

EUROPEAN CORN BORER

NOT KNOWN TO
OCCUR IN IDAHO



Common name: European Corn Borer

Scientific name: *Ostrinia nubilalis* (Hübner)

The European corn borer, *Ostrinia nubilalis* (Hubner), was first identified from the Boston, Massachusetts area in 1917. It is believed to have been introduced into the United States on broom corn imported from Hungary and Italy. Since its introduction, it has become established in most states east of the Rocky Mountains. The corn borer has been present in Pennsylvania for at least 60 years.

Hosts

Although the preferred host plant is corn, ECB also attacks other vegetables such as beans, peppers, lettuce, tomatoes, and potatoes. Many weeds are also attacked, allowing early larvae to survive and produce a larger second generation that attacks.

Description

The female is a creamy yellow-brown moth. The outer third of the forewing is marked by two darker serrate lines that run across the wings; the hind wings are unmarked. The white eggs are laid, overlapping like fish scales, in masses of 5 to 50, on the undersides of the leaves, especially on the lower leaves near the midrib on young corn plants. In a few days they become cream-colored and dull, later orange-tan before finally entering the pin-head stage when the black heads of the unhatched larvae show through the transparent egg membrane. The ECB larva is flesh colored (light gray to faint pink), with small dark brown spots on each segment. The 1-inch larva has a brown head capsule and indistinct longitudinal reddish stripes. The .75 inch reddish-brown pupa forms in a chamber inside the stems.

Life History

The mature ECB larvae overwinters in the stems of the host -- in corn in the lower 6 to 3 inches of the stalk. In the spring they pupate there in a flimsy cocoon and emerge in 2 to 3 weeks. There are two strains possible in Vermont -- a single (univoltine) and a two-generation (bivoltine) biotype. Adult moth flights have been closely correlated with degree day (DD) temperature accumulations. On warm, calm evenings, the moths, which can survive for up to 3 to 4 weeks, fly from resting areas in weedy, grassy edges, etc., into crop fields and lay their eggs. First generation females are attracted

to the tallest corn. Each moth deposits an average of two egg masses per night for 10 nights (most in nights 1 to 6).

Eggs hatch in 4 to 9 days and within hours after hatching, the tiny larvae crawl to protected places and feed. Infestations on corn are most easily recognized by the characteristic shot-hole leaf damage. The young larvae feed until nearly half grown in closely pressed places between furled leaves, in whorls, in tassels, beneath husks, between ear and stalk -- before boring into the midrib stalk or ear for the rest of their development. Corn borer larvae pass through five stages (instars). Mature larvae of the two-generation strain, after feeding in June and July, pupate in late July with moths emerging in August. Second generation larvae go into diapause and overwinter. (Single-generation strain larvae go directly into diapause once mature to emerge the following July.)

Damage

The ECB attacks all parts of the corn stalk and the ear. Larvae also infest green, wax, lima, and soy beans, green peppers, potatoes, tomatoes, apples, small grains, millet, buckwheat, sorghum, dahlias, smartweed, pigweed, and most other commercial crops and weeds. The larvae also bore into bean pods. Larvae feed on corn leaves and cause shot-hole damage before entering the midrib stalk or tassel, often causing a characteristic breakage. Damage results from defoliation and boring, which reduces the translocation of nutrients and water resulting in reduced yields. Extensive tunneling can structurally weaken the plant, cause stalk breakage, and result in yield reduction if harvesters miss the dropped ears. Second generation ECB may enter the ear from the base, side, or tip and greatly affect fresh market sweet corn quality or salability.

Other Resources

http://creatures.ifas.ufl.edu/field/e_corn_borer.htm

http://www.ento.psu.edu/extension/factsheets/european_corn_borer.htm

<http://www.ent.iastate.edu/pest/cornborer/insect>

