

FACT SHEET

Bacillus thuringiensis var. *kurstaki*, (*B.t.k.*) Used in the Gypsy Moth Aerial Spray Program

The New Jersey Department of Agriculture will again be offering to participating municipalities the biological insecticide *Bacillus thuringiensis* var. *kurstaki*, (*B.t.k.*) in the 2021 Gypsy Moth Cooperative Suppression Program.

TOXICOLOGY

B.t.k. is among the least toxic insecticides for use in residential areas to control the gypsy moth. Its active ingredient is a bacterium, which occurs naturally in the environment. *B.t.k.* has a high specific mode of action in controlling caterpillars and has shown no toxicity to mammals, fish or other wildlife at the recommended field rates. However, those individuals wishing a near zero exposure to themselves or their children during the spray operation, should stay indoors for at least 10–20 minutes, or use an umbrella to intercept the fine spray mist outdoors when the aircraft passes.

BIOLOGICAL EFFECTIVENESS

B.t.k. must be ingested by the gypsy moth caterpillar to be effective; therefore, larval mortality is not immediate and may take up to ten days for mortality to occur. Generally, the new dosage rates of *B.t.k.* used by the Department of Agriculture provide good foliage protection and population control. However, proper timing is critical since the larger caterpillars are harder to kill, therefore, extensive shutdowns, for any reason, could reduce the effectiveness of the pesticide.

ECONOMIC FEASIBILITY

B.t.k. will be applied at a dose of 38 B.I.U.'s (64 oz.) per acre by aircraft. The cost of aerial treatments varies between \$50.00–\$65.00 per acre depending on the dosage rate, geographical location and size of the treatment blocks. The New Jersey Department of Agriculture and the local municipality are currently sharing this cost. Only spray programs utilizing New Jersey Department of Agriculture prescribed insecticides and under State supervision are eligible for these cost-sharing funds.

ENVIRONMENTAL EFFECTS

B.t.k. has a residual life of less than 10 days and has little or no impact on non-target organisms. *B.t.k.* residues do not present a hazard, and sprays can be applied near water or over garden crops without causing adverse effects.