

Bean Leaf Beetles in Soybean; Flea Beetles in Field Corn

By Wayne Bailey

Bean leaf beetle adults leaving overwintering sites or moving from alfalfa fields after infesting them early season generally move to soybean fields. These beetles are capable of flying long distances and will seek seedling soybean plants on which they will feed, mate, and then oviposit eggs in the soil for the next generation of beetles. During this past week, bean leaf beetle numbers approached or exceeded economic levels in some Northern Missouri soybean fields. Most fields were early planted and received much precipitation following planting. Economic infestations of beetles were found in fields with and without insecticide treated seed. Insecticide trials conducted in Missouri and other states show that Cruiser and Gaucho are both very effective at controlling this insect pest under most environmental conditions. The problems encountered with control of early season bean leaf beetle in these few fields may be due to several factors including the long period of time between planting and the appearance of the beetles, the dilution of the insecticides by continuous wet soil conditions, or by

excessive numbers of beetles migrating into these fields. We know first planted fields typically attract high numbers of beetles. In addition, laboratory research from Minnesota and field trials from Missouri, Nebraska and other states show that under normal conditions seed treatments are very effective at early season insect control for about a 45-day period followed by a reduction in efficacy over the next few weeks. It is likely that all of these factors had some influence on the economic infestations of bean leaf beetle adults observed in northern Missouri soybean fields. The following insecticides are recommended for bean leaf beetle control in soybean.

Similar to bean leaf beetle, some flea beetle problems were observed on corn plants produced from both non-treated seed and seed treated with the 250 rate of insecticide. Flea beetles often damage corn grown from non-treated seed if beetle populations are high coming out of winter. In contrast, plants from insecticide treated seed rarely experience problems with this early season pest. The factors discussed previously with bean leaf beetle are

likely reasons for the economic damage seen with flea beetles in field corn. The problems encountered with seed-treated plants in northern Missouri soybean and corn fields are rare, but can occur when field conditions limit the efficacy of the insecticide seed treatments.

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Table 1. Bean Leaf Beetle

Bean Leaf Beetle			
Comments: Treatment on seedling soybean is rarely needed. If necessary, treat when five or more beetles are present per foot of row and 1 or more plants per foot of row are destroyed. Cold, dry growing conditions may lead to increases BLB problems on emerging and seedling soybean. Before bloom treat when 5 or more beetles are present per foot of row and defoliation exceeds 30%. At stages from bloom to pod fill, treat when defoliations reaches 20% and beetles average 10 or more per foot of row (30-inch rows) or 1 to 3 beetles (7-inch rows). At seed maturity, treat when 5%-10% of pods are damaged, plants are still green and 10 or more beetles per foot of row are present.			
Common Name	Trade Name	Rate of formulated material per acre	Placement
permethrin	*Ambush 25W	3.2 to 6.4 fl. oz.	On foliage
esfenvalerate	*Asana XL	5.8 to 9.6 fl. oz.	
cyfluthrin	*Baythroid XL	0.8 to 2.8 fl. oz.	
bifenthrin	*Brigade 2EC	2.1 to 6.4 fl. oz.	
chlorpyrifos + gamma-cyhalothrin	*Cobalt	19 to 38 fl. oz.	
dimethoate	*Dimethoate 4EC	1 pt.	
carbofuran	*Furadan 4F	1/4 to 1/2 pt. 2(ee) label	
zeta-cypermethrin +	*Hero	2.6 to 6.1 fl. oz.	
methomyl	*Lannate LV	3/4 to 1 pt.	
chlorpyrifos	*Lorsban 4E	1 to 2 pt.	

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Common Name	Trade Name	Rate of formulated material per acre	Placement
acephate	Orthene 97	3/4 to 1 lb.	On foliage
microencapsulated methyl parathion	*PennCap-M	2 to 3 pt.	
permethrin	*Pounce 3.2EC	2.0 to 4.0 fl. oz.	
lambda-cyhalothrin	*Proaxis	1.92 to 3.2 fl. oz.	
carbaryl	Sevin XLR Plus	1 to 2 pt.	
spinosad	Success	3.0 to 6.0 fl. oz.	
spinosad	Tracer 4SC	1.0 to 3.0 fl. oz.	
lambda-cyhalothrin	*Warrior	1.92 to 3.2 fl. oz.	

* Designates a restricted-use pesticide. Use is restricted to certified applicators only. Regardless of the formulation selected, read the label to determine appropriated insecticide rates, directions, precautions, and restrictions.

Table 2. Flea Beetles in Field Corn

Flea Beetles in Field Corn			
Comments: Treat when 5 or more beetles per plant are present or when seedling plants are being severely damaged or killed and beetles are present.			
Common Name	Trade Name	Rate of formulated material per acre	Placement
permethrin	*Ambush 25W	6.4 to 12.8 fl. oz.	Spray over row
esfenvalerate	*Asana XL	5.8 to 9.6 fl. oz.	Spray over row
cyfluthrin	*Baythroid XL	0.8 to 1.6 fl. oz.	Spray over row
bifenthrin	*Brigade 2EC	2.1 to 6.4 fl. oz.	Spray over row
chlorpyrifos + gamma-cyhalothrin	*Cobalt	13 to 26 fl. oz.	Spray over row
bifenthrin	*Fanfare 2EC	2.1 to 6.4 fl. oz.	Spray over row
zeta-cypermethrin + bifenthrin	*Hero	4.0 to 10.3 fl. oz.	Spray over row
methomyl	*Lannate LV	0.75 to 1.5 pt.	Spray over row
chlorpyrifos	*Lorsban 4E	1 to 2 pt.	Spray over row
chlorpyrifos	*Lorsban Advanced	1 to 2 pt.	Spray over row
zeta-cypermethrin	*Mustang Max	3.2 to 4.0 fl. oz.	Spray over row
chlorpyrifos	*Nufos 4E	1 to 2 pt.	Spray over row
microencapsulated methyl parathion	*PennCap-M	2 to 3 pt.	Spray over row
permethrin	*Pounce 3.2EC	4.0 to 8.0 fl. oz.	Spray over row
lambda-cyhalothrin	*Proaxis	2.56 to 3.84 fl. oz.	Spray over row
carbaryl	Sevin XLR Plus	2 to 4 pt.	Spray over row
lambda-cyhalothrin	*Warrior	2.56 to 3.84 fl. oz.	Spray over row
Seed Treatments:			
thiamethoxam	Cruiser	see product label	commercially applied to seed
clothianidin	Poncho	see product label	commercially applied to seed
tefluthrin	Proshield with Force ST	see product label	commercially applied to seed

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