



GYPSY MOTH CONTROL IN TORONTO

(A text only version of the Gypsy Moth Control in Toronto brochure available at toronto.ca/trees)

European Gypsy Moth

Description

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 laid by the white female moth are a flat irregular shape, covered with hairs from the females.
- Caterpillars are 5-7 cm long and are dark and hairy with five pairs of blue dots followed by six pairs of red dots along their back.
- The pupa is reddish-brown and about 2-3 cm long.
- The adult male moth is dark brown with black bands across its forewings.

Caterpillars hatch from overwintering eggs in mid-spring. They feed on tree leaves at night for about seven 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.

Preferred hosts are apple, basswood, birch, oak, poplar, willow, beech, elm, cherry, maple, serviceberry and walnut. Rare hosts are ash, catalpa, horse chestnut, locust, London plane and coniferous trees. Caterpillars chew small holes on the upper surface of leaves. Older larvae may eat entire leaves, except the major veins. Young 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 severe 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.



Gypsy Moth Control Methods Guide for Homeowners

November-late April

Remove and destroy egg masses

Gypsy Moth is in the egg stage between early September and late April. Egg masses can be found on tree trunks, branches, buildings and on objects around the house. As one egg mass contains about 300 eggs, by destroying them you will significantly reduce the number of caterpillars that emerge in the spring.

Scrape off egg masses with a dull knife and place them in soapy water for a few days before discarding them in the garbage. If they fall on the ground crush them with your shoe.

Egg masses are easy to vacuum off trees, buildings and other objects with a portable or a household vacuum cleaner. You can reach egg masses that are located at higher elevations on the tree by adding a number of extension pipes to the vacuum hose, or with the help of a ladder. Place collected egg masses in soapy water for a few days and then discard them in the garbage.

Late April to Late May

Place sticky barriers or bands on the tree trunk

Wrap duct tape around the tree trunk and apply a thin coat of sticky material (commercially available at most garden centres) to the duct tape. Alternatively you may use a double band of duct tape, the outer band with the sticky side out. This band will prevent some of the young caterpillars from crawling up the tree. Mid-May to Early June

Spray with bacterial insecticide, *Bacillus thuringiensis* ssp. *kurstaki* (Btk)

The primary objective is to protect vulnerable trees from moderate to severe defoliation. Reducing the nuisance factor caused by the presence of gypsy moth is an additional benefit of this treatment

Consider having your trees sprayed with Btk by a licensed pesticide applicator if:

- There are a high number of egg masses that cannot be removed mechanically from the trees.
- Large numbers of egg masses are on susceptible tree species, primarily on oaks, birches, beeches and spruces.



- If damage that is caused by gypsy moth feeding is severe for at least one or two previous years, another severe defoliation event may cause the decline or death of the host tree.

What is Btk and how does it work?

Bacillus thuringiensis ssp. *kurstaki* (Btk.) is a biological insecticide designed to control caterpillars of moths and butterflies. The active ingredients in Btk work only in the gut of moth and butterfly larvae and these conditions are not found in humans, mammals, birds or other animals. It must be ingested by the feeding caterpillars to be effective. Good spray coverage of the entire canopy is necessary. The timing of the application is critical as there is normally a period of approximately two to three weeks in the early development of the gypsy moth larva when Btk is most effective.

TreeAzin Stem Injection

A naturally-occurring compound from the neem tree, marketed as TreeAzin® by BioForest Technologies Inc. has been effective in the control of Gypsy moth damage. TreeAzin® Systemic Insecticide (PCP 30559) is registered in Canada for the control of Gypsy Moth damage, is OMRI listed, and when used as labeled, poses minimal risk to mammals, birds, bees, and soil and aquatic ecosystems.

Urban Forestry has been injecting a number of city-owned trees with TreeAzin® as part of our control program. Homeowners can also use this control option to prevent the Gypsy moth damage to their private trees.

Applications to all hardwood trees must be done after the tree's flowers bloom and is accomplished by manually injecting the pesticide into individual tree trunks. Injections into selected trees typically involve a 3 mL / cm dose of TreeAzin® when defoliation is expected.

