

Insecticide Treatment for Armyworm Head Clipping

Greg La Barge, Extension Agent, Agriculture & Natural Resources

Objective

To compare the effects of late season insecticide treatment for armyworm head clipping on yield of wheat.

Methods

High armyworm populations in wheat have become more frequent in the past five years for Northwest Ohio. In two of the past five years high populations were noted at growth stage 11. At this development stage the flag leaf becomes less important to grain fill than the glumes thus armyworm feeding on the plant leaves may not cause economic injury requiring treatment. Literature suggested that wheat head clipping can be a problem but this type of injury has been noted as a rare event. In 2004, a field was identified with armyworm populations in the 3 to 4 worms per foot of row. Threshold information indicates treatment is warranted when 5 or more larvae are present per foot of row and the larvae are less than 1-1/4 inches long or if the grain heads are being clipped off. On June 15th, as the wheat continued to mature, head feeding (beard and glume feeding) and clipping of the heads became more apparent. A whole field treatment was ruled out but a small plot study was established to look at the effects of head clipping on final yield.

An area of the field was established as a randomized complete block with five replications. Plots were 10 feet wide by 140 feet long. A 50% Malathion product was applied as insecticide treatment at the rate of 2 pints per acre in 20 gallons of water with a CO₂ sprayer at 20 psi. The plots were sprayed on June 17th. Field observations on June 18th indicated a cessation of feeding and pupations was occurring. A count of clipped heads on the ground per square yard was made on June 21st. Yield was taken with a plot combine on July 16th.

Results

Table 1. Yield and Head Clipping results.

Treatment	Yield (bu/a)	Clipped heads /square yard on ground
Insecticide	66.4	18.0
Check	63.6	23.9
LSD (0.05)	NS	NS

Yield and head clipping difference were not significant based on the late timing of the treatment. Both the treated and non-treated areas had feeding injury based on the counts of clipped heads on the ground per square yard. Treatments were not applied at initial observation of head clipping

due to past nationwide observations indicating that while head clipping does occur it is generally not widespread. In addition, the larvae were reaching final larvae stages and close to pupation. The primary head clipping occurred in a period from June 12th through June 17th. Some initial head clipping was observed in area fields as early as June 4th. It should be noted, in addition to head clipping that some larvae fed on the beards and glumes of the head, starting at the tip of the glume and feeding into the top of the kernel.

Figure 1. Clipped heads on ground.



Figure 2. Larvae feeding on the beards of wheat.



For additional information, contact:

Greg La Barge
OSU Extension - Fulton County
135 Courthouse Plaza
Wauseon, OH 43567
419-337-9210
labarge.1@osu.edu