

AgriLIFE EXTENSION

Texas A&M System

WEST PLAINS IPM UPDATE

News about
Integrated Pest
Management in
Hockley and
Cochran Counties
from Kerry Siders.



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Partners with Nature

Current Crop and Pest Situation

Cotton aphids are about the only consistent insect pest I am finding in area fields. This has allowed beneficial insect numbers to increase in some fields but not in all. However, many of these aphids are only lasting a day or two with swift demolition from lady beetles, spiders, and green lacewings larvae. I do not anticipate any field treatments. In general we have been in pretty good shape up to this point. However, I am concerned that we are again seeing, as last year, "the haves and the have not" of irrigation water. Decisions about prioritizing fields which share water, or portions of fields with limited irrigation capacity and lack of rainfall must be made now to limit or jeopardize crop/yield losses. When I compare our cotton crop to the same time the last couple of years we still in a good situation if the weather would just cooperate. So I do hold out some optimism about our yield potential.

I would like to give you a snapshot of what the average cotton plant looks like from Hockley and Cochran Counties. Based on the IPM Scouting Program cotton fields:

Average number of total nodes is 16 (range 10 to 18)

1st fruiting branch at node 7.3 (range 5-9)

Square retention of 1st positions is 88% (range 72-99%)

Node length is 1.1" (range of 0.6"-2.6")

Plant populations average 39,780 per acre (range 23,500 to 59,500)

Ave. Blooming plant has 8.7 nodes above white flower (NAWF)

I am seeing a few more blooms and small bolls daily. The milder weather over the past couple of weeks has allowed the plant to make very good progress in terms of both vegetative and reproductive growth. We are going into bloom with close to 9 nodes above white bloom. This places first bloom (50% of all plants in field with bloom) on most early fields at July 14, with most fields hitting first bloom at around July 23. This is a full week earlier than last year.

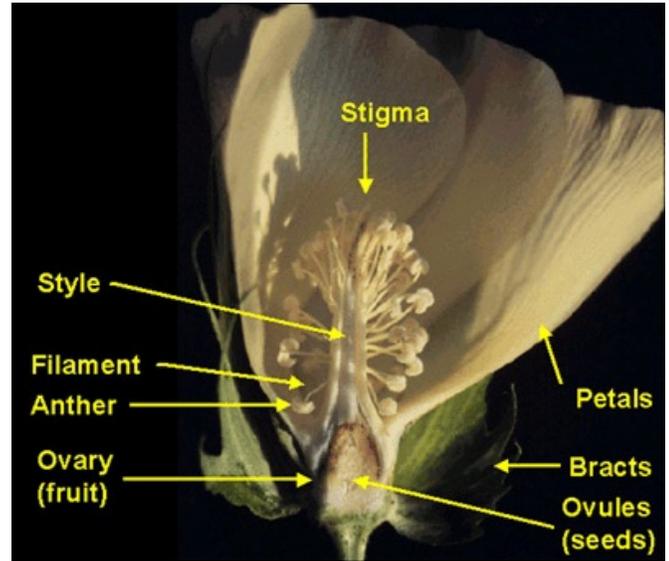
Grain Sorghum - Local fields need to be monitored for aphids, mites, head worms and midge. No major problems have been detected or reported. Stay on top of weeds.

Peanuts - Local fields need to be monitored closely for foliar diseases and pod rots. Wrap up any fertilizing and stay on top of weeds. No major issues reported or found this last week.

Cotton 101 - The Blooms

The cotton plant develops in an orderly, predictable pattern. If you are familiar with the fruiting stages, their sequence, and the time required for each stage, you can tell if your crop is on schedule. For example, you should spot the first white bloom 60-80 days from planting. That will be from 20 to 27 days (23 days average) after the square or bud develops. It will take about 3 days between the opening of a flower on one fruiting branch and the opening of the bloom in the same position of the bloom in the same position on the next higher fruiting branch. That's known as vertical flowering.

About 6 days pass between the appearance of two consecutive blooms on the same branch (horizontal flowering). The cotton bloom is a perfect flower. It has both male parts (pollen-producing stamens, each with a double-lobed anther) and female parts (stigma, style, and ovary) in the same flower. The ovary has 4 to 5 carpels or locks. Each lock contains 8 to 12 ovules that may develop into seed. Flowers open during the morning, and pollination usually occurs within a few hours. Pollen grains from the anther drop to the sticky surface of the stigma. Fertilization - the union of a male reproductive cell from a single pollen grain and a female cell in the ovule - normally takes place within 24 to 30 hours after pollination. The fertilized ovule develops into a seed. Some of the ovules may not develop fully or are aborted. If a majority of the seed abort, the boll will fall off the plant within 7 to 10 days after flowering. Cotton flowers usually are self-pollinated. However, bees or other insects may increase the frequency of cross-pollination.



Temperatures above 100°F and moisture - rain or high humidity - reduce pollination. A bloom will not pollinate after the first day. The white petals of the flower turn pink after 24 hours and shed within a week as the fertilized ovules of the ovary grow into a boll. The effective bloom period occurs from early July to mid-August. Stress during this period will cause the largest loss of yields.

Research shows that in the High Plains, about 85% of the total bolls are set during the first three weeks of blooming, 10% during the fourth week, and less than 5% from the fifth through the seventh weeks.

My priority list for the remaining portion of July:

1. Keep watch on cotton aphids and lygus.
2. Look at the top 3-4 nodes on your cotton, if longer than 1.5" consider plant growth regulator.
3. Try to wrap up fertilizing in next 10 days.
4. Monitor bollworms in conventional cotton.
5. Continue to watch for escape pigweed behind a glyphosate application, do not let them go to seed

WEST PLAINS IPM UPDATE is a publication of the Texas AgriLife Extension Service IPM Program in Hockley and Cochran Counties.

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