



PANHANDLE PEST UPDATE



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Sorghum Head Worm



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On Monday, August 20, while counting spider mites in a grain sorghum miticide trial in Bailey County, fall armyworm egg masses and hatching larvae were found on the sorghum leaves. Also, fall armyworm moth activity has increased across the Panhandle (see moth trapping graph page 2). Larvae of both fall armyworm and corn earworms/cotton bollworm make up the complex of caterpillars known as sorghum headworms. The sorghum head is most susceptible to damage when caterpillars feed during flowering to soft dough growth stages. Infestations are often worse in late-planted fields than in early-planted fields. Grain sorghum hybrids with a loose type (open) heads generally have fewer caterpillars than sorghums with tight heads.

Fields should be sampled at least weekly during the grain developing stages to determine if infestation levels are at treatable levels. A beat bucket (white bucket) is a good technique for sampling fields. Shake grain heads vigorously against the sides of the bucket to dislodge larvae into the bucket. Sample at least 30 plants from a field and for fields larger than 40 acres take at least one sample per acre. Keep a separate count of medium (1/4 inch to 1/2 inch) and large (>1/2 inch) larvae. Then divide each of the two numbers by the total number of heads sampled. This number of medium and large sized larvae per head can be converted to the number of headworms per acre. Larvae smaller than 1/4 inch are not used in making treatment decisions because natural mortality is very high. If most headworms are this size and the number of medium and large size larvae are not at economic threshold, sample the field again in 3 to 4 days.

Small larvae feed on the flowering parts and can hollow out kernels, but the greatest amount of damage is caused from larger larvae eating whole kernels. The last two life stages (instars) of a caterpillar will consume over 90 percent of all a caterpillar will consume before becoming a pupae.

Since damage is dependent on larval size and the level of natural mortality of small larvae, treatment decisions are based on the number of medium sized (1/4 to 1/2 inch long) and larger (greater than 1/2 inch long) sized larvae.

If most of the larvae are larger than 1/4 inch, determine which size (medium-size or large) is most common and use the following equations (page 2) to calculate the economic injury level based on your treatment costs, anticipated grain value, and number of heads per acre.

Please continue *Sorghum Headworms* on page 2

Sorghum Head Worms

continued from page 1

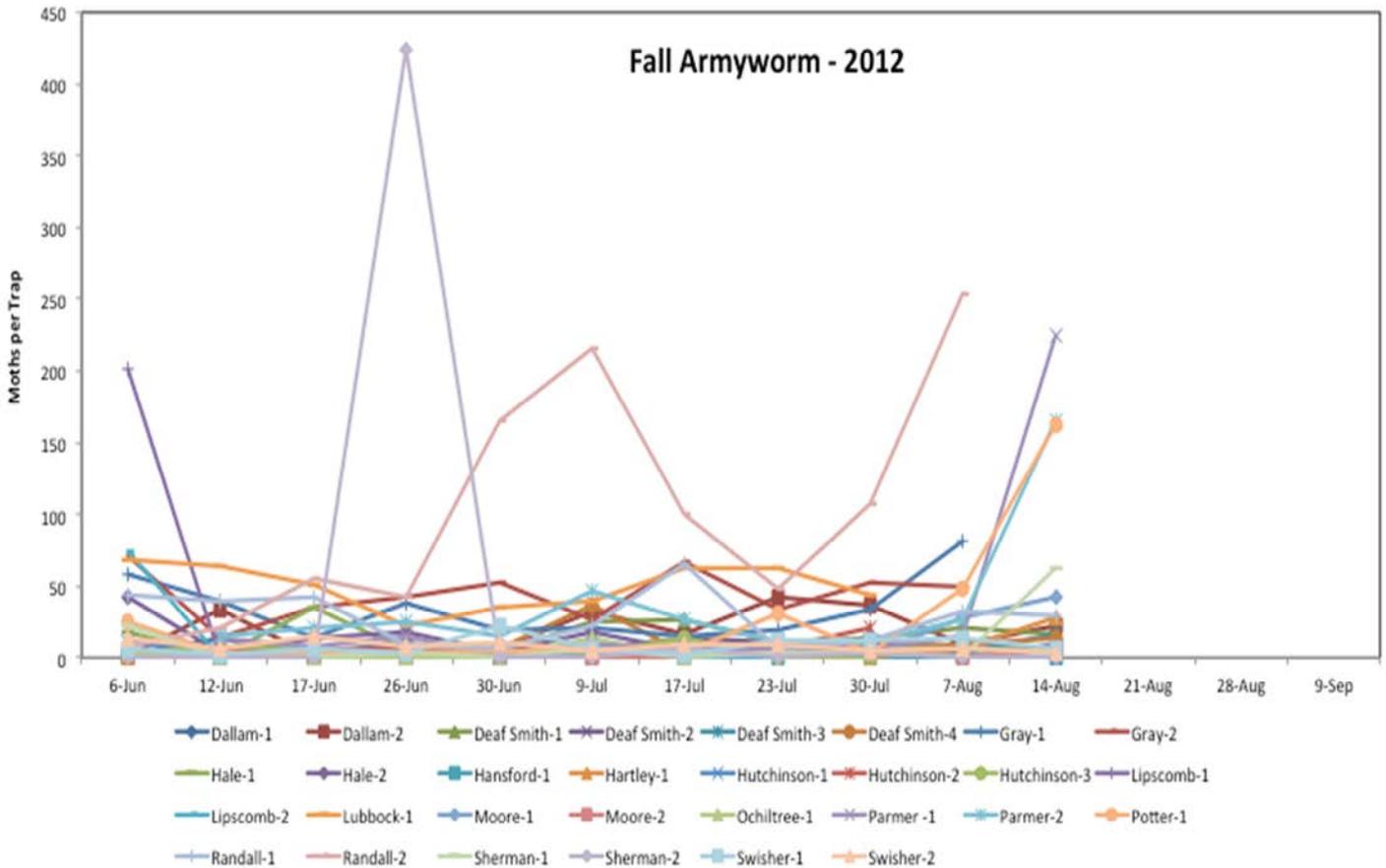
$$\frac{\text{Number of medium-sized larvae per head} \times \text{Cost of control as \$ per acre} \times 9754}{\text{Grain value as \$ per cwt} \times \text{No. heads per acre} \times 0.19}$$

