



# Cotton Comments

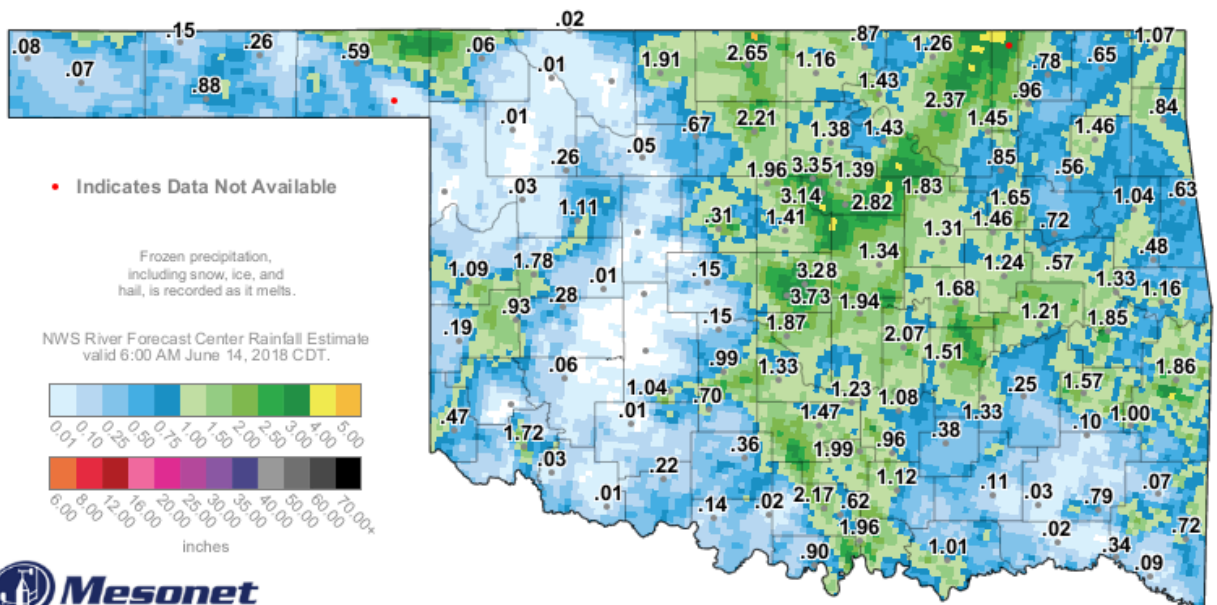
OSU Southwest Oklahoma Research and Extension Center  
Altus, OK



