

Fall Cankerworm (*Alsophila pometaria*), a native insect, can be one of the most damaging defoliators of Toronto's urban forest.

Members of this family are often called inchworms, loopers or spanworms. Caterpillars have a very peculiar means of movement. They loop when they walk. There are two forms; one green, the other brown in colour.

Fall cankerworms over-winter in the egg stage, on the outer crowns of host trees. Larvae hatch and begin feeding on unfurling leaves in the spring. Infestations can spread great distances as the larvae can suspend themselves on silk threads to be carried by wind to new areas. Feeding lasts for about four weeks. The larvae then descend to the ground and enter the soil. Here each spins a sac, about 3-mm below the soil surface, where they pupate. Adult moths emerge in the fall at about the time of the first frost; wingless females initially, followed by the winged males. After mating near the ground the females must crawl to the outer branches where eggs are laid. Adult moths then die, but the eggs remain until spring to complete the cycle.

Hosts and Damage

The preferred hosts are *Manitoba maple*, *red or black oak* and *crabapple*. Other hosts include *ash*, *basswood*, *beech*, *birch*, *elm*, *hawthorn*, *hickory*, *honey locust*, *linden*, as well as other *maple and oak trees*.

Young larvae, only about 1 mm long when they hatch, first chew out holes in the leaves (called "shot holes"). As feeding continues the holes are widened until most of the leaf between the veins is consumed. The entire tree crown may become defoliated. Healthy, vigorous trees can usually put on new leaves later in the summer. Older, less healthy trees may become stressed, experience crown die back, or even die if this defoliation recurs over 2 or 3 consecutive years.

Natural or beneficial organisms, such as parasitic wasps, birds, pathogens, mice, ground beetles and insect-attacking nematodes usually keep fall cankerworm population levels in check. However, serious infestations do break-out from time to time, usually every 8 or 12 years in forested areas. These infestations are historically less frequent in urban forests.



Egg mass on the twig



The caterpillar on the leaf



The adult female and male moth



The feeding damage on leaves

Specific Management Practices for Control of the Fall Cankerworm:

- Trap wingless female moths by installing a band around the main stem of host trees in October. This physical barrier prevents egg laying in the upper crown. The instructions for banding can be found by visiting our website at: www.toronto.ca/trees/pdfs/factsheets/Fall_Cankerworm_Banding.pdf
- Attract to your yard birds and other beneficial organisms, like ground beetles by planting appropriate plants (herbs, flowers, ground covers and shrubs).
- Increase the number of beneficial organisms by releasing insect attacking nematodes and/or parasitic wasps. These are available commercially.
- Discourage the use of synthetic pesticides, as spray drifts are harmful not only to humans and pets, but also to many beneficial organisms that naturally help control infestations.
- Apply *Bacillus thuringiensis var. kurstaki* (Btk) in severe infestation to early larval instar when the host leaves first start unfurling. This bacterial insecticide affects only actively feeding moth and butterfly caterpillars.

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.