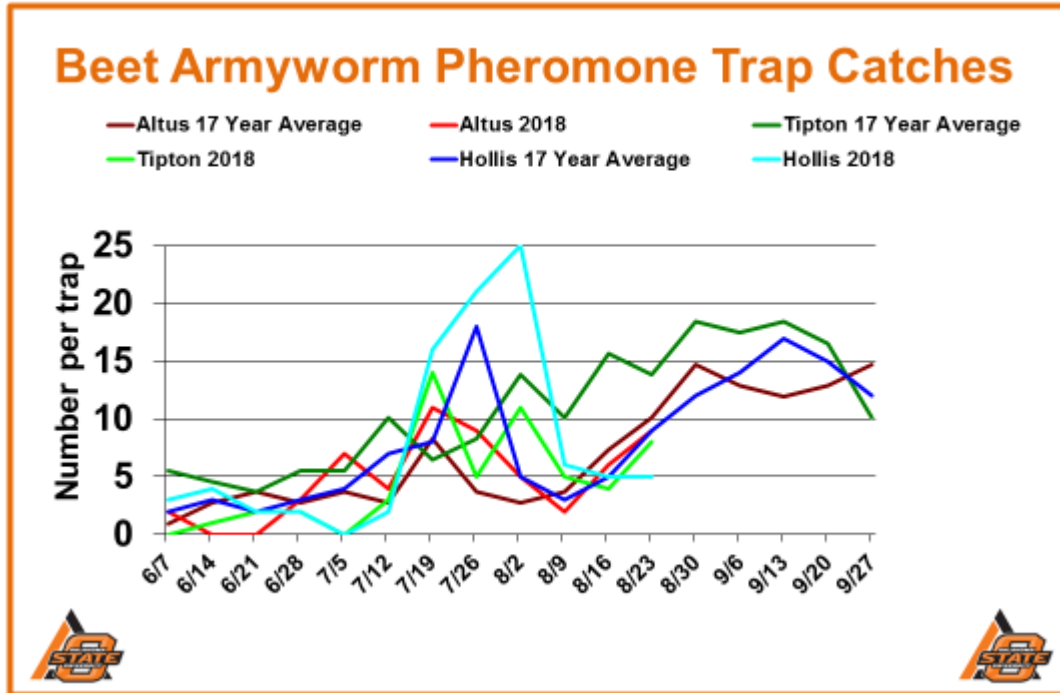
Severe Verticillium wilt symptoms on leaf.



Longitudinal cut of main stem below leaf symptomology shows brown flecking caused by fungal growth and clogging of vascular tissue.

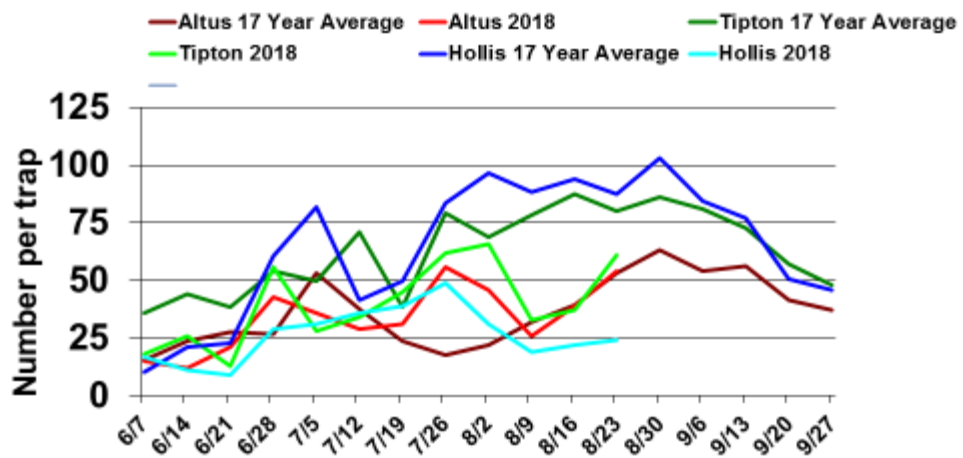
Moth Trap Counts 2018

Moth numbers are on the increase with the next moth flight from Texas. *The drought will affect the bollworm moth distribution where they will seek out lush fields over drought stressed fields. The distribution of moths will be more narrow and some fields will have more than their "share".*