Calculator for Medium Size Larvae

$$\frac{\text{Number of large sized larvae per head} \times \text{Cost of control as \$ per acre} \times 9754}{\text{Grain value as \$ per cwt} \times \text{No. heads per acre}}$$

Calculator for Large Size Larvae

A sorghum action threshold calculator is also available on-line; go to <http://bailey.agrilife.org/> and click on "sorghum headworm calculator". This calculator can be utilized to determine the economic threshold based on different control costs, grain values, and varying sorghum head densities/acre. For example, when using the on-line calculator or the above formulas, the threshold for treating would be 1.4 medium sized larvae/head or 0.3 large sized larvae/head when the control costs are \$15.00, grain value is \$14.50/cwt, and number of heads per acre is 39,000. This threshold calculator makes it easy to consider different scenarios when there are different chemicals and different grain market values.

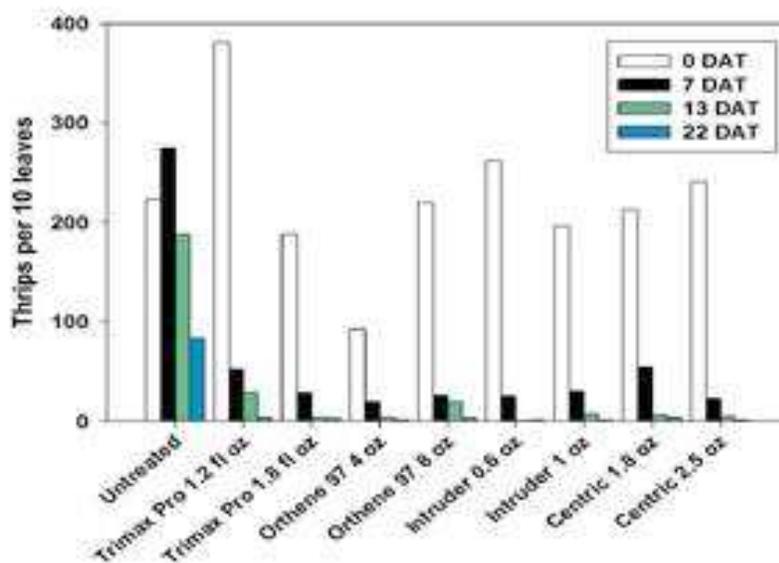


Kurtomathrips

Manda Anderson and Kerry Siders, IPM Extension Agents for Gaines Co. and Cochran and Hockley Cos., respectively, reported finding *Kurtomathrips* in cotton this week. During drought conditions of 2011 this new thrips was found across the Southern High Plains from Gaines County and as far north as Parmer County. However, there were no confirmed reports in 2011 of the *Kurtomathrips* in Panhandle cotton fields. Kerry is hopeful the thrips does not cause extensive damage since weather conditions are turning cooler and there have been recent rains.

As a refresher, this thrips species is very small, about the size of a mite, and are very difficult to see with the naked eye. They tend to be found on both upper and lower leaf surfaces although initial infestations appear to begin on the underside of the leaf. The immatures are creamy white. Thrips appear to prefer infesting highly stressed cotton where it can cause severe damage. Damage can easily be mistaken for mite damage, but tends to be more silvery in appearance and without webbing. The damage will first show up as bad spots in the field. These may look like a nematode or lightning strike spots, or just a bad spot in the field where it's not getting enough water. These thrips may be on the plants and not really doing much damage. What seems to set them off is a stress event, usually water related brought on by boll filling and insufficient irrigation. At that time they can quickly spread and cause extensive damage in a matter of days. (Taken from Dr. David Kerns 2011 articles in "Focus on South Plains Agriculture" (Volume 50, no. 13, August 25, 2011; Volume 50, no. 12; and Volume 50, no. 11. These Articles can be accessed at <http://lubbock.tamu.edu/focus/>).

The graph below shows the results of Kurtomathrips control with different cotton insecticides.





Adult and immature Kutomathrips Photo: Dr. David Kerns



Kurtomathrips damage (photo courtesy of Manda Anderson)



Cotton on the bottom of photograph was not treated and that on top was treated with Acephate at 8 oz/ac 7 days earlier. Photo: Dr. David Kerns.



Initially infestations may look like nematode spots or a lightning strike.

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