

# PROTECT YOUR HYBRIDS FROM WESTERN BEAN CUTWORM

Agrisure Viptera® is the only trait available today that effectively controls western bean cutworm. With limited trait options for this difficult-to-control pest, it is imperative that best management strategies are followed to limit damage, spread of the pest, as well as trait resistance.

## WESTERN BEAN CUTWORM

The western bean cutworm is native to North America, and has progressively spread through the Corn Belt and into Canada. Egg masses of up to 200 pin-sized eggs are laid in the plant leaves and mature quickly over a few days.

Eggs will appear ready to hatch once they turn from white to tan to purple.

Young larvae are dark brown and easy to identify, due to the faint diamond marking on their backs. As larvae mature, they turn grey and then pinkish brown. Mature larvae have three short white stripes behind the head capsule. As larvae progress through the 3rd to 5th instar, these stripes turn brown.

Adult moths have a white band running along the edge of the wing with a crescent moon marking approximately two-thirds down each wing.

## PLANT DAMAGE

Young larvae feed on pollen and silks, then chew through the husk and devour developing kernels on the ear. Damaged kernels are susceptible to mold and mycotoxin development, including aflatoxin and fumonisins, which leads to quality degradation that can negatively affect the price of grain and can be potentially harmful to livestock.



**Infestation window:** mid- to late-July, with potential feeding throughout maturity.



## AGRISURE VIPTERA

Agrisure Viptera® trait stacks provide the most comprehensive above-ground corn insect control, reducing insect feeding damage to ears and protecting the quality of grain. By controlling major leaf-, stalk- and ear-feeding corn insects, including Western bean cutworm, the Agrisure Viptera trait offers better crop stand and limits the levels of ear-feeding, and disease and mycotoxin development, resulting in better quality, increased yield and profit potential.

Agrisure Viptera (right) versus ears from hybrids without Agrisure Viptera (center and left) shows no Western bean cutworm damage under heavy pressure.

 **Agrisure Viptera®**

 **syngenta®**

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## SCOUTING FOR WESTERN BEAN CUTWORM

Traditional scouting and proper timing of insecticide applications to control western bean cutworm can be extremely difficult. Infestations are often patchy and may occur over a span of several weeks, requiring multiple scouting visits and creating challenging treatment decisions. The timing of treatment is critical. After larvae enter the ear, they are less likely to be effectively managed with insecticides.

Scouting should begin once moths are active and when corn is in the pre-tassel stage. It is important to monitor adult flights of western bean cutworm with pheromone traps to determine pest presence. The best, and proper, method of scouting for western bean cutworm egg masses in your field is to check 20 plants in 5 areas from early July to the end of August, particularly when the crop is in the pre-tassel to full tassel stages. Focus on the top three to four upper leaves of the plant and look for egg masses and young larvae. If young egg masses (white in colour) are seen, flag the plant and check in a few days if they have turned purple, indicating readiness to hatch (occurs one to two days after turning colour). Western bean cutworm threshold to indicate spray is 5% when there is an accumulation of 5% of the plants with fresh egg masses or small larvae.

For more information on scouting techniques, visit the Ontario Ministry of Agriculture Food and Rural Affairs Pub 811 document at <http://www.omafra.gov.on.ca/english/crops/pub811/pub811.pdf>

## TREATMENT FOR WESTERN BEAN CUTWORM

Foliar insecticides containing lambda-cyhalothrin (IRAC group 3A; Matador® 120EC, Voliam Xpress®), chlorantraniliprole (IRAC group 28; Voliam Xpress, Coragen®), and deltamethrin (IRAC group 5; Delegate®) are useful as treatment options for western bean cutworm. It is important to refer to product labels for proper use rates and spray timings for western bean cutworm, and to consider these timings when scouting corn fields. For high pest pressure fields where more than one application of an insecticide for western bean cutworm control is required, it is important to rotate modes of action of insecticide within the same field season, so as to delay pest resistance to these active ingredients. Note that Voliam Xpress contains both lambda-cyhalothrin and chlorantraniliprole, two effective western bean cutworm pesticides of differing modes of action; therefore, potential for cross resistance is reduced if a second application of an insecticide is required.

## THE AGRISURE VIPTERA ADVANTAGE

Because Agrisure Viptera corn contains the protein Vip3A, no additional treatments of insecticide need be made on these fields. If unexpected damage of corn fields Agrisure Viptera is noted, contact Syngenta Canada immediately.

## AVOIDING RESISTANCE

To effectively control western bean cutworm, plant an Agrisure® Bt hybrid containing Vip3A, along with the corresponding refuge, and apply Best Management Practices such as scouting and proper crop rotation. To improve longevity of western bean cutworm treatment options in corn, consider rotation of trait and insecticide treatment options yearly. Crop rotation in fields is also a highly valuable option to reduce pest pressures and avoid the same traits and insecticides in fields year-on-year.

