Cotton Comments

OSU Southwest Oklahoma Research and Extension Center
Altus, OK

July 20, 2012 Volume 2 Edition 9

Crop Situation Update

Much of the 2012 Oklahoma cotton acreage is heading into difficult times. Based on Jerry Goodson's IPM field surveys, nearly all surveyed fields are at the bloom stage with a few later planted fields still not quite there yet (see table below).

IPM Field Surveys - Week ending July 20 2012

Location	Plant stage	Insects	Comments
Beckham Irrigated RACE - Gamble	7.25 NAWF	Grasshoppers Few Beneficials	Plant growth good
Caddo Irrigated RACE - Holsted	5.75 NAWF	No Pests detected Few Beneficials	Plant growth average
Caddo Irrigated CAP – Holsted	5.50 NAWF	No Pests detected Few Beneficials	Plant growth average
Caddo Irrigated Twinlink (Station)	7.35 NAWF	No Pests detected Few Beneficials	Plant growth excellent
Custer Irrigated RACE - Schantz	7.50 NAWF	No Pests detected Few Beneficials	Plant growth excellent
Grady Dryland (Station, Weed Test)	Prebloom	Grasshoppers Few Beneficials	Plant growth good
Caddo Irrigated OVT (Station)	7.25 NAWF	No Pests detected Few Beneficials	Plant growth excellent
Greer Dryland CRSP - Graumann	6.75 NAWF	Grasshoppers Few Beneficials	Plant growth excellent
Greer Irrigated CRSP - Thornbrough	8.25 NAWF	Grasshoppers Few Beneficials	Plant growth excellent
Harmon Irrigated RACE - Cox	7.25 NAWF	No Pests detected Few Beneficials	Plant growth excellent
Harmon Dryland RACE - Cummins	Pinhead	No Pests detected Few Beneficials	Plant growth good
Harmon Irrigated CAP - Horton	7.50 NAWF	No Pests detected Few Beneficials	Plant growth excellent
Jackson Irrigated Conventional (Station)	6.25 NAWF	No Pests detected Few Beneficials	Plant growth poor
Jackson Irrigated CRSP - Felty	5.25 NAWF	No Pests detected Few Beneficials	Plant growth poor
Jackson Irrigated OVT (Station)	6.75 NAWF	No Pests detected Few Beneficials	Plant growth average
Jackson Irrigated RACE - Winsett	5.20 NAWF	No Pests detected Few Beneficials	Plant growth poor
Jackson Irrigated CAP - Winsett	5.33 NAWF	No Pests detected Few Beneficials	Plant growth poor

Jackson Dryland CRSP - Winsett	6.50 NAWF	No Pests detected Few Beneficials	Plant growth excellent
Jackson Weed Test (Station)	Prebloom	No Pests detected Few Beneficials	Plant growth average
Jackson Irrigated WOSC Tests	2.5 NAWF	No Pests detected Few Beneficials	Plant growth poor
Tillman Dryland RACE - Fisher	Prebloom	No Pests detected Few Beneficials	Plant growth excellent
Tillman Irrigated CRSP - McCullough	5.75 NAWF	No Pests detected Few Beneficials	Plant growth poor
Tillman Dryland No Till (Station)	5.80 NAWF	No Pests detected Few Beneficials	Plant growth good
Tillman Dryland OVT (Station)	5.50 NAWF	No Pests detected Few Beneficials	Plant growth goodt
Washita Dryland RACE - Davis	5.75 NAWF	Grasshoppers Few Benificials	Plant growth average

RACE – Replicated Agronomic Cotton Evaluation Trial (Oklahoma Cooperative Extension)
CRSP – County Replicated Small Plot Trial (Oklahoma Cooperative Extension)
CAP – Cotton Agronomic Plot (Bayer CropScience)
OVT – Official Variety Trial (Oklahoma Agricultural Experiment Station, Altus, Tipton, Fort Cobb)
WOSC – Western Oklahoma State College

Nodes above white flower (NAWF) is on the decline in fields that began blooming a while back. Only well irrigated fields will be able to match the vertical flowering rate with new square production in the terminal and maintain a constant NAWF value. Many fields located in the Lugert-Altus Irrigation District have NAWF values of 5 or less, and unless rainfall is obtained will bloom through the terminal soon. The rainfall event that occurred about 10 days ago provided some badly needed moisture and delayed a potentially earlier cutout. Many of these fields are exhibiting considerable signs of moisture stress at this time. Although some boll set has occurred, unless rainfall occurs soon, these bolls will be extremely small further limiting yield potential.

