

50. Lesser Cornstalk Borer

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Hosts

The lesser cornstalk borer (*Elasmopalpus lignosellus*) affects seedlings of Arizona cypress, bald-cypress, black locust, dogwood, tupelo-gum, loblolly pine, redcedar, sand pine, slash pine, and sycamore.

Agricultural host plants (over 60 species) include beans, corn, millet, peas, sorghums, and soybeans.

Distribution

The insect is found from Maine to southern California and southward to Mexico (fig. 50-1), but damage is most severe in southern nurseries.

Damage

Complete girdling results in death of the seedling. Partially girdled seedlings usually recover. Mortality in Arizona cypress may be increased by infection of wounded seedlings by the fungus *Dothiorella* sp.

Diagnosis

Look for wounds caused by larval feeding below to just above ground-line (fig. 50-2). Bark may be completely or partially removed for 2 to several centimeters. Girdled seedlings remaining alive may have a gall-like swelling on the stem just above the girdle (fig. 50-3). Partial girdles on the stem are usually closed by callus formation (fig. 50-4). Severely damaged seedlings die and may remain upright or fall over.

The slender larvae of the lesser cornstalk borer are less than 2.5 cm in length. They are pale green and have brown banding or stripes (fig. 50-5). Silk tunnels, which

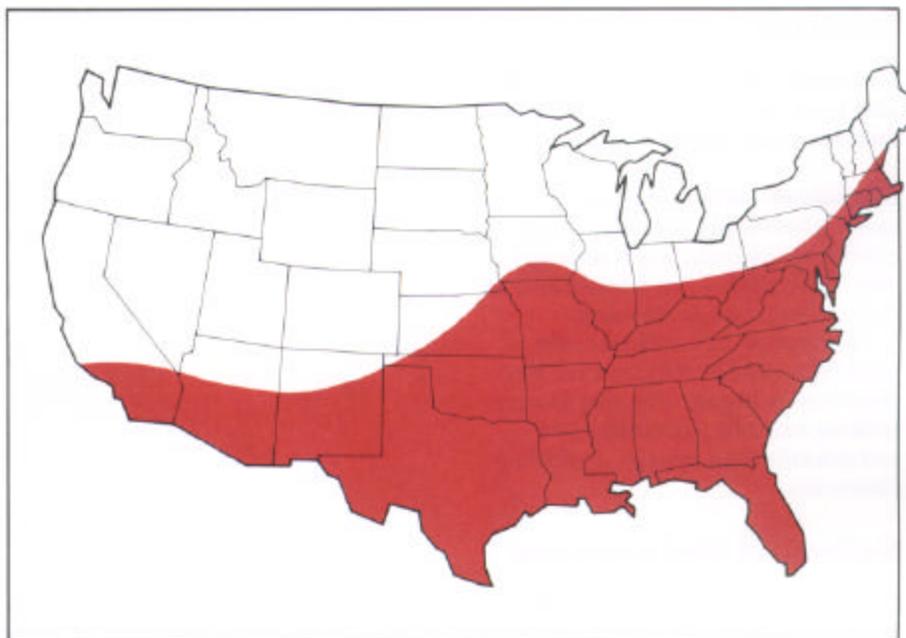


Figure 50-1—Distribution of the lesser cornstalk borer.



Figure 50-2—Feeding wound made by larvae of lesser cornstalk borer.



Figure 50-3—Gall-like swelling on seedling stem just above girdle made by larvae of lesser cornstalk borer.



Figure 50-4—Callused feeding wound on seedling stem made by larvae of lesser cornstalk borer.

protect inactive or disturbed larvae, can sometimes be seen radiating from feeding sites.

Larvae wriggle furiously when captured. They are, however, difficult to find. Moths are more readily observed than larvae and are often seen in short and erratic flight patterns just above the seedling tops. They are light- to dark-brownish gray and have a wingspan of approximately 2.5 cm (fig. 50-6).

Biology

The lesser cornstalk borer has two to four generations per year. By late summer, most life stages can be found.

After emerging from the soil in late spring, moths mate, and female moths deposit eggs singly in the soil at the bases of host plants or on stems and lower leaves. Each female lays approximately 125 eggs. Eggs hatch within 1 week, and larvae mine lowermost



Figure 50-5—Larva of lesser cornstalk borer.



Figure 50-6—Adult of lesser cornstalk borer.

branches or begin semisubterranean feeding on stems and roots. Larvae feed from 2 to 3 weeks. Pupation occurs in silk tunnels or soil litter and takes 2 to 3 weeks. Then new adults emerge, mate, and live about 10 days.

Larvae or pupae overwinter in the soil or soil litter.

Control

Cultural—Certain cover crops, sandy soils, and droughty weather encourage infestations in forest nurseries. Practice general sanitation measures, late fall plowing, and nonsusceptible cover crop rotation to reduce the incidence of lesser cornstalk borer.

Chemical—Apply a preventive insecticide. Granular insecticides

like carbofuran, chlorpyrifos, diazinon, fensulfothion, or fonofos can be applied to the soil when the cover crop is planted. The insecticide used will depend on the cover crop. A remedial, supplementary treatment may also be required.

Apply an insecticide such as carbaryl or diazinon as a soil drench at the first sign of seedling damage. Additional applications may be needed because the silk tunnels of the larvae make it difficult to ensure that the insect has been adequately exposed to the insecticide.

Selected References

Davis, T.C.; Goggans, J.F.; Meier, R.J. 1974. Pest control problems encountered in seedling production of Arizona cypress in Alabama. *Tree Planters' Notes*. 25(2): 7-9.

Leuck, D.B. 1966. Biology of the lesser cornstalk borer in south Georgia. *Journal of Economic Entomology*. 59: 797-801.