

## Guidelines for Using the Insecticide Tebufenozide on DCNR State Lands

### Pennsylvania Department of Conservation & Natural Resources - Bureau of Forestry

- The USDA 2012 *Gypsy Moth Final Supplemental Environmental Impact Statement* (SEIS) ([Lymantria dispar Digest \(usda.gov\)](#)) identifies potential non-target effects and impacts of the various treatment options. Every proposed spray block must have a site-specific environmental review conducted; and the guidelines listed in this document address mitigation measures employed in the Pennsylvania DCNR Suppression Program.
- The DCNR Bureau of Forestry (BOF) has a *National Pollutant Discharge Elimination System (NPDES) Permit Number PA0270776* from the Pennsylvania Department of Environmental Protection. The permit is valid through November 30, 2028.
- For DCNR BOF State Forest Lands, the Forest Stewardship Council (FSC) Environmental and Social Risk Assessment (ESRA) 2020 document, *Pennsylvania Management Unit Guidance ESRA for Tebufenozide*, will be followed.
- The U.S. EPA pesticide label for *MIMIC 2LV Insecticide* (tebufenozide), EPA Registration No.: 8033113-73049, must be followed.
- *Bacillus thuringiensis* subspecies *kurstaki* (*Btk* - FORAY 76B) is the first choice of insecticide to be used in the suppression program. The DCNR BOF Division of Forest Health will identify areas where tebufenozide could be used based on the criteria listed in this document. Use of tebufenozide in these areas will be with the acceptance and concurrence of the District Forest Manager, Park Manager, or respective land manager.
- Tebufenozide is best used on healthy, building populations of *Lymantria dispar dispar* (LDD = spongy moth = gypsy moth) that exceed 1,000 egg masses per acre. Populations with less than 1,000 egg masses per acre can generally be treated successfully with *Btk*. Populations in an outbreak cycle that have peaked and have small unhealthy egg masses (with high egg parasitism) can generally be treated successfully with *Btk* even if the density exceeds 1,000 egg masses per acre. The egg masses per acre data must be collected from within the treatment block, however, if the surrounding area has high egg mass counts and there is a threat of blow-in, then the district and forest health staff can determine if the use of tebufenozide is warranted even if the egg mass density is below 1,000 egg masses per acre.
- Tebufenozide is best used on the most difficult to control populations where *Btk* has shown a high failure rate in the past or there is a threat of severe defoliation even if *Btk* is used – for example: on the dry upland ridges of central, northern, and eastern Pennsylvania that are dominated by oak and where LDD populations build-up to high densities during an outbreak cycle. These are years when populations are on the increase and have very large healthy egg masses. These areas typically had no or only light defoliation the previous year. Other areas can be considered for tebufenozide if the threat of blow-in from surrounding high egg mass density sites is present.
- Tree canopy cover must be 75% or greater in the proposed spray block; and preferred tree hosts of LDD comprise 25% or more of the treatment block.
- It is recommended that tebufenozide be used once in a three-year period on a particular block. If treatment is required in the two years following a tebufenozide treatment, then *Btk*, Gypchek, or the no spray option is preferred. This will allow affected non-target lepidopteran species an opportunity to recover. Block size is an important factor when making these decisions. Very large spray blocks will need time for non-target species to re-populate the treated area. Small blocks will have affected non-target species recover quicker. The district and forest health staff can determine the need for tebufenozide based on the circumstances for each particular block.

- Tebufenozide will not be used near open bodies of water or on non-forested wetlands. A 300-foot buffer will be established adjacent to open bodies of water and non-forested wetlands (note: 300 feet = two spray swaths of a large fixed-wing spray aircraft or large helicopter). *Btk*, Gypchek, or the no spray option can be used in the 300-foot buffer zone if needed. Streams and waterways underneath a 75% or greater forested canopy can be present in the treatment block.
- Tebufenozide will not be used within 300 feet of any known non-target lepidopteran species-of concern location or habitat that are identified through the Pennsylvania Natural Diversity Inventory (PNDI) environmental review. Gypchek can be used in situations where federally threatened or endangered lepidopteran species occur; and *Btk* can be considered for areas containing species-of-concern but are not federally threatened or endangered.
- A 150-foot buffer (or one spray swath of the type of aircraft to be used) will be established adjacent to lands that are not DCNR State Forests.
- Tebufenozide will not be used by DCNR on private residential lands, county or municipal lands. DCNR State Parks, other Commonwealth agency managed lands, or federal lands will only use tebufenozide in special cases where populations warrant treatment with tebufenozide and public use is minimal. Use of tebufenozide in these areas will be with the acceptance and concurrence of the respective land manager. In 2022, the Pennsylvania Game Commission started conducting their own separate suppression program using tebufenozide and continue to do so. PGC should be contacted regarding their guidelines for use of tebufenozide.
- The recommended label rate for MIMIC 2LV is 4.0 to 8.0 fl. oz. per acre in ½ to ¾ gallon of water. Since 2023, the working rate is 5.0 fl. oz. per acre in 0.5 gallon of water due to the high egg mass densities and based on recommendations from the manufacturer, treatments conducted in previous years and in other states, and results from private applicators using tebufenozide in Pennsylvania. Lower or higher application rates from the proposed working rate can be considered based on conditions in the block and LDD population densities. No adjuvant is required or used.
- The recommended maximum acreage for a tebufenozide treatment block is approximately 10,000 acres. However, the block size can be greater depending on the terrain, block layout, forest canopy, host tree species, and nearby right-of-ways (ROWs), roads, powerlines, or other geographic factors. The minimum block size is 50 acres. Tebufenozide treatment blocks should be separated by approximately 300 feet up to ½ mile, but the separation can be less or more depending on the terrain, block layout, and block size. Areas between tebufenozide blocks can be treated with *Btk* if needed. Blocks are drawn taking-into-account non-host type forests, water, terrain, and lepidopteran species of concern.
- Public notification will follow the procedures outlined in the DCNR BOF Division of Forest Health's 2003 *Operating Procedures and Deadlines Manual*.
- Tebufenozide has been used by DCNR for LDD suppression in 2016, 2017, 2018, 2021, 2022, and 2023.
- Additional information about the *Lymantria dispar dispar* suppression program can be found on the DCNR web site: [Lymantria dispar \(Spongy Moth\)](#)

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