Jackson County RACE trial – Winsett Farm.

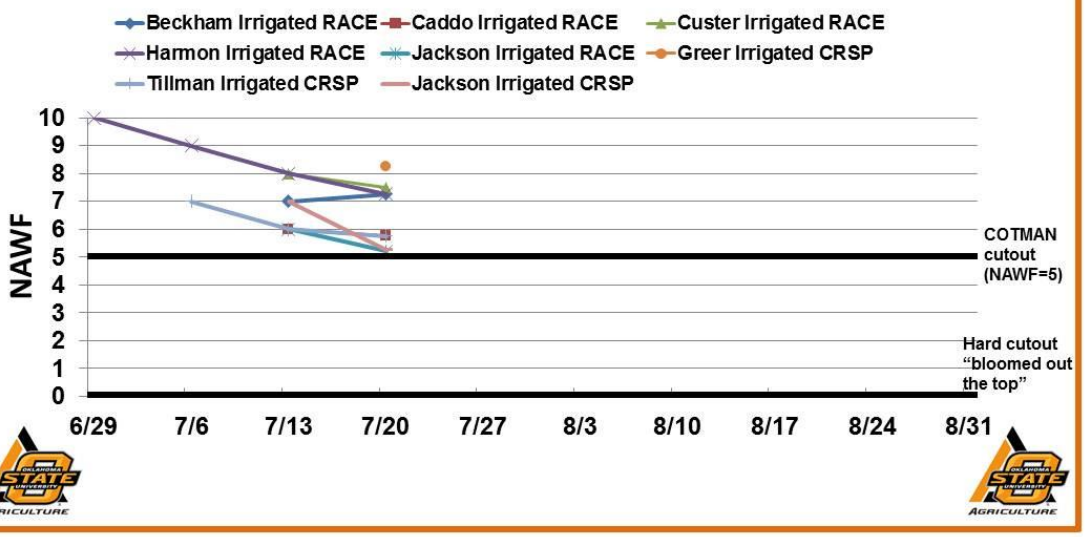
Other fields with high capacity groundwater based irrigation have managed to stay on track or even excel in this heat.

Harmon County RACE Trial – Cox Farm.

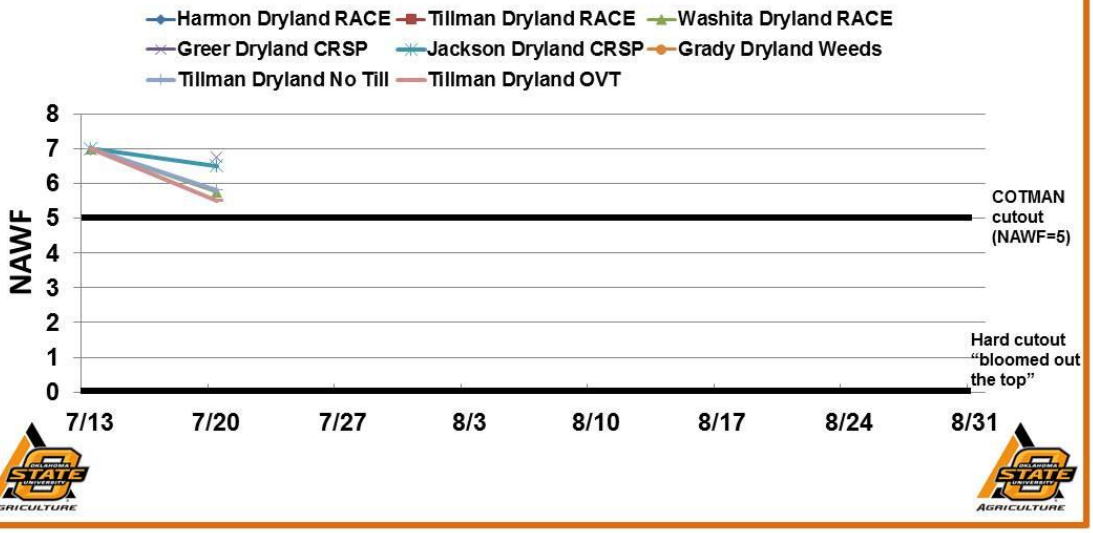
Much of the dryland cotton, although in fair condition a week ago will be headed in the wrong direction soon with the forecasted temperatures.We really need a good rainfall event very soon. Altus has encountered 28 days of 100 degrees or greater - 1 in April, 9 in May, 11 in June; and 7 days in July (through July 19). Temperatures have been considerably above average with triple digits with more forecasted, and few chances of rainfall. Cotton heat unit accumulation for a May 1 planting date at Altus is about 1637 vs. the “normal” of 1330. This indicates that thus far, the growing season is about 23% above normal in terms of cotton heat units.

