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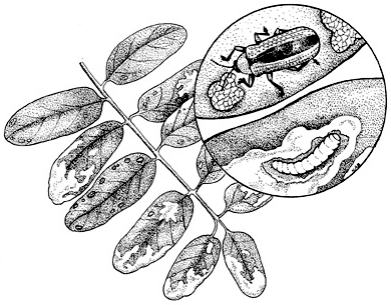
LOCUST LEAFMINER

Coleoptera: Chrysomelidae: *Odontota dorsalis* (Thunberg)

By Eric Day and D. Ames Herbert

PLANTS ATTACKED: Black locust is the preferred host for the larval stage but the adults can be found feeding on apple, oak, birch, beech, elm, cherry, and hawthorn. Locust leafminers are known to feed on soybeans as both larvae and adults when populations are high but damage is considered minor.

DESCRIPTION OF DAMAGE: Feeding damage from this beetle is most commonly noticed on black locust growing along interstate highways in Virginia. The primary and most conspicuous damage is caused by the leafmining activities of the larvae. Larvae feed inside the leaves on the inner layers. In the beginning the mine is small, but it is gradually enlarged until most or all of the leaf is affected. A single leafminer may attack several leaves. The mine or blister is at first clear, but later turns brown as the leaf dries out. Leaves damaged by the locust leafminer may turn entirely brown and cling to the tree for some time, giving the tree a blighted look. This damage is most noticeable in the late summer along major interstate highways where it will seem that miles of trees have brown leaves.



Locust Leafminer as adult [top] and larva [bottom]

IDENTIFICATION: The adult is a small-flattened beetle that is about 5-6 mm long. The head is black and the thorax and the outer margins of the elytra are orange. It has a prominent black dorsal stripe running down the middle of the back. The elytra are deeply pitted and have three longitudinal ridges each. The eggs are flat, white and oval. They are laid in small clusters of three to five on the underside of the leaves. The yellowish larvae are flattened as well.

LIFE HISTORY: There are two generations a year in Virginia. Adults overwinter in bark crevices and leaf litter of black locusts. They start getting active in late spring about the time leaves start to unfold. The adults initially feed on the lower surface of leaves, skeletonizing and chewing small holes. After the eggs are laid on the new leaf, the larvae feed gregariously in one leaf, but eventually they create their own mine. They pupate in the leaf and emerge in July. If the tree has grown new leaves, the larvae will attack the new set. The second-generation adults will emerge in late summer and seek a site for overwintering.

Adult locust leafminer and feeding damage. Tim Tigner, Virginia Department of Forestry, Bugwood.org

CONTROL: The skeletonizing by the adults is usually very minor and control is not warranted. The leafmining is usually only detrimental on trees

that are attacked repeatedly. In addition, black locusts are rarely grown for ornamental or shade tree purposes and usually have a low value. If control is desired, the best time to treat is in late May or early June when the adults are active and the mines are less than 1/4 inch in length. An insecticide with some systemic activity will give the best control.

Soybeans rarely have locust leafminers reaching economic thresholds and control is only warranted if defoliation of the vegetative stages reaches 35 percent or more. Most common soybean insecticides used at a low rate will give good control.

Locust leafminer damage to leaves. Bruce W. Kauffman, Tennessee Department of Agriculture, Bugwood.org

REMARKS: This beetle used to be considered a sporadic pest that would cause outbreaks every few years. In recent years outbreaks have occurred year after year in some locations such as borders of highways. Low tree mortality is observed in these sites and trees seem to be able to withstand repeated defoliation.

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