5-1-2002

SP341-Z Mexican Bean Beetle

The University of Tennessee Agricultural Extension Service

Agricultural Extension Service
The University of Tennessee
SP341-Z

Insects

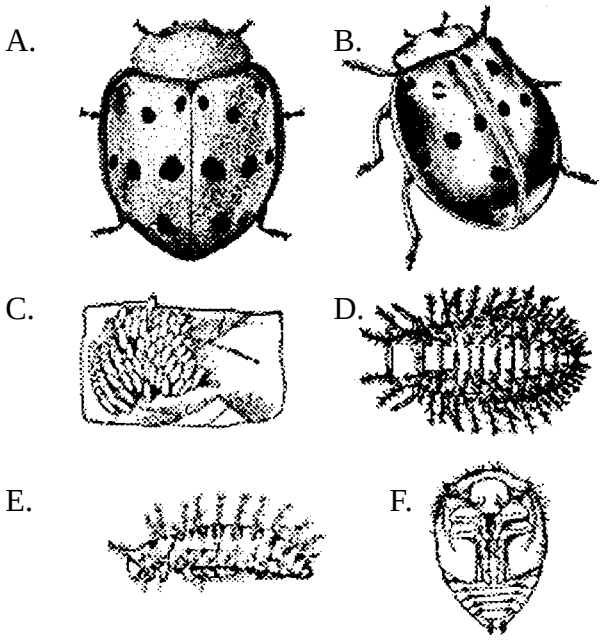
Mexican Bean Beetle

Frank A. Hale, Associate Professor
Entomology and Plant Pathology

The Mexican bean beetle, *Epilachna varivestis* Mulsant, is the most injurious insect pest of beans. The adults are 1/4 to 1/3 inch long, slightly oval and yellowish with 16 black spots on their wing covers (elytra). The adults look like large ladybird beetles and are classified in the ladybird beetle family, Coccinellidae. While the Mexican bean beetle and the closely related squash beetle feed on plants, other ladybird beetle species prey on insects and mites.

Life History

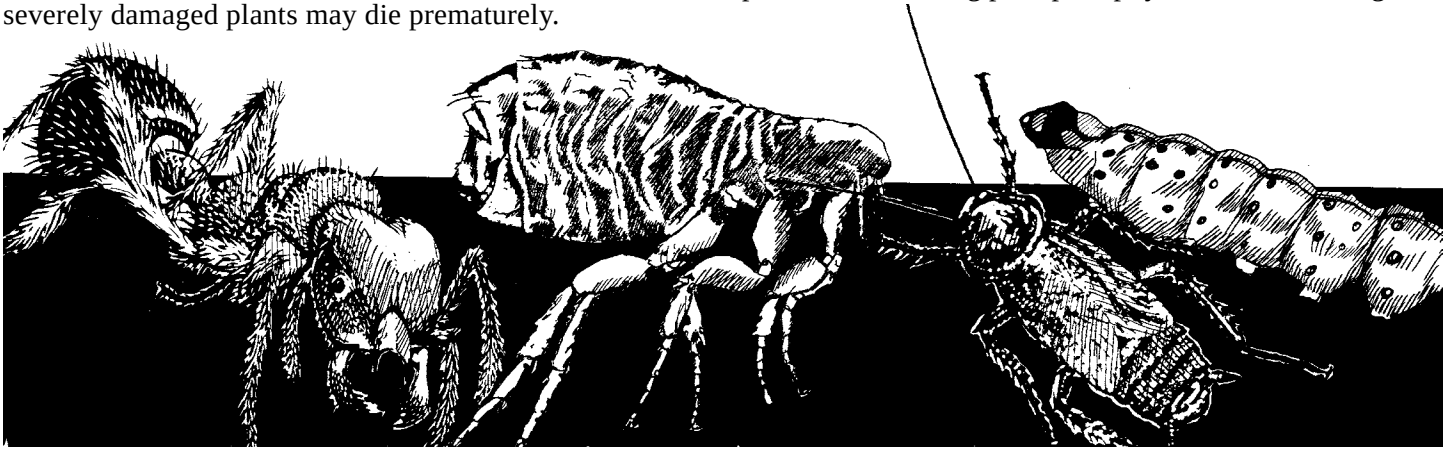
The adult Mexican bean beetle overwinters under leaves or other debris in grassy, weedy areas and around fence rows or trees. The adults move into the bean fields and gardens soon after the bean plants emerge. The adults feed for a week or two before laying their yellow egg masses on the underside of the leaves. The eggs hatch in five to 14 days. The bright yellow larvae are oval-shaped with six rows of branched spines. The larvae feed for two to five weeks. Larvae and adults feed on all types of beans and are an occasional pest of soybeans. They generally feed on the underside of leaves, removing all of the leaf tissue except the clear layer on the upper side of the leaf, called the epidermis. This damage, called "window-paning," gives the leaves a lace-like or skeletonized appearance. The remaining leaf tissue turns brown in a couple of days, giving the field a burnt cast. New pods and stems are often attacked, and severely damaged plants may die prematurely.



Mexican bean beetle. A-B-adults, C-eggs, D-E-larvae, F-pupa

Control

Early-maturing bean varieties and fall plantings allow crops to escape most of the serious Mexican bean beetle damage occurring in July and August. Destroying old plants and removing pods promptly will aid in slowing the



buildup of Mexican bean beetle populations. Treatment is needed if populations of more than one adult per two plants or more than one egg mass per foot of row are found.

Chemical Control Measures

Insecticide – Foliar Application

acephate (Orthene 97 PE)
[1]carbaryl (Sevin 50WP, Sevin 80WP, Sevin XLR)
[2]encapsulated methyl parathion (Penncap-M)
[3]esfenvalerate (Asana XL)

[1]On young plants use the lowest label rate of Sevin.
[2]Penncap-M can be used only if the snap or lima beans are to be harvested as dry beans. Do not apply when bees are foaraging on blooms.
[3] Snap beans are the only type of succulent bean on which Asana XL can be used.

Insecticide – Soil Applied at Planting

disulfoton (Di-Syston 15G)
[4]phorate (Thimet 15G)

[4]When using Thimet 15G, drill the granules to the side of the seed to avoid contacting the seed with the insecticide.

References

Carter, C.C., & K.A. Sorensen. 1983. Beans and Peas, pp. 31-45. K.A. Sorensen and J.R. Baker [eds.], Insect and Related Pests of Vegetables, Some Important, Common and Potential Pests in the Southeastern United States. The North Carolina Agricultural Extension Service, North Carolina State University, Raleigh, NC.

Flood, B., R. Foster, & B. Hutchinson. 1995. Beans, pp. 41-54. R. Foster and B. Flood [eds.], Vegetable Insect Management with Emphasis on the Midwest, Meister Publishing Co., Willoughby, Ohio.

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you mix, apply store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

Disclaimer Statement

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticide regulations are continuously reviewed. Should registration or a recommended pesticide be canceled, it would no longer be recommended by The University of Tennessee.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

SP341Z-500-5/02(Rev) E12-4615-00-031-02