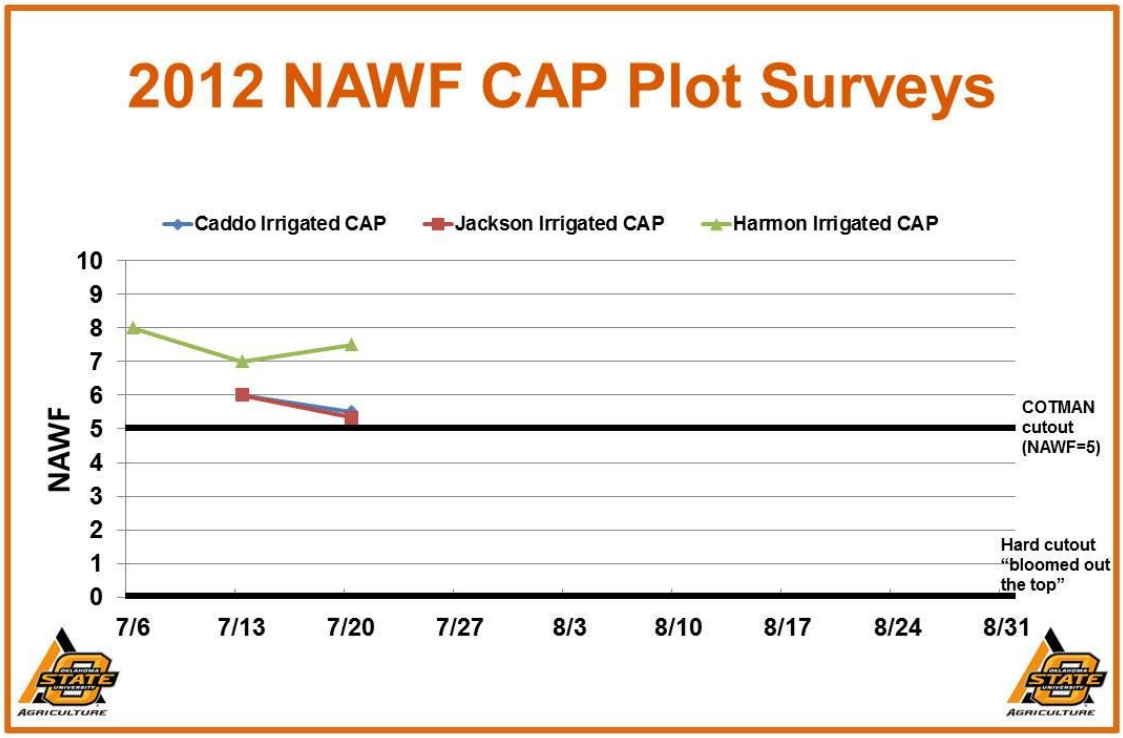
Below are the weekly graphs for various fields involved in the IPM survey. It should be noted that although designated as irrigated, the Jackson County trials mentioned are essentially dryland this year because of no release of irrigation water from the Lugert-Altus Irrigation District.

