

Eurasian Hemp Borer

Caterpillars of the **Eurasian hemp borer** (*Grapholita delineana*) may be found in various parts of hemp plants, developing as a borer. Prior to flowering the insect develops in small stems and branches. After flowering the caterpillars may also feed on the developing seeds.

(Note: This insect is also known as the hemp borer, and the Eurasian hemp moth.)

The caterpillars (or larvae) are quite small, reaching a maximum size of about 6-8 mm. Younger larvae are cream colored (Fig. 1), with a dark brown head. As they become full-grown and near pupation they become orange or orange-red (Fig. 2).

The stage that survives through winter outdoors is a full-grown larva found within the stems/branches or seed heads of hemp. They will transform to the pupal state in late winter/early spring and later emerge as the adult moth (Fig. 3).

After mating the females lay eggs on hemp plants. Upon hatch from the egg the caterpillar attempts to tunnel into the plant, often entering at junctions of branches (Figure 4). Points where they do enter are often marked with a bit of loose frass (their sawdust-like excrement). The larvae develop within the stem/branch and the sites of injury typically show a slight swelling.

This insect will also move into seed heads in late summer, feeding on developing seeds or causing wilting of a bud or small flower stalk that it has tunneled. At harvest the caterpillars are sometimes noticed, as small reddish-orange worms.



Figure 1 (top). Larva of a Eurasian hemp borer within hemp stalk.

Figure 2 (bottom). Full-grown larva of Eurasian hemp borer, showing the orange or reddish coloration typical of the late stage.



Figure 3. Adult of the Eurasian hemp borer.

There are probably two, perhaps three, generations produced per year with the first being completed in late June/early July

Cannabis sp. plants are reportedly the only host for this insect. The Eurasian hemp borer is apparently widespread in eastern North America but has recently been found in Weld, Otero, and Yuma counties in eastern Colorado. Further spread of this insect is likely, which can occur through natural spread and by human transport of cuttings and live plants that contain live stages.

The potential of Eurasian hemp borer to seriously damage hemp crops in Colorado is unclear at this point. Conditions that are likely to favor problems are: 1) the presence of large amounts of crop debris between growing seasons, which will support overwintering stages; 2) the presence of volunteer hemp or very early planted hemp which can sustain the first generation; and 3) continuous culture of hemp in the same site for several years.

Another insect that can develop within the stems of hemp is **European corn borer** (*Ostrinia nubilalis*). This is a substantially larger insect than Eurasian hemp borer and never produces reddish orange forms. It is widespread in eastern North America but in Colorado issues with European corn borer are limited to the northeastern counties.

Lepidoptera: Tortricidae



Figure 4. Slight stem swelling and extruded frass (excrement) indicating point where a Eurasian hemp borer has tunneled.