

HUB OF THE PLAINS PEST MANAGEMENT REPORT

A newsletter about integrated pest management for growers in Lubbock County

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CURRENT CROP CONDITIONS

Most of the program fields are in the second or third week of bloom with few pest problems to report. Cotton is ranging from eight to four nodes above white bloom with the bulk of the program fields sitting at six to seven nodes. The number one question being asked right now is what the cool cloudy wet conditions we are experiencing today will do to the cotton crop. *Dr. Robert Lemon State Cotton Specialist, Texas Cooperative Extension wrote that Cotton plants produce sugars (carbohydrates) in the leaves that feed the developing fruit. If the plant can not supply enough carbohydrates to meet fruit demand, then the plant sheds fruit. The supply of sugars is reduced under low light conditions, water stress (too dry or too wet), extreme temperatures and nutrient deficiencies. Even moderately cloudy days are detrimental because cotton needs full sunlight to maximize photosynthesis. In addition, cloudy conditions with warm temperatures cause the plant to consume even more stored reserves which are not available for boll fill. Generally, the majority of fruit that is shed arises from the upper nodes and from the second and third positions on the fruiting branch. This occurs because these are the youngest fruit and there's competition for carbohydrates along the fruiting branch. The plant gives priority to the older fruit (first position),*

especially larger bolls. So, we could see some boll shed, but the sun will come out tomorrow and our temperatures will return to the mid 90's by the end of the week.

One quick message on irrigation. I know some of you received about an inch of rainfall and you turned your pivots and drip irrigation off. That is fine with me, but realize that your cotton is using about 2" of available moisture per week. You do the math and decide how long to leave your irrigation systems idle.

WHAT THE SCOUTS ARE FINDING

Bollworms or bollworm damage can be found in most fields, but in very low numbers. Eggs are being found in most program fields and with the cooler temperatures, we are finding low populations of small larvae. Larval populations are ranging from zero to 6,000 per acre, and many of these larvae are making it to ½ inch in size. Most of the higher populations are being found in late planted fields that have at least seven nodes above white bloom.

Cotton Boll Development

(excerpts from NCC Cotton Physiology Newsletter)

Mark Brown, CEA-Agriculture

Cotton bolls can range in size from under three grams to over 6 grams per boll. This translates to 200 to 400 bolls to produce a pound of lint. Boll development and boll set is determined by many factors including: variety, temperature, sunlight

intensity, water and nutrient availability and plant hormone balances.

The leaf-like bracts that surround the boll are photosynthetically active. They can supply about 10% of the carbohydrates required by the boll.

Boll growth begins with pollination of the flower at early to mid-morning. A boll reaches full size in about 20 to 25 days. During the first three weeks, maximum boll size, maximum seed size and maximum fiber length are all established. However, the maturation period is dependant upon temperature. Approximately 750 heat units are required for full maturity. This might take as few as 40 days or as many as 70 days when fall approaches.

The cotton plant will adjust its' fruit load to match the supply of available nutrients and moisture. Our short season management system relies heavily on first position bolls. Insects may cause all sizes of squares or small bolls to shed. However, environmental stress typically causes the plant to shed only small bolls and small-to-medium-size squares. The best management strategies to minimize fruit shed include: optimum planting date, adequate but not excessive nitrogen, efficient irrigation, lower plant densities, use of growth regulators if warranted, proper insect control and reduced weed and disease pressure.

Suggested Insecticides for control of bollworms

| Insecticide | Formulated amount per acre |
|-----------------------|-------------------------------|
| Capture® 2 E * | 2.6 - 6.4 oz |
| Baythroid ® 2 E * | 1.6 - 3.2 oz |
| Leverage ® 2.7 SE * | 3.75 oz |
| Karate ® 2.08 CS * | 1.6 - 2.56 oz |
| Ammo ® 2.5 E * | 2 - 5 oz |
| Decis ® 1.5 E * | 1.62 - 2.56 oz |
| Asana XL ® 0.66 E * | 5.8 - 9.6 oz |
| Steward ® 1.25 SC | 9.2 - 11.3 |
| Lannate ® 2.4 LV | 1.5 pts |
| Methyl Parathion (4E) | 2.5 - 4 pts |
| Curacron ® 8 E | 8 - 16 oz |
| Tracer ® 4 SC | 2.14 - 2.9 oz |
| Larvin® 3.2 F | 1.5 - 2.25 pts |
| Scout® X-tra 0.9 E * | 2.56 - 3.37 oz |
| Fury ® 1.5 E * | 2.82 - 3.83 oz |

* The synthetic pyrethroid insecticides recommended for control of bollworms also will control boll weevil.



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