2012 NAWF Irrigated Field Surveys



2012 NAWF Dryland Field Surveys





Mesonet Irrigation Planner Update

The Mesonet provides useful irrigation requirement information and can be used to fine tune irrigation management. For more information concerning this, please refer to the July 6th issue of Cotton Comments.

For the last 10 days for Altus and a May 15 planting date, total cotton ET has been 2.52 inches, with the last significant rainfall event on July 10. Daily ET has been about 0.30 inch/day.

Last Irrigation Date	Evapotranspiration (inch)	Accumulated Evapotranspiration (inch)	Rainfall (inch)	Accumulated Rainfall (inch)	Water Balance (inch)
7/19/2012	0.3	0.3	0	0	-0.3
7/18/2012	0.31	0.61	0	0	-0.61
7/17/2012	0.32	0.92	0	0	-0.92
7/16/2012	0.29	1.21	0	0	-1.21
7/15/2012	0.27	1.48	0	0	-1.48
7/14/2012	0.25	1.73	0	0	-1.73
7/13/2012	0.23	1.96	0	0	-1.96
7/12/2012	0.21	2.18	0	0	-2.18
7/11/2012	0.21	2.39	0	0	-2.39
7/10/2012	0.13	2.52	1.41	1.41	-1.11

For the last 10 days for Tipton and a May 15 planting date, total cotton ET has been 2.74 inches, with the last significant rainfall event on July 10. Daily ET has been about 0.35 inch/day.

Last Irrigation Date	Evapotranspiration (inch)	Accumulated Evapotranspiration (inch)	Rainfall (inch)	Accumulated Rainfall (inch)	Water Balance (inch)
7/19/2012	0.35	0.35	0	0	-0.35
7/18/2012	0.37	0.72	0	0	-0.72
7/17/2012	0.38	1.1	0	0	-1.1
7/16/2012	0.34	1.44	0	0	-1.44
7/15/2012	0.28	1.72	0	0	-1.72
7/14/2012	0.26	1.98	0	0	-1.98
7/13/2012	0.24	2.22	0	0	-2.22
7/12/2012	0.21	2.44	0	0	-2.44
7/11/2012	0.2	2.64	0	0	-2.64
7/10/2012	0.11	2.74	0.88	0.88	-1.86

For the last 10 days for Hollis and a May 15 planting date, total cotton ET has been 2.56 inches. Daily ET has been about 0.33 inch/day.

Last Irrigation Date	Evapotranspiration (inch)	Accumulated Evapotranspiration (inch)	Rainfall (inch)	Accumulated Rainfall (inch)	Water Balance (inch)
7/19/2012	0.3	0.3	0	0	-0.3
7/18/2012	0.33	0.63	0	0	-0.63
7/17/2012	0.33	0.96	0	0	-0.96
7/16/2012	0.31	1.27	0	0	-1.27
7/15/2012	0.24	1.51	0	0	-1.51
7/14/2012	0.26	1.78	0	0	-1.78
7/13/2012	0.23	2	0	0	-2
7/12/2012	0.22	2.22	0	0	-2.22
7/11/2012	0.21	2.43	0	0	-2.43
7/10/2012	0.13	2.56	0.03	0.03	-2.53

For the last 10 days for Fort Cobb and a May 15 planting date, total cotton ET has been 2.37 inches, with the last significant rainfall event on July 10. Daily ET is approaching 0.3 inch/day.

Last Irrigation Date	Evapotranspiration (inch)	Accumulated Evapotranspiration (inch)	Rainfall (inch)	Accumulated Rainfall (inch)	Water Balance (inch)
7/19/2012	0.29	0.29	0	0	-0.29
7/18/2012	0.27	0.56	0	0	-0.56
7/17/2012	0.29	0.85	0	0	-0.85
7/16/2012	0.25	1.09	0	0	-1.09
7/15/2012	0.24	1.34	0	0	-1.34
7/14/2012	0.22	1.56	0	0	-1.56
7/13/2012	0.21	1.76	0	0	-1.76
7/12/2012	0.2	1.97	0	0	-1.97
7/11/2012	0.22	2.19	0	0	-2.19
7/10/2012	0.19	2.37	0.1	0.1	-2.27

