Early-Season/Mid-Season Insecticide Treatments for Soybeans

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Objective

To observe the effects of insecticide treatment for bean leaf beetle on yield and quality of soybean.

Background

Cooperator:	Bill Shininger
County:	Fulton
Soil Type:	Ottokee & Wauseon
Tillage:	No-Tillage
Previous Crop:	Corn
Fertilizer Rate:	None
Variety:	SQC 3350 & 3006LF
Planting Date:	April 24, 2004
Seeding Rate:	220,000 seeds/A
Row Width:	10 inches
Herbicides:	4/20/04-Prowl 2 pints, Valor 2.5 oz., Sencor 4 oz. Glyphosate 1 quart, LV4 0.5 pt., AMS .6 pt. 6-07-04-Cobra 6 oz.,
Harvest Pop:	190,000 plants/A
Harvest Date:	September 30, 2003

Methods

Seed quality has become increasingly important for soybeans targeted for food uses. Production years 2000 and 2001 resulted in severe seed staining problems due to viral infestations of the soybean plant. This is particular a problem in food grade beans were an off color will be seen in the finished food product. The suggested vector for these viral diseases is the bean leaf beetle. The bean leaf beetle over winter as beetles and attack early planted soybean fields transmitting virus. To prevent these viral diseases, an insecticide treatment in early spring and at the beginning of first generation bean leaf beetle activity has been suggested.

The plots were planted with a 15-foot John Deere 750 Drill. Harvest was accomplished using a Green Star equipped John Deere combine with a 20 foot header. Insecticide treatments and field data was collected with a Trimble Ag GPS receiver on a Pocket PC PDA with Sitemate and Guidemate software. Yield data was analyzed with SST Toolbox software.

A 47-acre field was split, with half the field planted to SQC3350and the other half of the field to 3006LF. Insecticide-no insecticide strips were established in each variety resulting in 6 replications per variety. Treated strips and non-treated strips were 90 foot in width and the length equal to the field length with an average plot size of 3.5acres. The field was planted on April 24th. Warrior was applied at 3 oz per acre with soybeans in VC-V1 stage on 5/26/04. Feeding from bean leaf beetle was 5% prior to this application. A second Warrior was application occurred on 7/22/05 at 3 oz per acre. Some bean leaf beetle feeding was noted but the primary insect was grasshoppers. Minimal foliar damage of less than 5% was noted. Field observations did not identify quantifiable insect feeding differences after insecticide application at either date.

Results

No symptoms of virus presence appeared in either of the treatments. Some green stem plants could be observed but were related to a lack of pods on these plants rather than viral symptoms. No seed staining was observed. Yield results are presented in Table 1.

Table 1. Effect of Warrior insecticide treatment on the yield of two soybean varieties.

Treatment	Yield (bu/a)
Warrior (2 sprays)	53.2
Check	52.6
LSD (0.05)	NS

For additional information, contact:

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