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Michigan State University Extension Service  
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## Managing Bean Leaf Beetles in Soybeans

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The bean leaf beetle,<sup>1</sup> a serious soybean pest of the southern states, is becoming more common in southern Michigan. Adult beetles feeding on foliage and the developing pods can severely reduce yields.

### Description of life stages:

Adult bean leaf beetles are about 1/4 inch long and range from reddish brown to yellowish. They usually have black wing margins and two black spots on each wing cover. All bean leaf beetles have a black, triangular-shaped spot on the forward margin of the wings. Larvae are white, distinctly segmented, and are dark brown at both ends. They have three pairs of legs near the head. Mature larvae may be 1/2 inch long.

### Life cycle:

Adult bean leaf beetles overwinter in leaf litter and other vegetation. They primarily hibernate in wooded areas. These adult beetles emerge over an extended period beginning in May. They feed on a variety of legumes, including clover, alfalfa and soybeans. After feeding for several weeks, the adult beetles mate and lay eggs. Each female may deposit 175 to 250 orange eggs in clusters at the base of

soybean plants. Eggs hatch in about 3 weeks and the larvae begin feeding on plant parts below the soil surface. Mature larvae form earthen cells where they pupate. Adult beetles emerge to feed on bean plants until the onset of cool weather, when they begin hibernation.

### Damage:

Although both the larvae and adult beetles feed on soybeans, adults cause the most damage. In the spring emerging beetles feed on the cotyledons, unifoliate and trifoliate leaves of small soybean plants. They prefer to feed on the youngest plant tissue available, and may completely defoliate the plant.

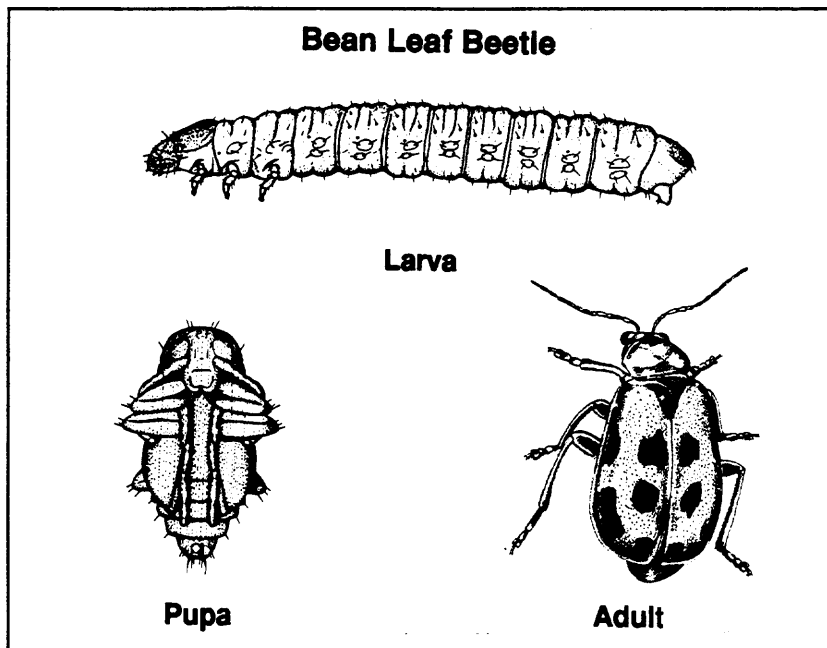
Adults from the next generation, emerging in late July and early August, feed on the leaves, blossoms, and developing pods. This feeding reduces pod set and seed quality.

### Management:

**Biological Control**—In some areas a tachinid fly aids in controlling this pest by parasitizing beetles. However,

little is known about the natural enemies of bean leaf beetles in Michigan.

**Cultural Control** - Bean leaf beetle adults are attracted to the earliest planted beans in a given area; and these fields should be checked frequently



<sup>1</sup> Bean Leaf Beetle: *Cerotoma trifucata* (Forster)

after emergence to detect damaging populations. In heavily infested areas, planting dates may be adjusted to miss peak beetle populations. Resistant varieties are also available for partial control of this pest in some areas.

**Chemical Control** - An insecticide application may be justified if foliage or pod feeding is excessive. Banded applications are effective and economical for controlling first generation adults. Consult the table for insecticide recommendations and rates.

## Recommended insecticide applications for controlling bean leaf beetles in soybeans.<sup>1</sup>

<u>Chemical</u>	<u>Formulation</u> <sup>2</sup>	<u>Rate</u> <sup>3</sup>	<u>RUP</u> <sup>4</sup>	<u>Restrictions &amp; Precautions</u> <sup>5</sup>
carbaryl (Sevin)	4F	1/2 to 1 qt	N	Do not mix with 2,4-DB herbicides.
Lorsban	4E	1 - 2 pt	N	28-day PHI, do not feed forage.
Lannate	90 SP	1/2 lb	Y	10-day PHI forage, 14-day beans.
Orthene	75 S	2/3 - 1 1/3 lb	N	14-day PHI, do not feed vines.
dimethoate (Cygon)	4EC	1 pt	N	5-day PHI grazing, 21-day beans.
Asana XL	0.66 EC	5.8 to 9.6 oz	Y	21-day PHI, do not feed forage.
permethrin (Pounce, Ambush)	3.2 EC 25WP	2 - 4 oz 3.2 - 6.4 oz	Y Y	60-day PHI, do not feed vines.
Penncap-M	2 EC	2 - 3 pt	Y	20 day PHI.
Larvin	3.2 EC	1 1/2 pt	N	28-day PHI, do not feed vines.

<sup>1</sup> Be sure your equipment is properly calibrated. Refer to Extension Bulletin E-1582 **Chemical Control of Insects and Nematodes in Field and Forage Crops**, available at your county Extension office.

<sup>2</sup> Other formulations may be available.

<sup>3</sup> Rate per acre. Full coverage is not required, and 1 gal of spray per acre by air or 10 gal of spray per acre with ground equipment is sufficient.

<sup>4</sup> Restricted use pesticide. If yes (Y), a pesticide applicator certification is required.

<sup>5</sup> PHI = Pre-Harvest Interval.

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**To protect yourself and others and the environment, always read the label before applying any pesticide.**

This publication contains pesticide recommendations based on research and pesticide regulations. However, changes in pesticide regulations occur constantly. Some pesticides mentioned may no longer be available, and some uses may no longer be legal. If you have questions about the legality and/or registration status for using pesticides, contact your county Cooperative Extension Service office or the manufacturer's representative.

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