June 14, 2018

Volume 8 No.5

## 2018 Current Situation

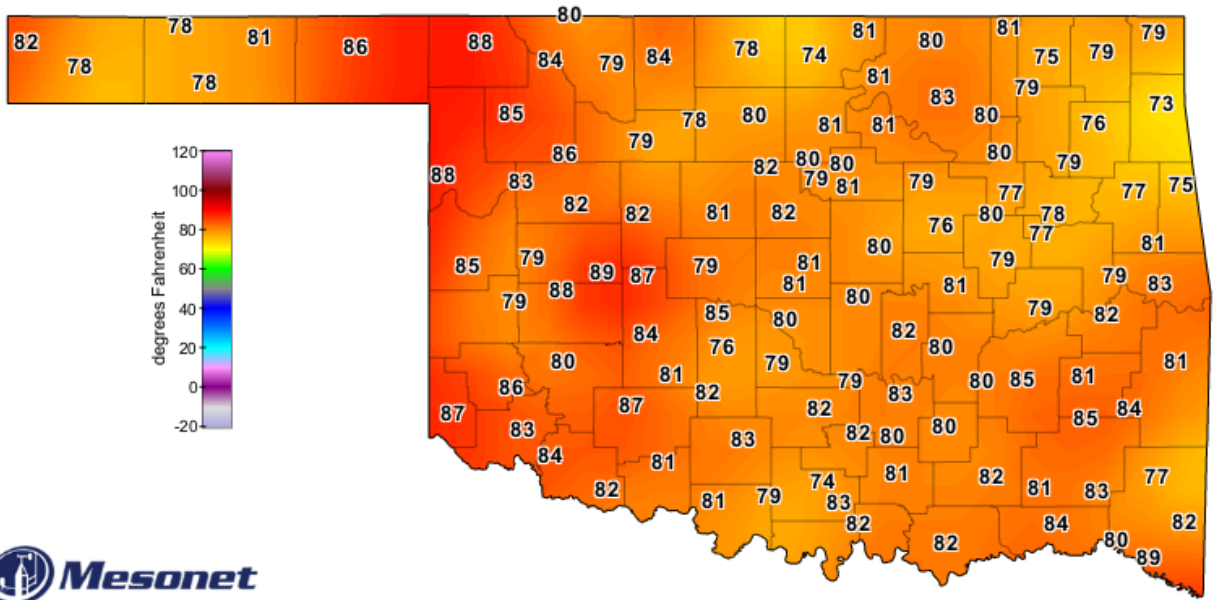


14-Day Rainfall Accumulation (inches)

7:25 AM June 14, 2018 CDT  
Created 7:30:34 AM June 14, 2018 CDT. © Copyright 2018

Much needed rain has falling over most of the state with the exception of some areas. The forecast is calling for rain and cooler temperature starting from Sunday June 17 and continuing through Thursday June 21. Hopefully these events will occur.

Soil temperature have reached temperature that has not only retarded root development but as also caused mortality in some fields. The forecast will help with these conditions.

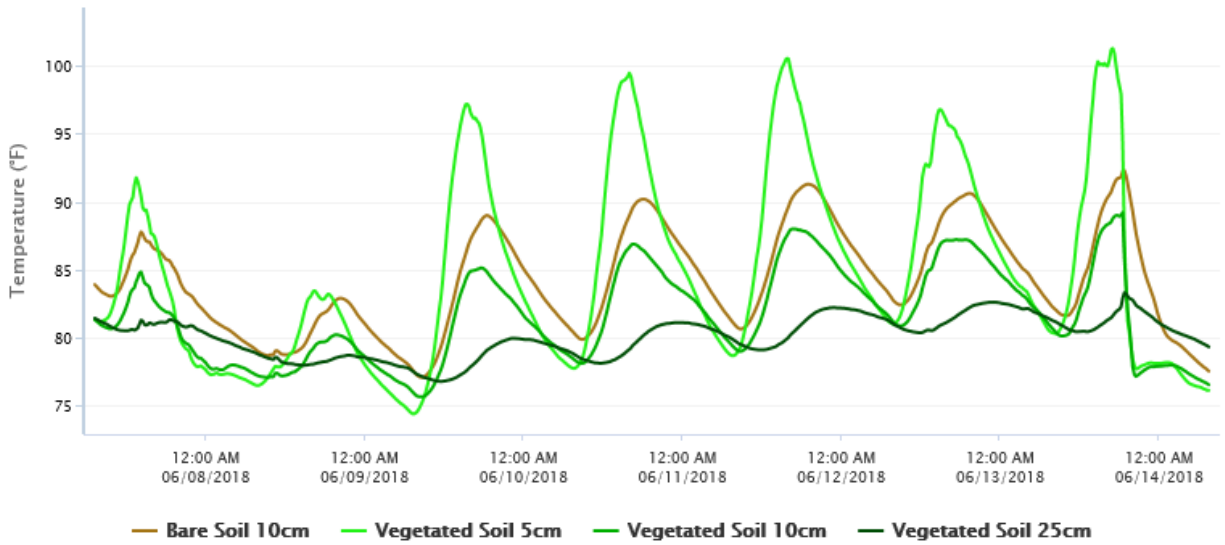


3-day Average 4-inch Soil Temperature (°F)

as of 12:00 AM June 14, 2018

Created 6:55:05 AM June 14, 2018 CDT. © Copyright 2018

### Soil Temperature for Altus



www.mesonet.org

## Crop Update

Extreme heat with dry and windy conditions have caused 2018 cotton season to be a challenge in most of the state. Off target herbicide contamination has also added to the many difficulties on this year's crop. Hopefully with the weather "breaking" growing condition will improve and the crop will get back on track. The old adage that cotton is a heat "loving" plant is false. Cotton is a heat *tolerant* plant. Nothing including myself does well in this heat and conditions.

