



Leafhoppers

Several species

Order Hemiptera, Family Cicadellidae; leafhoppers

Native and introduced pests

Host plants: Apple, birch, cherry, cottonwood, dogwood, elm, honeylocust, oak, poplar, red maple, willow and other ornamental plants

Description: Adult leafhoppers range in size from 3–15 mm. They hold their wings roof-like over their backs and they have rows of small spines along both hind legs. Most are green, but can be a great variety of other colors. Nymphs are similar though smaller, and with only short wing buds.

Life history: Adult potato leafhoppers arrive in the spring on winds from the south. There are several generations a year.

Overwintering: Most adults migrate from the South in the spring and do not overwinter in Minnesota.

Damage symptoms: The feeding of most leafhoppers cause white stippling of foliage. Other leafhoppers cause browning, stunting, withering, and curling of leaves, which is often called hopper burn. Potato leafhopper, *Empoasca fabae*, causes hopper burn on red maple and other important shade trees and shrubs. Leafhoppers can carry the bacterium, *Xylella fastidiosa*, which causes bacterial leaf scorch in elms, oaks, maples, and sycamores. Leafhoppers can also carry a phytoplasma which causes the disease known yellows, ash yellows affects ash, and elm yellows affects elms. Aster yellows affects coneflower, *Echinacea*. Aster yellows is spread from plant to plant by the leafhopper, *Macrostelus phytolasma*. Once infected, diseased plants should be promptly removed and discarded to reduce further spread. See chapter 7.

Monitoring: On maple, look for leafhoppers on the leaf underside. Look for stippling of leaves and curled or stunted shoot tips. Inspect trees regularly looking for leafhoppers feeding on the lower surface of leaves. Look also for distorted or stunted growth and yellow leaves.

Physical control: Remove plants exhibiting the scorch-like symptoms or the distorted and stunted growth of aster yellows.

Cultural control: Avoid over fertilization, which may cause populations of leafhoppers to increase. 'Autumn Blaze', a hybrid of silver and red maple, is highly resistant.

Chemical control: Spray where needed, concentrating on regions where leafhoppers prefer to feed, particularly on new growth. In nurseries, spray maples with a systemic insecticide prior to mowing weedy fields.

Biological control: Bigeyed bugs, damsel bugs, assassin



Leaf injury or hopperburn on Sunset red maple in a production nursery caused by potato leafhopper following mowing of tall weeds. (165)

Photo: Cliff Sadof



Leafhopper adult. (163)

Photo: John Davidson



Leafhopper nymph. (164)

Photo: unknown



Leafhoppers (continued)

bugs, and lacewings are common predators of leafhoppers.

Plant Mortality Risk: High if leafhoppers vector diseases caused by bacteria or MLOs. Low when diseases are not involved.

Biorational pesticides: azadirachtin, insecticidal soap, pyrethrins

Conventional pesticides: acephate, bifenthrin, carbaryl, chlorpyrifos (nursery only), cyfluthrin, deltamethrin, fluvalinate, imidacloprid, lambda-cyhalothrin, malathion, permethrin



Leafhopper with two dryinid wasp parasitoids attached. Dryinid larvae feed internally on their host with part of the larvae protruding from the host in a sac-like structure. When full grown, parasitoids spin a silken cocoon. (165)
Photo: John Davidson