

Northwest Plains Pest Management News

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Bailey and Parmer Counties

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Isolated hail storms continue to peck away at area crops. Most of the storms cover a relatively small area but are devastating at their epicenter. Unseasonable cool weather continued this week. Local weather stations recorded from .5 to 2.3 inches of rain in the last 7 days.

Rain has delayed wheat harvest in some areas. Most yields continue to be very good to excellent. There are some reports of dockage due to “insect damaged kernals” and smutty grain. The insect damage is likely due to wheathead armyworm feeding and the smutty grain is a result of a fungus which is consuming the grain from the inside out.

Cotton is growing pretty well and beginning to square. Warmer temperatures will shift cotton growth and development into high gear. Squaring cotton is particularly susceptible to square robbing pests such as fleahoppers and Lygus bugs.

A few cotton fleahoppers have been observed in area fields. Numbers have been well below economic threshold to this point. Upper and

Cotton Heat Unit Accumulation¹			
Location	Current	2006	Long Term ²
Farwell	N/A	726	
Friona	381	792	
Muleshoe	419	786	570
Muleshoe WR	429	819	

¹ DD 60 based on May 1

² Based on Muleshoe long term weather data 1971-2000

lower surfaces of top leaves and plant terminals should be closely inspected to determine infestation levels. Fleahoppers are very shy and will relocate to avoid detection. Something as simple as a shadow cast over a plant prior to inspection may cause fleahoppers to relocate.

Adult fleahoppers are about 1/8 inch long and pale green. Nymphs resemble adults but lack wings and are light green. They move very rapidly when disturbed. Adults move into cotton from weed hosts when cotton begins to square. Both adults and nymphs suck sap from

Daily Water Use	
Crop	Inches per day
Corn	.30
Cotton	.10-.15
Grain Sorghum	.15-.20
Bermuda grass	N/A
Fescue/ Bluegrass	N/A



Phil Sloderbeck, KSU

Adult cotton fleahopper.

the tender portion of the plant, including small squares. Pinhead size and smaller squares are most susceptible to damage.

The decision to apply insecticide should be based on the number of fleahoppers present, the squaring rate and the percent square retention. During the first week of squaring, the economic threshold is 25 to 30 cotton fleahoppers per 100 terminals combined with less than 90 percent square set. In the second week of squaring, the economic threshold is 25 to 30 cotton fleahoppers per 100 terminals combined with less than 85 percent square set. Starting with the third week of squaring up to first bloom, the economic threshold is 25 to 30 cotton fleahoppers per 100 terminals combined with less than 75 percent square set. In a year where the cotton crop is delayed due to late planting and/or slow growth and development it may not be prudent to allow square retention to drop below 80%.

Cotton produced in the short production season of the Northwest Plains of Texas should be managed to maximize earliness and when cotton development is delayed, management for earliness may be the difference between a good crop and a short crop.

Mepiquat chloride (MC) is a foliar applied PGR that is absorbed into leaves and translocated throughout the plant. Since its introduction, MC has been used extensively to manage cotton growth in an attempt to reduce risk associated with a delayed harvest. Mepiquat chloride regulates cell elongation by inhibiting the synthesis of gibberellin. This reduction in cell length in turn reduces overall plant height and internode length. There are numerous mepiquat based PGRs available, some with additional active ingredients and modes of action, and different use rates.

Research conducted locally indicates that early low rate multiple (LRM) applications of

mepiquat based PGRs appear to be more effective than later single high rate applications. An early LRM application system is a series of applications starting a match head square followed by a second application at first bloom followed by a third application two weeks after the second application. LRM applications of mepiquat-based PGRs have shown to be effective in reducing plant height and height to node ratio. A single high rate bloom application has not been as effective as the early LRM applications. The early LRM applications have (in local trials) reduced the number of days to physiological cutout which may translate into a more mature crop in a weather shortened growing season and/or delayed crop. Early LRM PGR applications reduced total fruiting nodes per plant but single high rate bloom applications did not. Local trials did not document any statistically significant percent lint turnout response, yield response, or fiber property response associated with the application of any mepiquat based PGR. If a PGR is going to be applied, the rate and timing should be based on crop stage, crop condition, field history, fertility level, and soil moisture.



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