



AGRONOMIC SPOTLIGHT



IDENTIFYING BEAN INSECT PESTS—CATERPILLARS

- » Several of the caterpillar pest that attack corn and soybeans also attack green beans
- » Caterpillar feeding can damage developing leaves, buds, and pods.
- » The presence of caterpillars in harvested beans may result in lots being rejected by processors or purchasing agents.

ARMYWORM

Armyworms get their name from the behavior of some species of armyworm of moving across fields in large numbers in an army-like fashion.¹ There are several species of armyworm that can feed on green beans, with the beet armyworm and yellowstriped armyworm typically being the most problematic.^{2,3}

Beet armyworm larva are 1¼ inches long when fully grown. They have dark colored heads and four pairs of prolegs. Their color can vary from olive green to black, and they have broad stripes along their sides with fine wavy white lines on their backs (Figure 1A). The adult beet armyworm moth is mottled gray/brown with a one inch wingspan. Western yellowstriped armyworm larva are 1½ to 2 inches long and black with prominent yellow stripes along their sides (Figure 1B). The adult yellowstriped armyworm moths are brownish gray with complicated patterns of light and dark markings and a wingspan of about 1½ inches (Figure 2). Armyworm feeding results in skeletonized leaves, with just the vein tissues remaining, and damaged pods with scars and holes.



Figure 1. Larval stages of (A) the beet armyworm and (B) the yellowstriped armyworm. (A) Frank Peairs, Colorado State University, Bugwood.org; (B) Russ Ottens, University of Georgia, Bugwood.org.



Figure 2. Adult state of the yellowstriped armyworm. Natasha Wright, Cook's Pest Control, Bugwood.org.

CORN EARWORM

Corn earworms are most problematic on late planted beans.⁴ The larva are light-green to pink or brown in color with lighter colored underparts. Alternating light and dark stipes run along the length of the body and double dark stripes run down the center of the back.¹ The head capsule is usually yellow, the legs are nearly black in color, and dark tubercles (spots) may be present (Figure 3). Adult moths are ¾ to 1 inch long and have buff colored forewings with dark lines or spots near the tips (Figure 4). Corn earworm larva feed on leaves, buds, flowers, and pods. They prefer to feed on pods where they chew holes in the pod walls.



Figure 3. The larval stage of the corn earworm.

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Figure 4. Corn earworm moth. Steve L. Brown, University of Georgia, Bugwood.org

To manage corn earworm, begin insecticide applications when pod damage reaches 5% or at least one larva is detected for every three feet of row on average.

EUROPEAN CORN BORER

Young European corn borer larva have translucent, white bodies, $\frac{1}{32}$ to $\frac{1}{16}$ inch long, with brown heads. They gradually turn beige with blackish heads and develop two brown spots on each body segment (Figure 5).⁵ The adult moths have alternating yellow and brown wavy lines across each wing (Figure 6).¹ The female moths lay eggs in fish scale -patterned masses on the undersides of leaves.



Figure 5. Larval stages of the European corn borer.

European corn borers infest and feed on green bean late in the spring, before corn is available, and late in the summer, after preferred hosts start to senesce. Larva feed on leaves,

petioles, and stems of bean plants before pods are present. Once pods form, the larva bore into the pods, making holes. The main economic losses come from larva contamination in harvested beans.⁶ Insecticide applications may be needed if plants are starting to bloom and the adult ECB black light trap numbers exceed 15 moths/night (1st generation) or 100 moths/night (2nd generation).⁷ After trap numbers decline, delay additional applications until pods are 1 inch long.



Figure 6. Adult European corn borer moths . Adam Sisson, Iowa State University, Bugwood.org

Sources:

- ¹ University of Illinois Insect fact sheets
<http://extension.cropsciences.illinois.edu/fruitveg/insects/>
 - ² Godfrey, L. and Long, R. 2008. UC pest management guidelines: Dry beans. UC IPM. Armyworm (beet armyworm *Spodoptera exigua*, western yellowstippled *S. praefica*)
 - ³ Bessin, R. 2003. Beet armyworm in Kentucky. University of Kentucky Cooperative Extension Service. ENTFACT-308.
 - ⁴ Griffin, R. Insect Pest of Beans and Southern Peas. Clemson Cooperative Extension. <https://www.clemson.edu/extension/publications/entomology/fruit-vegetable/insect-pests-of-beans-and-southern-peas-fv08.html>
 - ⁵ Reiners, S., Wallace, J., Curtis, P., Helms, M., Landers, A., McGrath, M., Nault, B., and Seaman, A. 2018. Cornell Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production. Cornell Cooperative Extension.
 - ⁶ The European corn borer. Iowa State University, Department of Entomology. <https://www.ent.iastate.edu/pest/comborer/commodities/snapbean>.
 - ⁷ Colquhoun, J., Gevens, A., Groves, R., Helder, D., Jensen, B. Nice, G., and Ruark, M. 2018. Commercial Vegetable Production in Wisconsin. University of Wisconsin Extension. A3422.
- Websites verified 3/30/2018.

For additional agronomic information, please contact your local seed representative. Developed in partnership with Technology Development & Agronomy by Monsanto.

Performance may vary from location to location and from year to year as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. The recommendations in this article are based upon information obtained from the cited sources and should be used as a quick reference for information about bean insect pests. The content of this article should not be substituted for the professional opinion of a producer, grower, agronomist, pathologist and similar professional dealing with this specific crop. SEMINIS DOES NOT WARRANT THE ACCURACY OF ANY INFORMATION OR TECHNICAL ADVICE PROVIDED HEREIN AND DISCLAIMS ALL LIABILITY FOR ANY CLAIM INVOLVING SUCH INFORMATION OR ADVICE. 180118121736 042018DME