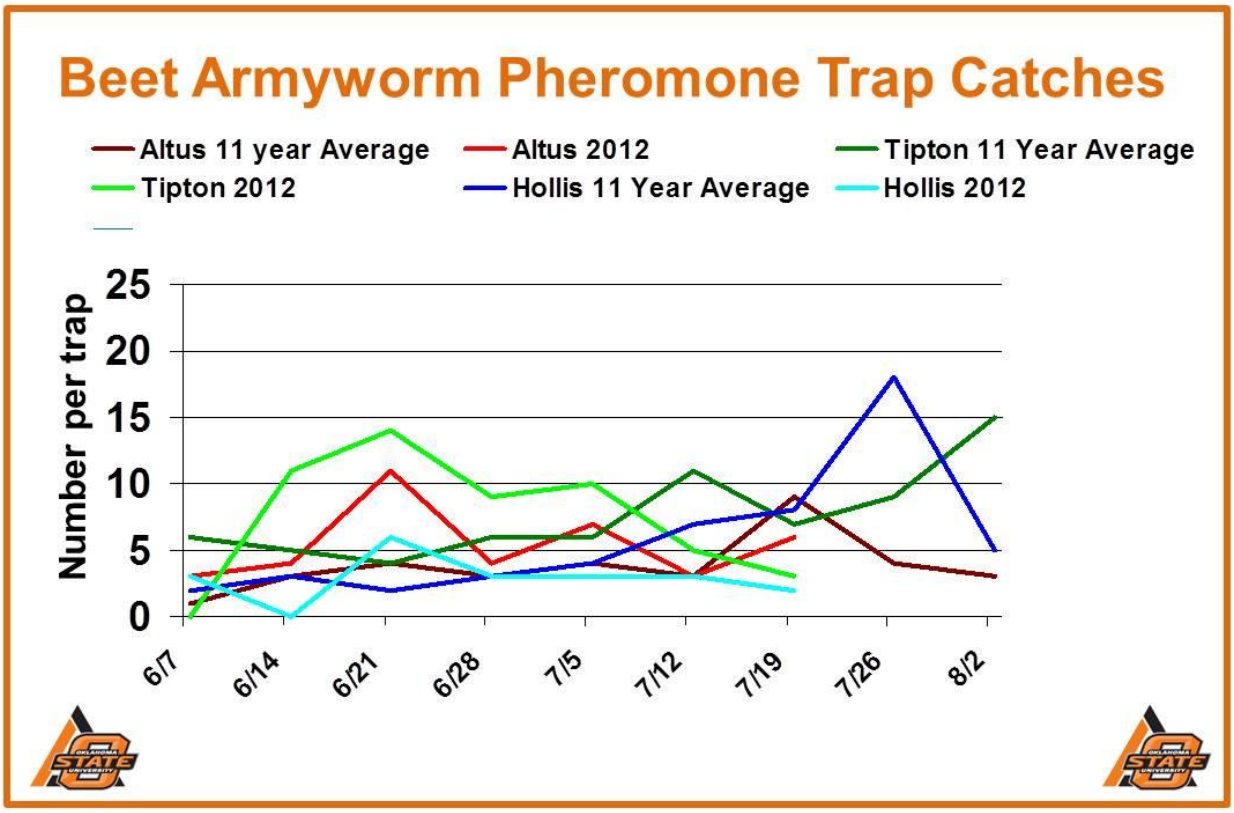
Insect Update

After conversations with various consultants and conducting field surveys in seven counties this week, the insect outlook is as follows: This year, light infestations of pests continue. Cotton fleahoppers are still being treated in some areas (Jackson, Tillman

and Caddo). Stink bugs are being treated in Caddo county and the type is mostly brown stink bug. With the forecast of over 100 degrees and with no rain insight, dryland acres will soon be at cutout. Irrigated fields will soon be the only lush spots surrounded by drying down pastures. Increased caution should be used to detect sudden infestation from surrounding habitat. No other insect issues have been reported. If you have any questions, please contact Extension personnel.

