

## Q&A'S ABOUT USING BTK TO CONTROL GYPSY MOTHS

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### Q: WHAT IS THE GYPSY MOTH, AND WHY IS IT A PROBLEM?

A: The gypsy moth is an insect with a big appetite for oaks. Each caterpillar can grow up to 2 inches long and can consume up to 11 square feet of foliage from early May until June. When abundant, caterpillars can completely defoliate trees. Although healthy trees can survive defoliation, repeated removal of leaves can kill a tree. Older, less vigorous trees suffering from drought can be killed by a single defoliation. Capable of feeding on 500 plants, this pest threatens Illinois forests and suburban landscapes.



Gypsy moth caterpillars are also a public nuisance in recreational and residential areas that are known for their oaks. The rain of caterpillars and their excrement from treetops can discourage even the heartiest hikers from taking a walk in the park. Some people develop rashes or allergies to caterpillar hairs that float through the air.

### Q: WHAT IS BTK, AND HOW DOES IT KILL THE GYPSY MOTH?

A: Btk, short for *Bacillus thuringiensis* var. *kurstaki*, is a bacterium found naturally on leaves and in the soil. These bacteria are tiny little factories that produce protein crystals that kill specific groups of insects.

When eaten, the protein crystals tear the cells that line the intestine of susceptible insects, causing them to die from bacterial infection. The source of this infection can be the Btk spores in Btk insecticide or any of a number of species of bacteria already present in the insect gut. Death can occur within a few hours to a few weeks after Btk application. The strain commonly known as "kurstaki" is used to produce the gypsy moth insecticide that kills the caterpillars of various moths and butterflies.



### Q: HOW IS BTK INSECTICIDE USED TO KILL GYPSY MOTH?

A: In Illinois, most Btk applications are applied from aircraft to areas where gypsy moths threaten trees and the public. A series of two treatments are applied in early May, when caterpillars are small and most susceptible to Btk. Sprays outside of the generally infested area are applied to eliminate isolated populations of moths, thereby slowing the spread of the gypsy moth infestation through the state. In counties where gypsy moth is already established, these sprays are designed to prevent or reduce defoliation and nuisance problems.

Btk bacteria do not cause diseases in people, mammals, birds, or fish. Btk insecticide can cause some minor and temporary irritation to exposed skin, eyes, ears, nose, and throat. However, numerous studies of large communities of people exposed to Btk during aerial sprays for gypsy moth and other caterpillars have repeatedly failed to find any significant adverse risks to the health of the general public.

Btk has safely and successfully used to control Gypsy Moth throughout North America for many decades. It is also applied to food crops the day they are harvested; honeybees, ladybugs and other beneficial insects are not affected by Btk.

**Q: ISN'T IT BETTER TO "BE SAFE THAN SORRY" AND COMPLETELY AVOID EXPOSURE TO BTK?**

A: Most North Americans have already been repeatedly exposed to Btk. Because Btk naturally persists in soil and is also sprayed on many crops (including those that are organically grown), it is likely that most of us have been exposed to Btk during the course of our daily lives. If a person eats fruits and vegetables purchased at a grocery store, he or she has probably already ingested Btk, without any ill effects.



**Q: HOW CAN I AVOID EXPOSURE FROM THE EFFECTS OF BTK SPRAY?**

A: Despite its record as one of the safest pest control methods available, local residents may choose to minimize their exposure to the Btk spray. To do so, remain indoors at least 10 minutes after the aircrafts have finished spraying. Wait until spray or dew has dried before letting children play outside. If for some reason you come in contact with Btk spray, wash the affected area with soap and water.



**Q: WILL BTK SPRAYS KILL OTHER BUTTERFLIES?**

A: Yes, but they will not eliminate them. Btk only kills butterflies and moths that are in the caterpillar stage. Most of Illinois' butterflies, including Monarch butterflies, are not in the caterpillar stage until over a month after the aerial spray, when the Btk protein has degraded. The spray does not contaminate the area with Btk bacteria. Furthermore, only small parts of the forest are targeted for spray. Butterflies outside the spray area are not affected.

**Q: WILL BTK SPRAYS TAKE THE PAINT OFF MY CAR?**

A: No. Some people living in spray areas have reported the presence of a fine dust after the spray, but this easily washes off and does not harm the finish.

For more information please contact the Illinois Department of Agriculture, Northern Field Office, Dekalb

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