

The Elm Leafminer (*Fenusa ulmi*) is a European insect that has been known in North America since the late 19th century.

This leafminer over-winters as a larvae in a cocoon, buried in the soil. They become pupae in early May. By mid-May the adults emerge to mate. Adult sawflies have four wings, and they are black, approx. 3mm in length. The female cuts slits through the upper leaf surface with her ovipositor, and lays an egg into each slit. Larvae hatch one week later and immediately start feeding. They are whitish with a pale brown head and reach their full size of about 6mm in length, before dropping to the ground in late June. Larvae burrow under the soil surface, where each spins a papery cocoon and remain as pupa until spring. There is only one generation per year.



Larvae in mining blotches

Hosts and Damage

Elm leafminers feed on most elm species, but Scots and Camperdown (a cultivar of Scots) elms are the preferred species.

Larvae feed on the inner green leaf tissue between the upper and lower leaf surface. Damage first appears as tiny white spots, but later these become larger and several may connect to form large blotches. These eventually turn brown. Where the insect population is high, leaves lose almost all of their green tissues. If the entire crown is affected, leaves lose their ability to photosynthesize and trees become severely stressed and weakened.



Mining damage

Specific Management Practices for Control of the Elm Leafminer:

- Increase the number of beneficial organisms by watering properly and by releasing insect-attacking nematodes, which are available commercially. Check with your local Garden Centre for availability.
- Attract to your yard insect-eating birds and other beneficial organisms like ground beetles by planting appropriate plants (herbs, flowers, ground covers and shrubs) in your garden.
- Discourage the use of chemical pesticides, as spray drifts are harmful, not only to humans and pets, but also to many beneficial organisms that naturally help control infestations.
- Redesign your property in any current or future landscaping plans with trees resistant to elm leafminer.

General Management Practices to Improve Plant Health:

- Water your trees during dry spells. Infrequent, but deep soaking preferably during the early morning hours is recommended. Water absorbing roots are located in the upper 25 cm of the soil and extend outward well beyond the canopy dripline.
- Place organic mulch, (e.g. wood chips), or living mulch, (e.g. ground cover plants) around tree bases to keep the soil moist for longer periods and encourage healthier roots.
- Avoid unnecessary excavating, grade changes, soil compaction, root cutting or hard surfacing around trees. These activities destroy vital roots, which may lead to the decline or death of trees.
- Refrain from using salt or herbicides around trees.

Forest Health Care is a holistic approach to tree care that focuses on improving the health of trees in an urban environment. Our objective is a healthy, sustainable urban forest. Trees in urban forests are often stressed by compacted soil, drought, poor planting and pruning techniques, air pollution, road salt, damage from construction and much more. Trees planted in the right sites and properly maintained are less likely to suffer and are more resistant to pest problems.

Pest problems are managed using a decision making process that considers the following:

- Identification of the host and the pest.
- Monitoring of the host and the pest.
- Selection of the appropriate management strategy.
- Evaluation of the management plan.

Our focus is on pest management programs that are environmentally, socially and economically sound.