

TEXAS COOPERATIVE EXTENSION

Partners with Nature

WEST PLAINS IPM UPDATE

News about Integrated Pest Management in Hockley and Cochran Counties
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CROP & INSECT SITUATION

Most everyone has been blessed with rain. We are in excellent shape moisture wise. There are areas of Cochran County which would still benefit from a good rain. All and all we are in one of the best starts to a season that I have witnessed. We are in need of continued sunshine and consistent heat to take advantage of this good moisture. Peanuts are doing very well. Weeds remain the primary pest.

Many cotton fields are growing well vegetatively, yet we need to shift some of this growth energy to reproductive plant parts. We have quit a lot of horse power behind fields which are within a day or two of blooming. These fields will have 9 nodes above white flower. One concern is that we have the top 4 nodes really stretching out, some in excess of 2 inches. This is a sign that vegetative growth is a dominate sink and not the reproductive growth. Yet, square retention is exceptional right now. On average in the scouting program fields we are at +90% square retention. If we can maintain this level for awhile those squares and resulting bolls will definitely become a major sink for energy and slow the vegetative growth.

Insect pests remain quiet. Right now beneficial insects are having difficulty in finding a consistent food source of cotton insect pests to sustain them in cotton. Fleahoppers and Lygus can be found, but are more prevalent on other hosts. Let me caution you however, that there are fields which I have suggested be treated for these two pests. No particular area of the two counties, just a situation of field and adjacent surroundings. I am hoping that we can slip by any major fleahopper problems. I am however, concerned about Lygus as we move further into the season.

Cotton bollworm pheromone trap counts continue a steady increase. We will probably see our normal bollworm run beginning in late July coming to a head by mid-August. Right now we are not seeing aphids or beet armyworms as we did 3weeks ago.

HEAT UNITS (DD 60's) for Levelland Area

May 1st to Present 866.5

May 15th to Present 752.5

June 1st to Present 512.5

Heat Unit Requirements for Cotton Growth

Planting 0
Emergence 75
First Square 450
First Bloom 900
First Mature Boll 1800
First Open Boll 1900
5% Mature Bolls 1975
95% Mature Bolls 2270

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.

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