The treatment should be done when eggs begin to hatch and when the young caterpillars start feeding in the spring (mid May to early June). TreeAzin® is taken-up rapidly throughout the tree to the foliage. The caterpillars feeding on the leaves will digest the pesticide, stop the feeding (and their development) and shortly after die.

For a list of licensed pesticide applicators, please visit www.bioforest.ca

Late May to August

Replace sticky bands with burlap (cloth) bands

Trap and destroy caterpillars by placing burlap (cloth) bands on trees. Wrap burlap that is approximately one metre wide around the tree trunk, tie it at the middle with a rope



and fold it. Caterpillars feed at night and find shelter from the heat during the day. They will congregate under the burlap. Destroy caterpillars from under the burlap every late afternoon before they crawl back to the canopy to feed.

Caterpillars can be killed by squishing them or placing them in soapy water. Use this method until all the caterpillars finish their life stage, usually in August, and turn into cocoons and later into adult moths.

Hiring a tree care company/pesticide applicator

How can I find a tree care company/pesticide applicator?

You can find tree care companies in the Yellow Pages under “Tree Services” or by location through the International Society of Arboriculture website: www.treesaregood.org.

You should only hire a company that specializes in tree work/ tree health care and has the proper equipment. You want to ensure that you are getting quality work that will be performed in a safe manner and meet your expectations.

Before you hire a company, we recommend you get two or three estimates. It is a good idea to get estimates in writing and to read the document carefully to see if the estimate includes all the work you would like them to perform, such as stem injection (ask for number of mL’s of product/cm of diameter), egg mass removal and Btk spray. The more specifics that are listed, the less room for misinterpretation there may be.

Don’t automatically accept the lowest bid. You should also consider the credentials and written specifications for the job. You may also want to check references or look at other properties where the company has performed work.

What questions should I ask when hiring a tree care company?

Are you a Licensed Pesticide Applicator Operator?

Pesticides are regulated by both the federal and provincial governments. The Ministry of the Environment, through the legislation, regulates the sale, use, transportation, storage and disposal of pesticides. The ministry issues pesticide applicator, operator and vendor licenses. A pesticide license is required if you wish to apply federally regulated pesticides (Exterminator License), or operate a business that employs persons that apply federally regulated pesticides commercially (Operator General License).

Do you have liability insurance, Workers Safety and Insurance Board (WSIB) coverage or equivalent?



Liability insurance provides coverage for damages resulting from work and WSIB coverage provides for workers in the event of injury or death. Homeowners insurance does not usually cover contractors performing work on site.

Could I have a copy of the WSIB clearance certificate and the insurance coverage once we decide to move forward with this work?

Companies with proper coverage should be able to easily produce these documents.

Is your crew trained?

Often qualified workers are trade recognized (i.e., they possess certificates from recognized colleges and or trade associations such as the International Society of Arboriculture).

Will you use specialized equipment such as a bucket truck or crane? Do you own the equipment?

If not, insurance certificates, both liability & WSIB should be produced for any subcontractor.

Are you a member of the International Society of Arboriculture, Ontario Commercial Arborist Association, Tree Care Industry Association, or the American Society of Consulting Arborists?

These are professional associations that promote and provide continual training to workers and company owners on safe and efficient operations specific to the industry.

How long have you been in this business? Can you provide references?

Do you provide a written estimate? Is there a charge for an estimate? If I would like more work done, what is your hourly rate?

When can the work be done and how long will it take? Do I have to be home when the work is done?

What form of payment is accepted (cash, credit card, etc.) and when is payment due?

It helps to be informed about the work that you are wanting done. Take the time to educate yourself on the topic/ job process. This will help you to make informed decisions and be able to potentially recognize when someone is attempting to take



advantage of you. If you have any concerns or doubts as to what the sales consultant is recommending or if you would like clarification on the recommendations that are being made, please feel free to contact a member of our Urban Forestry Forest Health Care staff through our 311 call centre.

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.

For more information:

Toronto Parks, Forestry & Recreation

Urban Forestry Branch

toronto.ca/trees

Call 3-1-1