

Western Bean Cutworm damage to dry beans

CDD #11 2010
Revised 2016

Chris DiFonzo, Field Crops Entomologist
Michigan State University, East Lansing

Western bean cutworm (WBC) has a host range which includes both field corn and dry beans (soybeans are NOT a host). Female moths prefer to lay eggs in late whorl stage to pre-tassel corn. In central Michigan and the Thumb, where dry beans are grown, moths deposit eggs in dry bean fields as well. This is particularly true if the nearby corn has tasseled and pollen shed is complete. As corn matures, females switch to egg laying entirely in dry beans. Egg masses are laid on the undersides of bean leaves, making it difficult to scout. The pictures below were taken on corn, showing the size and shape of egg masses and larvae relative to a penny.

2-3 day-old egg mass on corn



Newly hatched larvae.



Young larvae feed first on leaves near the egg mass, leaving a small area of skeletonizing (left) that is easy to miss or confuse with feeding by another insect. Once the tiny larvae disperse, they are very difficult to find in the canopy. Larvae feed first on leaves and blossoms. As they grow, they begin to chew small holes into pods (right), opening pods up to pathogens and other insects.



Older larvae chew directly through pods into developing beans (below left, middle). During the day, these larvae hide at the base of the plant under residue or in soil cracks, crawling up on the plant only at night or on cloudy days to feed. This makes it difficult to directly scout for caterpillars, and also increases pod damage, since a larva likely chews into a different pod each night. It is common to find only a single bean damaged in an individual pod (below right).



beans from 3 separate pods

Damaged pods are obvious after defoliation (left). Feeding on beans directly reduces yield, but more importantly, damaged beans may be difficult to separate from whole beans (right). Thus WBC causes additional economic loss through the extra handling time required to separate the extra pick (and even live larvae) from marketable yield. There is also the added risk that a damaged bean may make it into a canned or dried product.

