

SOYBEAN: *Glycine max* L. 'Pioneer '

FOLIAGE TREATMENTS AGAINST THE BEAN LEAF BEETLE IN SOYBEAN, 2005

Ronald B. Hammond

Department of Entomology
Ohio Agricultural Research & Development Center
The Ohio State University
Wooster, OH 44691
Phone: (330) 263-3727
Fax: (330) 263-3686
E-mail: hammond.5@osu.edu

Bean Leaf Beetle (BLB): *Cerotoma trifurcata*

Five foliage insecticides were tested against BLB at the Northwest Agricultural Research Station, OARDC, near Custar, OH. Tests were designed as a RCB with 7 treatments and 4 replications. Plot size was 10 ft (4 rows on 30 in centers) by 50 ft. Insecticides were applied using a bicycle sprayer with a 10 ft boom with 8 spray nozzles (2 directed nozzles per row) on 18 Aug. Spray nozzles were TeeJet TX-8, spray pressure at 30 psi, and spray output at 28.5 gpa. Soybeans were in growth stage late R5 (seed development). Treatments were intended to control the second generation and prevent pod injury. Pre-treatment sampling had indicated about 3 first generation BLB per 10 sweeps, and nearby areas suggested a building BLB population. Post-treatment samples were taken at approximately 7, 14, and 21 DAT. Pod injury was determined at 21 DAT by determining the percent injured pods. Soon thereafter, soybeans began yellowing and no further samples were taken. BLB data were transformed prior to analyses by $\sqrt{x + 0.5}$; pretransformed data are presented. Percent pod injury data were transformed by $\text{asin}(\sqrt{x})$; pretransformed data are presented. Yield data were taken following harvest.

Significant differences were obtained on all sampling dates in the numbers of BLB. All materials provided for reduced populations at the 7 DAT. However, AEF106464 was not significantly different from the check at 14 and 21 DAT. Sevin XLR, while slightly lower than the check at 14 DAT, did not provide that level of control as the pyrethroids. At 21 DAT, Sevin XLR was equal to the check. There were no statistical differences in percent pod injury at the 5% level; at the 10% level, both Baythroid and Warrior had half the percentage of pod injury as the other treatments. Of note, while Decis provided for reduced BLB densities on all sampling dates, numerically, pod injury was higher than expected. There were no differences in yields.

Treatment	Rate oz/acre	Soybean aphid per plant ^{a,b}			% Pod injury ^c	Yield
		7 DAT	14 DAT	21 DAT		
Baythroid	2.8	0.8 c	1.3 d	1.5 b	6.5 a	38.4 a
AEF 106464	0.87	3.5 b	42.5 a	33.8 a	12.0 a	42.7 a
AEF 106464	1.31	1.3 bc	29.8 bc	43.3 a	10.1 a	41.7 a
Sevin XLR	32.0	2.5 bc	24.5 c	47.3 a	11.7 a	42.0 a
Decis	1.9	2.8 bc	3.5 d	2.0 b	11.9 a	41.7 a
Warrior	2.56	2.0 bc	3.3 d	2.8 b	6.0 a	44.0 a
Check	--	30.0 a	36.5 ab	47.5 a	12.6 a	38.4 a

^aMeans in a column followed by the same letter are not significantly different (LSD, P = 0.05)

^bBLB data were transformed prior to analyses by $\sqrt{x + 0.5}$; pretransformed data are presented

^cPercent pod injury data were transformed by $\arcsin(\sqrt{x})$; pretransformed data are presented.