I cannot stress enough *after emergence scouting of the field must start and continue on a weekly basis until termination of the crop.*

Thrips infestation have been light to nonexistent state wide with few exceptions in Tillman county and other areas. False chinch bugs have not developed which is good news. Conditions like this year usually brings problems from this pest.

Where adequate moisture is available and weather condition that have not been extreme the crop development is doing excellent.



Advanced Strains Trial, Ft Cobb Oklahoma 2018.

## Transform Receives Emergency Use Permits for Cotton and Sorghum, 2018

Tom A. Royer, Extension Entomologist  
Department of Entomology & Plant Pathology  
Oklahoma State University - 127 Noble Research Center

The EPA has granted Oklahoma a Section 18 Emergency Use Permit (EUP) for **Transform WG** to control plant bugs in cotton, and in sorghum, to control sugarcane aphid during the 2018 growing season.

In cotton, Transform can be applied at 1.5-2.25 fl. oz. per acre to control “plant bugs”, which includes several *Lygus* species (pale legume bug, tarnished plant bug, and western tarnished plant bug) as well as the rapid plant bug. EPA granted this EUP in part due to the expected increase in planted acres of cotton in Oklahoma, especially in areas where alfalfa is also grown.

**This Emergency Use Permit expires October 30, 2018.**

Plant bugs cause deformed bolls, square and boll shedding, stunted plant growth and small black spots on the bolls. Oklahoma does not have a treatment threshold set for plant bugs. Texas A&M suggests sampling with a sweep net or drop cloth. Sweep net is best before bloom, and drop cloth works better after peak bloom. The following table summarizes suggested thresholds:

Cotton Growth Stage	Sampling method	
	Drop Cloth	Sweep Net
1 <sup>st</sup> two weeks of squaring	1-2 bugs per 6 ft-row + unacceptable square set	8 per 100 sweeps with unacceptable square set
3 <sup>rd</sup> week of squaring to first bloom	2 bugs per 6 ft-row + unacceptable square set	15 per 100 sweeps with unacceptable square set
After peak bloom	2 bugs per 6 ft-row + unacceptable fruit set in the first 4-5 weeks	15-20 per 100 sweeps with unacceptable fruit set in the first 4-5 weeks

Rapid plant bug (1/4 inches)



Paul Langlois, Museum Collections, USDA APHIS, bugwood.org

Tarnished plant bug (1/4 inches)



Russ Ottens, University of Georgia, bugwood.org

Pale legume bug, (1/4 inches)



Whitney Cranshaw, Colorado State University, bugwood.org

Western tarnished plant bug (1/4 inches)

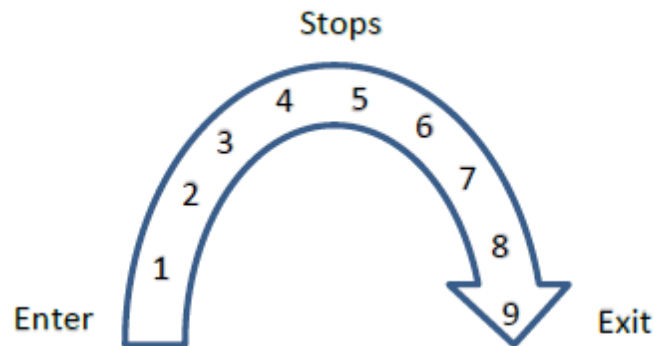


Whitney Cranshaw, Colorado State University, bugwood.org

In sorghum, Transform to be applied at 0.75-1.5 fl. oz. per acre to control sugarcane aphid. Current thresholds for sugarcane aphid are It has a restricted entry interval (REI) of 24 hours. It should not be applied within 14 days of grain harvest, or 7 days if grazed or harvested for grain. **This Emergency Use Permit expires November 30, 2018.**

We encourage growers to inspect their sorghum fields once a week. When aphids are detected, increase sampling to two times per week. Look at three consecutive plants and examine one upper and one lower leaf on each plant. Estimate the average number of aphids found per plant. Then move 5 feet and sample three more consecutive plants. This is considered one "stop". Next, move 50 feet from the first spot using an inverted "U" shaped pattern in the field and sample six more plants for the next stop. Collect counts for nine stops (for 54 plants) and estimate the percentage of plants that averaged at least 50-125 aphids per plant.

plants with 50-125 aphids/54 \* 100.....