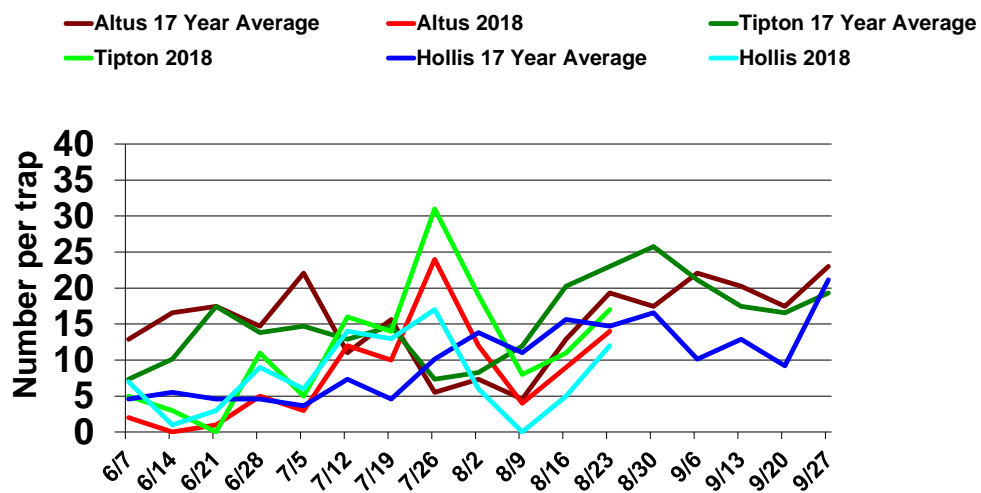
Beet armyworm moth
Photo courtesy of University of Georgia

Cotton Bollworm Pheromone Trap Catches



Cotton bollworm moth
Photo courtesy of University of Georgia

Tobacco Budworm Pheromone Trap Catches



Tobacco budworm moth
 Photo courtesy of University of Georgia

Fall Armyworm Trap Results 2018

Date Week ending	Jackson	Tillman	Harmon	Caddo
6/8	5	0	7	5
6/15	2	3	4	7
6/22	9	4	5	11
6/29	16	12	9	18
7/6	11	16	18	25
7/13	19	31	21	34
7/20	14	20	18	16
7/27	9	14	16	29
8/3	7	11	15	23
8/10	3	2	6	14
8/17	9	13	6	21
8/24	14	17	10	19

Jackson OSU Southwest Research and Extension Center
Tillman OSU Southwest Agronomy Research Station
Harmon Harmon County Fair Complex
Caddo Caddo Research Station



Photos courtesy Oklahoma State University

Upcoming meetings

August 28 Jackson County Pre-Season Wheat and Late Season Cotton Management Meeting. [Click here for details.](#)

September 10 Canadian County Harvest Aid Meeting. [Click here for details.](#)

September 11 Harvest Aid meeting at the Burns Flat, Oklahoma WTC Campus 10:00-1:00pm Lunch will be served.

Contact for details the following;

Greg Hartman Beckham County

Dan Cook Roger Mills County

Ron Wright Custer County

Travis Tacker Kiowa County

Washita County contact Heath Sanders SW Area Extension Agronomy Specialist.

September 13 Carnegie Cotton Gin Fall Harvest Tour. [Click here for details.](#)

September 13 Caddo Research Station Peanut and Cotton Field Tour. [Click here for details.](#)

Harvest aid trials are being planned for the following areas.

Caddo County – Caddo Research Station (small plot replicated, irrigated)

Tillman County – OSU Tipton Valley Research and Extension Center (small plot replicated, dryland)

Jackson County – OSU SW Research and Extension Center (strip trial, irrigated)

Beaver County – Grower's field (strip trial, irrigated)

Major County – Grower's field (strip trial, dryland)

Noble County – Grower's field (strip trial, dryland)

As these trials are implemented more details will be offered. At site meetings are also being planned. Please visit a site near you.

If you have questions concerning insect control issues, please call the OSU Southwest Research and Extension Center or contact your local OSU County Extension Educator. The Cotton Comments Newsletter is maintained by Jerry Goodson, Extension Assistant. If you would like to receive this newsletter via email, send a request to:

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