

Aerial spraying for native defoliators in B.C.'s forests

What insects are being treated?

British Columbia's (B.C.) forests are home to many native insect defoliators. Defoliators are insects that eat the leaves of trees and shrubs as caterpillars. Although most insect defoliators cause little damage, there are a few species that can be harmful to the health and productivity of forests.

The goal of the B.C. Ministry of Forests (FOR) is to reduce damage and protect trees from certain defoliators when they reach outbreak levels in our forests. Some of the most damaging insect defoliators in B.C. include:

- Western spruce budworm
- Douglas-fir tussock moth
- Western hemlock looper

The life cycle of these insects includes 4 distinct stages: egg, larva (caterpillar), pupa and adult.

Why are these defoliators a concern?

They are excessive feeders that damage tree health by stripping the needles and leaves from their host trees. When outbreaks occur, this extreme foliage loss from feeding can cause growth loss, stem deformities and even death of the tree.

Exposure to airborne Douglas-fir tussock moth hairs and shed skins during large-scale infestations have caused allergic reactions in some humans and livestock. Reactions include skin rash and possible upper respiratory tract symptoms.

Douglas-fir tussock moth outbreaks usually occur in low-lying, rural-urban interface areas. Exposure can cause discomfort and inconvenience to people who live or work outdoors in affected areas.

How are these moth populations controlled in B.C.?

Many methods are used to monitor and track defoliator populations in B.C. Some examples are pheromone trapping, life-stage sampling (e.g., egg mass) and aerial defoliation surveys. Aerial spraying with Foray 48B®, a biological insecticide, can reduce damage over infested areas.

What is Foray 48B®?

Foray 48B® is a water-based product that contains a bacterium called *Bacillus thuringiensis* variety *kurstaki* (Btk). You can find Btk naturally in the soil. It only affects moth and butterfly larvae when they consume it. This includes larvae of pest species such as the spongy moth (formerly referred to as gypsy moth). Larvae are most susceptible to Btk when they are in the early developmental stages.

Foray 48B® also contains some inactive ingredients that improve the Btk performance. Many of these ingredients are approved food-grade additives. It does not use petroleum products and is not a synthetic chemical.

Foray 48B® is not toxic or harmful to people, dogs, cats, fish, birds, reptiles or non-target insects such as honeybees, beetles or spiders.

Canada has registered the use of pest control products containing Btk for about 40 years. It is the most widely used pest control product in the world and can be used on certified organic farms.

What happens during aerial spraying?

Aerial spraying of Foray 48B® is usually done in the early summer, from early June to mid-July, depending on the insect species, larval development and weather. Spraying takes place very early in the morning and continues throughout the day as long as the weather is suitable. Each area is usually treated only once during a season, with applications timed to treat larvae when they are most vulnerable to the effects of Btk. Treatment schedules and duration vary based on the target insect, aircraft, weather and treatment area.

Spraying is carefully controlled by GPS navigation and only occurs over designated areas. An aircraft may make turns outside of the treatment area, making the spray block appear larger than it is; however, no spraying occurs outside of the delineated treatment area.

You will not receive direct notice of the timing of the aerial spraying. Sign postings near the treatment areas will outline the general treatment period and the area to be sprayed. For more information on annual defoliator

treatments by location, visit the FOR News webpage:

www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-health/news.

You may notice a musty smell and spray droplets on hard surfaces and windows after the treatment. These can be removed by washing with water.

Are there any health concerns?

Health Canada's Pest Management Regulatory Agency evaluates all formulations of Foray 48B® for potential health effects and allergic-type reactions. Results show no increase in illnesses reported by health care providers. If you feel concerned, speak to your health care provider.

If you wish to avoid contact with the spray, close your windows the evening before aerial spraying starts and stay indoors while your property and nearby areas are being sprayed. You should wait until the spray has cleared from the air before going outdoors. It usually clears after about one hour.

For more information

For information about spongy moth spraying, please visit [HealthLinkBC File #90a Spongy moth spraying](#).