The current recommendation for control of sugarcane aphid is ***to treat if 20% of plants are infested with 50-125 aphids per leaf before panicle emergence, and if 30% of plants are infested with 50-125 aphids per leaf after panicle emergence.*** Do not spray until suggested thresholds are reached, but if needed; apply the spray with the highest amount of water carrier as possible (5 or more gallons/acre by air, or 10 or more gallons/acre by ground). Spraying too early and with inadequate coverage may require a second application from aphid recolonization.

In order to minimize pollinator protection, this product should be applied before 7:00 am or after 7:00 pm, or in the unlikely situation that temperatures drop below 55 degrees F at the site of the application (an extremely rare event until later in the fall). In addition, **for cotton**, the applicator should attempt to notify any beekeepers with hives within 1 mile of the treatment area at least 48 hours before the product is applied. **In sorghum**, Transform should not be applied during flowering (less than 3 days pre-bloom until after seed set).

## Early Season Pest – Fleahopper

This year's crop development in some areas is exceedingly "slow" but development is occurring. Hopefully with the recent rainfall and normal temperatures will enhance cotton growth. As the crop reaches the squaring stage, the next pest to be concerned about is the cotton fleahopper.



**Cotton Fleahopper**

Since the introduction of Bt cotton and boll weevil eradication the cotton fleahopper has become the number one pest in Oklahoma. The cotton fleahopper usually feeds on young succulent weeds such as croton, goatweed, and horsenettle in early spring. These weeds also provide an overwintering site for eggs. As the weeds mature, adults migrate to cotton which is beginning to develop pinhead squares. Fleahoppers insert their sucking mouthparts into the small squares. These damaged squares later turn brown and are shed from the plant.



