



Parks, Forestry & Recreation

Urban Forestry Services

355 Lesmill Rd
Toronto, Ontario, M3B 2W8

Forest Health Care

European Gypsy Moth

European Gypsy Moth (*Lymantria dispar*) is a defoliating insect that can severely weaken or kill trees. It is a major introduced pest to North America.

There are four stages in the development of this insect: egg, caterpillar, pupa and moth.



Egg masses and pupal cases



Mature larva



Female (white) and male (brown) moths

Caterpillars hatch from overwintering eggs in mid-spring. They feed on tree leaves at night for about 7 weeks. In mid-summer the caterpillars pupate in sheltered areas. Adult moths emerge about two weeks later in early August. Soon after mating, females lay oval shaped egg masses on tree limbs, rocks, buildings, vehicles, and other sheltered areas.

Hosts and Damage

Preferred hosts are oak, birch, poplar, willow, beech, cherry, maple, apple, basswood, elm, and others. Rare hosts are ash, catalpa, horse chestnut, locust, London plane, coniferous trees.

Young caterpillars chew small holes on the upper surface of leaves. Older larvae may eat entire leaves, except the major veins. Caterpillars disperse on silk threads to be carried by the wind to other trees. Most deciduous trees can withstand only one or two consecutive years of defoliation. Repeated leaf loss stresses trees and can lead to their death. During outbreaks the caterpillars are an extreme nuisance; trees lose their foliage, caterpillars crawl everywhere, and their droppings rain from trees.



Damage from young caterpillar



Damage on oak trees in July

Specific Management Practices for Control of the Gypsy Moth:

- Remove and destroy egg masses wherever you find them. This helps reduce the number of caterpillars for the coming season.
- Wrap a piece of burlap cloth around tree stems folding the band to provide caterpillars with a hiding place from the heat of the day. Collect and destroy caterpillars from this shelter each afternoon.
- Trap male moths by hanging pheromone (sex hormone) traps on the trees. These traps act as decoys and prevent male moths from mating with female moths.
- Attract to your yard birds and other beneficial organisms by planting appropriate plants (herbs, flowers and shrubs). Birds eat caterpillars and moths.
- In severe infestations apply the biological insecticide containing *Bacillus thuringiensis kurtsaki* (Btk). This bacterial insecticide affects the caterpillars of moths and butterflies. It is only effective when caterpillars are in an early stage of development. Apply treatment as soon as feeding begins. A good indicator of the correct time to apply Btk is when Bridal wreath Spirea is in bloom.



Caterpillars under the burlap

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.