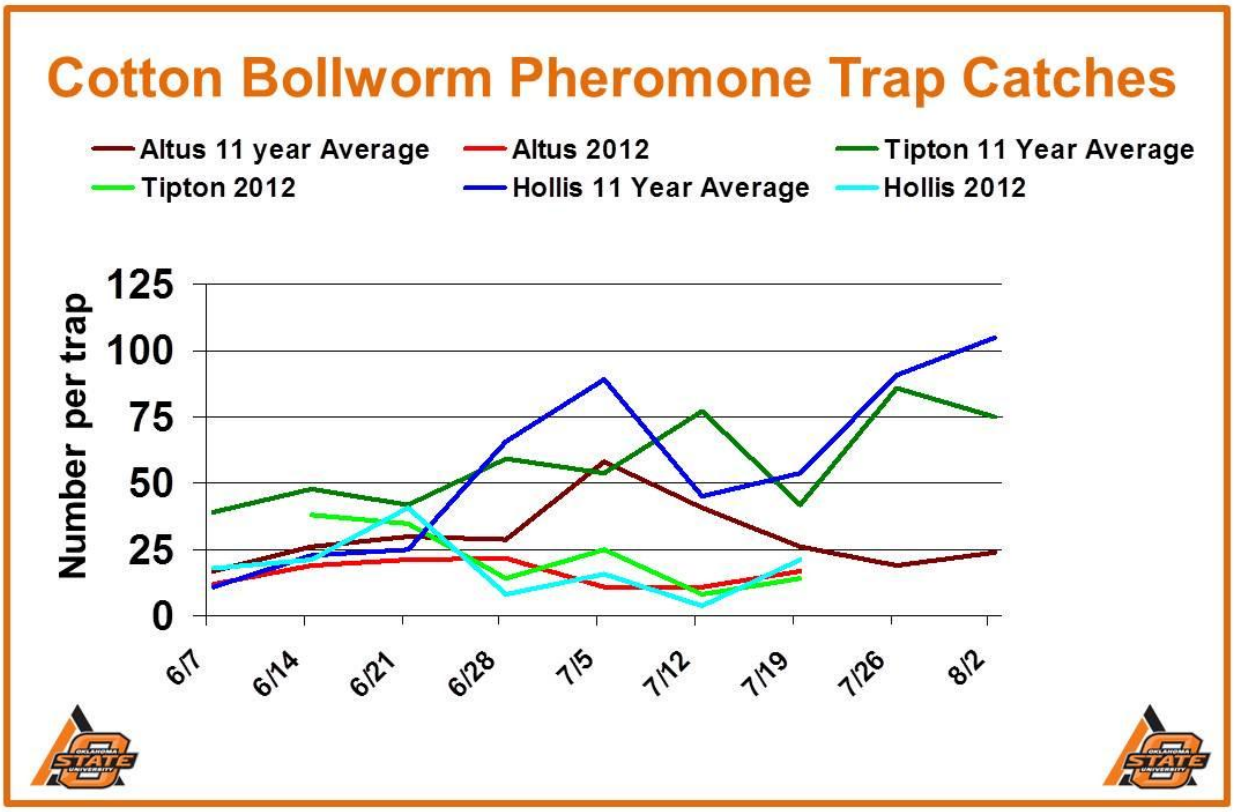
Moth Activity

All moth traps are below the 11 year average. No activity was observed in surveyed fields.