Photos courtesy Dr. David Kerns, Agriculture and Life Science Texas A&M

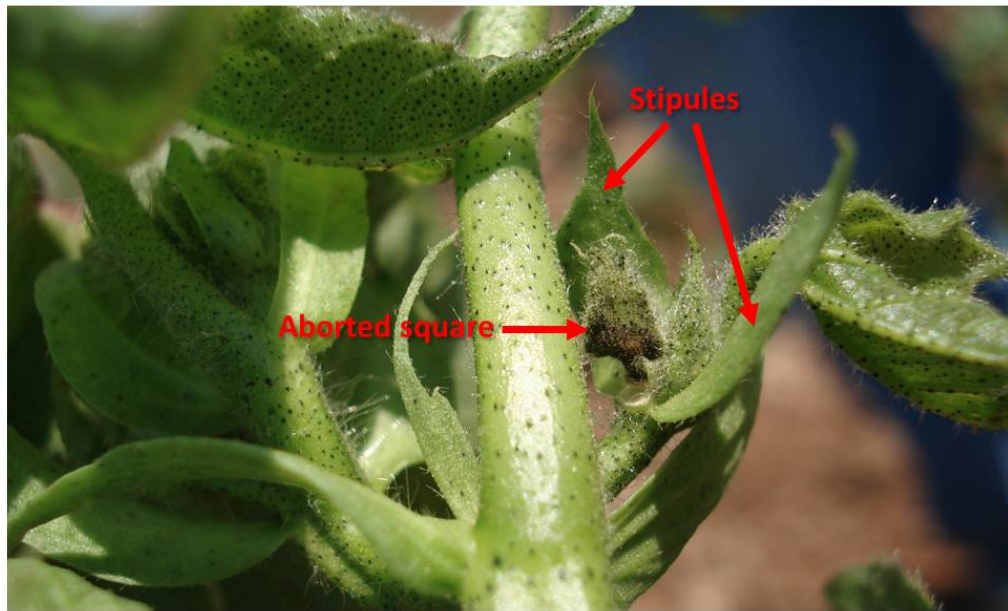


Photo courtesy of Shane Osborne

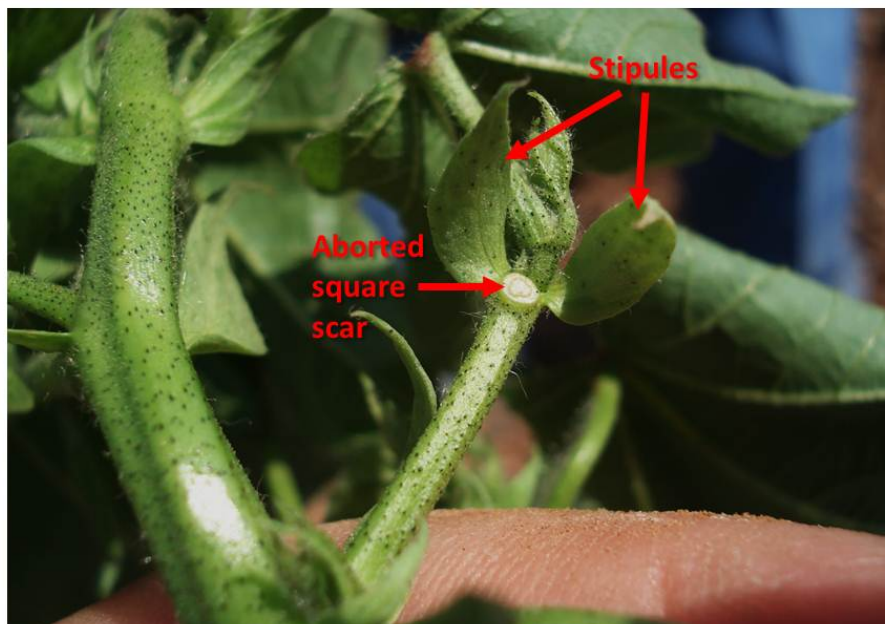


Photo courtesy of Shane Osborne





In addition to squares, the cotton fleahopper will also feed on other parts of the plant. If heavy infestations exist, new growth will be abnormal and whip-like in appearance. All stages of the life cycle will feed on the plant as long as it remains succulent. As cotton matures, these insects migrate to weeds or other host crops. In southwest Oklahoma, the highest population typically occurs in cotton in early August, although this is not generally a problem that late in the season.

The life cycle begins with the female placing her eggs into the plant tissue by means of an ovipositor. The eggs hatch in approximately 1 week, and small nymphs (which are similar to the adults, except for being wingless) undergo five molts before reaching the adult stage. Egg to adult takes approximately 3 weeks with six to eight generations per year. The cotton fleahopper adults are approximately one-eighth inch long, winged, and pale green in color. They are covered with small black spots and have four characteristic black spots near the wing tip. The nymphs are about one-twenty-fifth of an inch long, wingless, and pale green in color.

Numerous chemicals are registered for control of fleahoppers. In an ideal situation, fleahoppers should be controlled only when thresholds are exceeded in order to preserve beneficial insects since these will help control later occurring pests. Unless the cotton is extremely late, after July 25, control of cotton fleahoppers generally is not economical.

Spray decisions should be based on the squaring rate and level of cotton fleahopper infestation. Usually when cotton fleahoppers (adults and nymphs) reach or exceed 30 per 100 terminals and squaring rates begin to decline, treatment is justified. However, if cotton fleahopper numbers build slowly, fields can tolerate higher numbers before a reduction in squaring rate will occur. In most cases, fields will no longer be vulnerable to cotton fleahoppers once they begin to bloom.

Chemical control of cotton fleahoppers is a fairly easy to accomplish and several products provide good control. However certain chemicals may not be advantageous. Care must be taken to preserve beneficial arthropods that will help in controlling cotton aphids and spider mites. Flaring of these pests can be avoided by using products that are “softer” on beneficials.

The list of chemicals that control cotton fleahoppers includes Orthene (acephate), Bidrin, Intruder, Centric, Carbine, Lorsban, Steward, Lannate, Dimethoate, and various pyrethroids. Vydate is now back as an option for control measure. Historically this product has been found to be easy on beneficials. . Bidrin has a label allowing its use in cotton from emergence to prebloom, but you can't apply more than 3.2 oz/ac during this period. According to research conducted by Texas A&M AgriLife Extension at Lubbock, products least likely to flare secondary pests include Carbine, Bidrin, Steward and low rates of Orthene (acephate). Other insecticides such as Intruder and Centric won't flare aphids and are probably fine to use as well, but these have been implicated in flaring mites. Pyrethroids are **NOT** recommended for fleahopper control because they tend to

be very disruptive to beneficials and may flare aphids. Pyrethroids can also exacerbate bollworm challenges in non-Bt cotton.

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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