



OHIO DEPARTMENT OF AGRICULTURE GYPSY MOTH PROGRAM

Division of Plant Industry, Plant Pest Control Section
8995 E. Main St. Reynoldsburg, OH 43068 Phone: (614)-728-6400
<http://www.ohioagriculture.gov/gypsymoth>



Bacillus thuringiensis var. kurstaki

Bacillus thuringiensis var. kurstaki (Btk) is a naturally occurring bacterium found in soils across Ohio. The insecticidal properties of Btk are specific to caterpillars of certain moths and butterflies. The alkaline conditions present in the mid-gut of these caterpillars allow the formation of toxins. The resulting “stomach ache” causes the caterpillar to stop feeding on the leaves of trees and within a few days kills the caterpillar. The Btk must be eaten by the gypsy moth caterpillar, not just come in contact with it, for it to be effective. The effectiveness of Btk declines rapidly, normally lasting for only 7-14 days after application.

Does Btk Affect Humans, Mammals, Birds, Fish, Honeybees or many beneficial insects?

No, Btk is not toxic to humans, mammals, birds, fish, honeybees or many beneficial insects. Btk needs to be ingested (eaten) to be effective and that the toxic substance is only released under alkaline conditions present in the stomach of insects. This alkaline condition is not present in the stomachs of humans, mammals, birds, or fish which is why the Btk does not affect them.

Btk is so specific to only certain moths and butterflies that it is an approved control product for use by certified organic gardeners.

Beneficial Effects

By preventing the trees from losing their leaves, the number of trees that die from gypsy moth feeding is greatly reduced. Reducing tree mortality maintains water quality and temperature, thus protecting all organisms living in, and depending on, the water. Reducing tree mortality prevents increased predation of nesting songbirds. Reducing tree mortality protects all leaf eating and canopy dependent insects. Reducing tree mortality preserves acorn production that is important for the many species of birds, rodents and mammals dependent on this food source. Reducing tree mortality reduces the risk of forest fires. Reducing tree mortality allows the natural cycles of the forest ecosystem to continue to thrive and sustain diverse, interdependent populations of plants and animals.

Adverse Effects

Btk applications do reduce the number of moths and butterflies that are specifically in the caterpillar life stage and are feeding on leaves containing Btk during the 7-14 day window of effectiveness.

Due to the way Btk works, there are no known adverse effects on humans, pets or domestic animals. As with the application of any control product, people, pets or domestic animals with known respiratory ailments or other health concerns may wish to avoid exposure by staying indoors during the spray operation and until the Btk product is dry (usually a few hours).