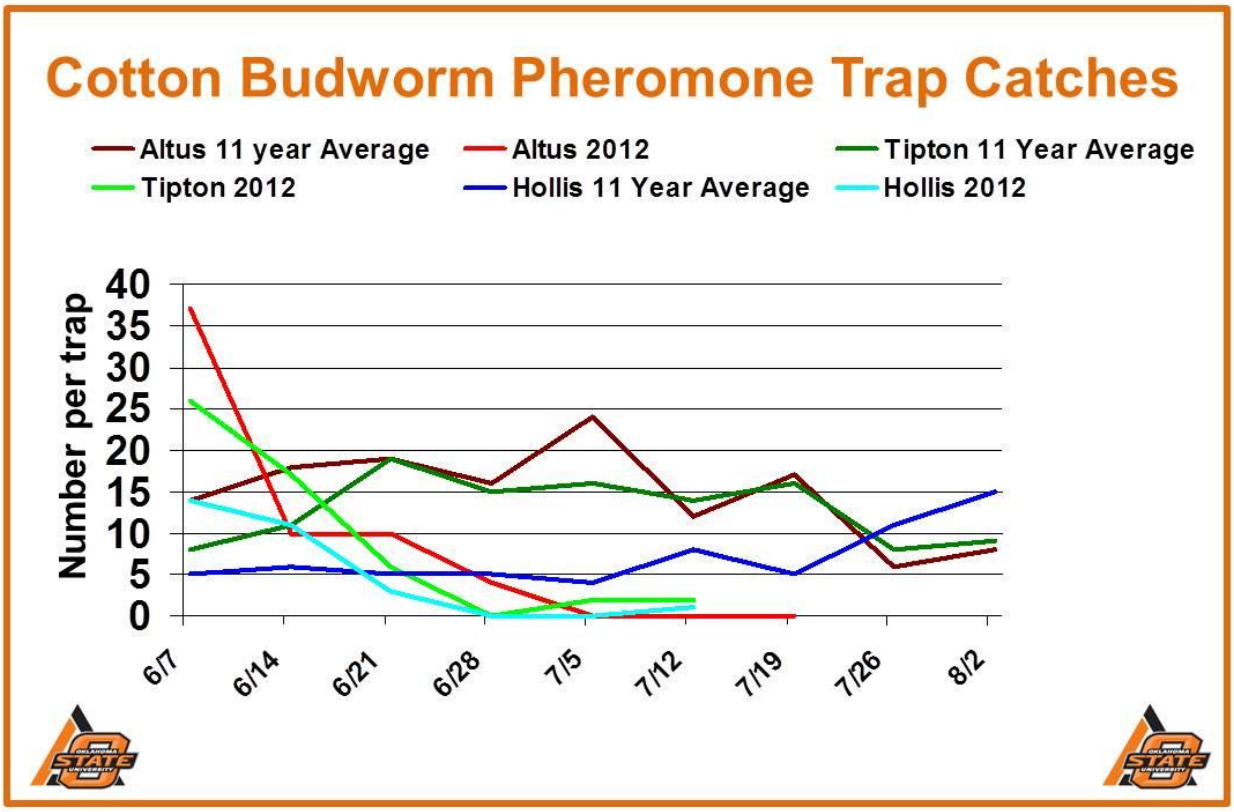
Beet armyworm moth

Photo courtesy University of Georgia



Cotton bollworm moth

Photo courtesy University of Georgia



Tobacco budworm moth

Photo courtesy University of Georgia

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 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 AgriLife Extension Cotton Insect Management Guide, which is available here: http://cottonbugs.tamu.edu/fruit-feeding-pests/stinkbugs/

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 attack 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 stinkbugs 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, laid 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 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 organisms. 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 economical damgage in some areas. However all plants bugs are found in Oklahoma. DuPont provides a quick reference card to identify which species is present. Click here for DuPont's identification guide for plant bug and stink bug pests.

DuPont's Identification Guide

Many products used to control stink bugs can be disruptive to beneficial arthropods, therefore, contact Extension personnel if a question arises.

Note Concerning the osucotton.com Website

The osucotton.com web site has been discontinued due to duplicity with other websites. For information on the Southwest Oklahoma Research and Extension Center please go to:

http://www.oaes.okstate.edu/field-and-research-service-unit/southwest-research-and-extension-center-1/southwest-research-and-extension-center

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Editors

Randy Boman

Shane Osborne

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Contributing Authors

Randy Boman

Jerry Goodson

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:

jerry.goodson@okstate.edu

Randy Boman
Research Director and Cotton Extension Program Leader
16721 US Hwy. 283
Altus, Oklahoma
(580) 482-2120 office
(580) 482-0208 fax
(580) 481-4050 mobile

randy.boman@okstate.edu

www.ntokcotton.org