

Gypsy Moths



Gypsy Moth (*Lymantria dispar dispar*) is an invasive forest pest in Ontario.

“Invasive” refers to a species that has moved outside of its native habitat and threatens the new environment, economy or society by disrupting local ecosystems.

Gypsy moth over-winters in the egg stage often on the bark of trees, on buildings, piles of firewood.

In spring, eggs hatch and larvae climb the trees to feed on the new foliage

Hosts range from oak, birch, aspen, sugar maple, beech, and even eastern white pine, and Colorado blue spruce. Understory shrubs and plants may also be affected.

Initially, feeding occurs during the day, but as the caterpillars mature feeding occurs mainly at night.

Larvae chew holes in leaves or devour entire leaves. During severe outbreaks, trees and shrubs are completely defoliated over large areas; despite the trees’ ability to produce a new crop of leaves over the summer, the damage causes significant growth loss.

Mature larvae are 50 mm long, dark coloured, hairy, with a double row of five pairs blue spots, followed by a double row of six pairs red spots, down the back.

Feeding is completed in July.

Male moths are light brown and slender-bodied, while females are white and heavy-bodied (and flightless).

Outbreaks occur every 7 to 10 years.

Gypsy moth populations can collapse from the rapid proliferation of the fungus *Entomophaga maimaiga* and will be especially notable following a wet spring.

Insecticides can be applied effectively through foliage application in urban areas in June to protect ornamental and shade trees. Broad spraying programs on rural or Crown lands is not generally done but MNRF does authorize Btk spraying on specific Crown forests but only to protect the economic value of timber resources.

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FOCA encourages healthy landscapes and waters and discourages the use of pesticides wherever possible. Our waterfronts are a delicate balance of predators and prey. Using (especially broad-spectrum pesticides) toxins in our natural areas can have significant and long-lasting negative effects.

Insect infestations, mosquitoes, bees, are all part of the natural cycle of life in our cottage landscapes; these critters are part of the food chain and support healthy biodiversity.

Understanding that cyclical populations can result in some years of nuisance amounts of some species (like the Tent or Gypsy moth), and (possibly) some tree mortality, the downside of persistent toxins or broad-spectrum pesticides in our wonderful waterfront areas is a heavy price to pay – for our wildlife, and possibly our own health. Broad spectrum pesticide application can also alter natural enemy communities and may facilitate secondary pest outbreaks. Pesticides can have long-term and unintended impacts and can be extremely toxic to a wide variety of beneficial insects, and also to many invertebrates, including many aquatic organisms that are essential parts of the food chain. These chemicals can wash off foliage and persist in the environment for months, and may have unknown other impacts both local to where it is used, and possibly at some distance from the application site.

The human health impacts can be serious – these chemicals are not only toxic to bugs but can also affect people (especially children). You can learn more from the CAPE, Canadian Association of Physicians for the Environment ([link below](#)).

What can residents do to help with the problem of Gypsy Moths?

Residents can help by:

- Scraping egg masses off trees and other hard surfaces and soak them in soapy water for a minimum of 48 hours
- Placing sticky bands on tree trunks
- Installing burlap skirts around tree trunks
- Destroying pupae
- Using pheromone traps See www.urbannaturestore.ca/gypsy-moth-trap/)

Gypsy Moth is a regulated pest so is officially the purview of Canadian Food Inspection Agency (CFIA).

FOCA does not provide expert advice about the proper use, application, or appropriateness of pesticides, but we do understand the approved treatment for Gypsy Moth is generally Btk (*Bacillus thuringiensis*). Btk is a biological pesticide which, applied properly (by commercial applicators) can be highly effective as a control of feeding larvae. This product targets feeding larvae, and has low toxicity to birds, animals, humans, honeybees, fish, and most other insects. The spray must be applied while the early instar larvae are actively hatching and feeding on the foliage, usually early to mid-May. Within about two to three hours of consuming the product, the larvae stop feeding and die within a few days (according to the City of Regina, 2016).

In terms of environmental safety, Btk is considered to be a relatively safe option. It is a naturally occurring bacteria found in the soil, not a chemical, and it works by producing proteins that are toxic to larvae. It degrades rapidly in the environment (within 1 to 4 days) due to sunlight and other microorganisms, so the exposure window is limited. It does not travel into the soil beyond 25 cm, therefore there are limited concerns with leaching into groundwater. Pest control products containing Btk have been registered for use in Canada for 40 years and can be used on certified organic farms.

Like any pesticide, we believe Btk should be used sparingly and with extreme caution, by professionals, and only after non-chemical controls have been tried. It is usually applied by aerial spraying (more info: see Zimmer Air link below).

According to Bioforest *TreeAzin Systemic Insecticide* may also be used for ornamental trees. It is a botanical injectable insecticide which can be used to treat individual trees and can provide up to 2 year control of Emerald Ash Borer and other insect pests in Canada and the United States.

Information sources:

More info:

<https://www.invadingspecies.com/gypsy-moth/>

<https://www.ontario.ca/page/gypsy-moth>

<https://cape.ca/campaigns/pesticides/>

<https://www.beyondpesticides.org/assets/media/documents/alternatives/factsheets/Gypsy%20Moth%20Control.pdf>

<https://zimmerair.com/services/aerial-application-services/forest-pest-control/>

<http://www.bioforest.ca/index.cfm>

Some urban program examples:

[Hamilton](#)

[Burlington](#)

[Toronto](#)