



State of Wisconsin  
Governor Scott Walker

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**Department of Agriculture, Trade and Consumer Protection**  
Ben Brancel, Secretary

**Date:** March 22, 2012

**To:** County Administrators

**From:** Nkauj (pronounced 'gow') Vang, Public Information Officer  
Wisconsin Gypsy Moth Slow the Spread Program

**Subject:** Gypsy Moth Spraying

The Wisconsin Gypsy Moth Slow the Spread Program is making plans to aerially spray for gypsy moths in your county this year. Usually, spraying starts in May and lasts until July. However, it is possible we can start as early as April this year if the mild weather continues. I can't give you definite dates when we will begin because that depends on the weather and gypsy moth development.

Your county includes at least one spray site. I'm providing you information about our plans in case you get calls from the public about our activities. I also will share this information with other county officials including the sheriff's department, county health department, county board chair, county emergency management, county clerk and the county forestry department (if county forest land will be sprayed). An informational postcard will be mailed to people living in and around the spray sites soon.

I am enclosing maps of all the spray sites in your county and information on the type of product(s) we will be using in your county. The products we use are *Bacillus thuringiensis* sub sp. *kurstaki* (Btk), Gypehek and mating disruptant. I also am enclosing general information on gypsy moths and our spray operations.

**Please note our toll-free number: 1-800-642-6684, and our e-mail [gypsymoth@wisconsin.gov](mailto:gypsymoth@wisconsin.gov).** Feel free to refer people to call or e-mail us if they have any questions. Our toll-free line carries a recorded message about our daily spray plans once spraying starts.

Throughout the spraying season, I will send an e-mail notification about our spray plans and progress to the local media and those who are interested to receive one. Please contact me if you would like to receive an e-mail notification about the gypsy moth spraying.

You can share this information with your staff and residents if you wish.

If you have questions, please call my direct line at 608-224-4591 or e-mail me at [nkauj.vang@wisconsin.gov](mailto:nkauj.vang@wisconsin.gov). You also can visit the website [gypsymoth.wi.gov](http://gypsymoth.wi.gov) for more information.

Thank you.

Nkauj Shoua Vang

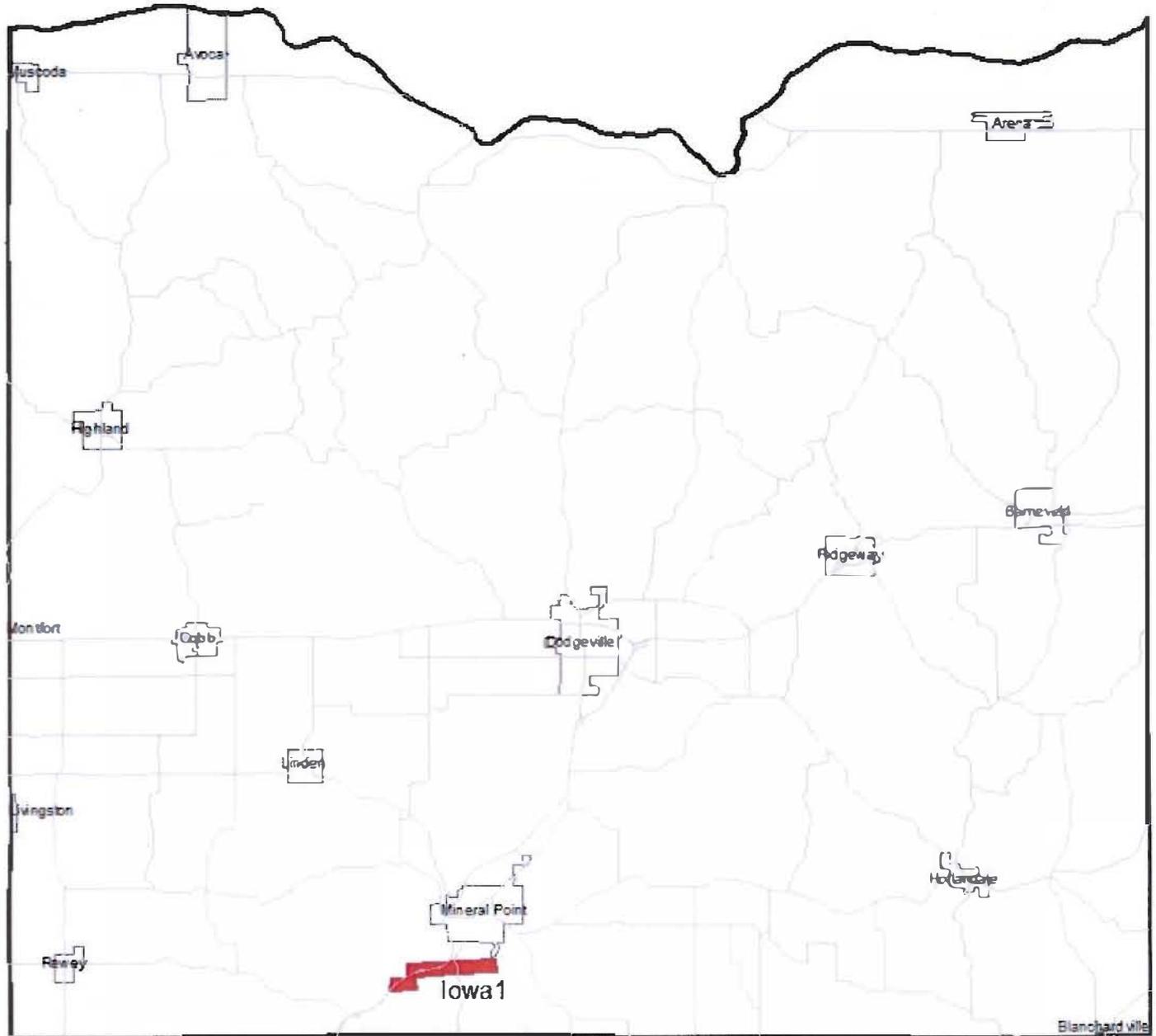
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# Proposed Gypsy Moth Treatment Sites Iowa County 2012



Legend	
Treatment Type	
Red	SPK
Blue	MB
Green	NPV

# Proposed Gypsy Moth Spray Site For 2012

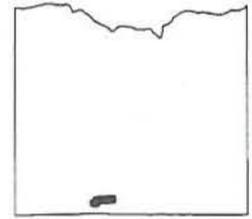
Site: Iowa1

Total Acres: 746

Treatment Method: *Bacillus thuringiensis, kurstaki* 24BIUx2



Iowa  
County



Treatment Area



Water Body



Urban Area

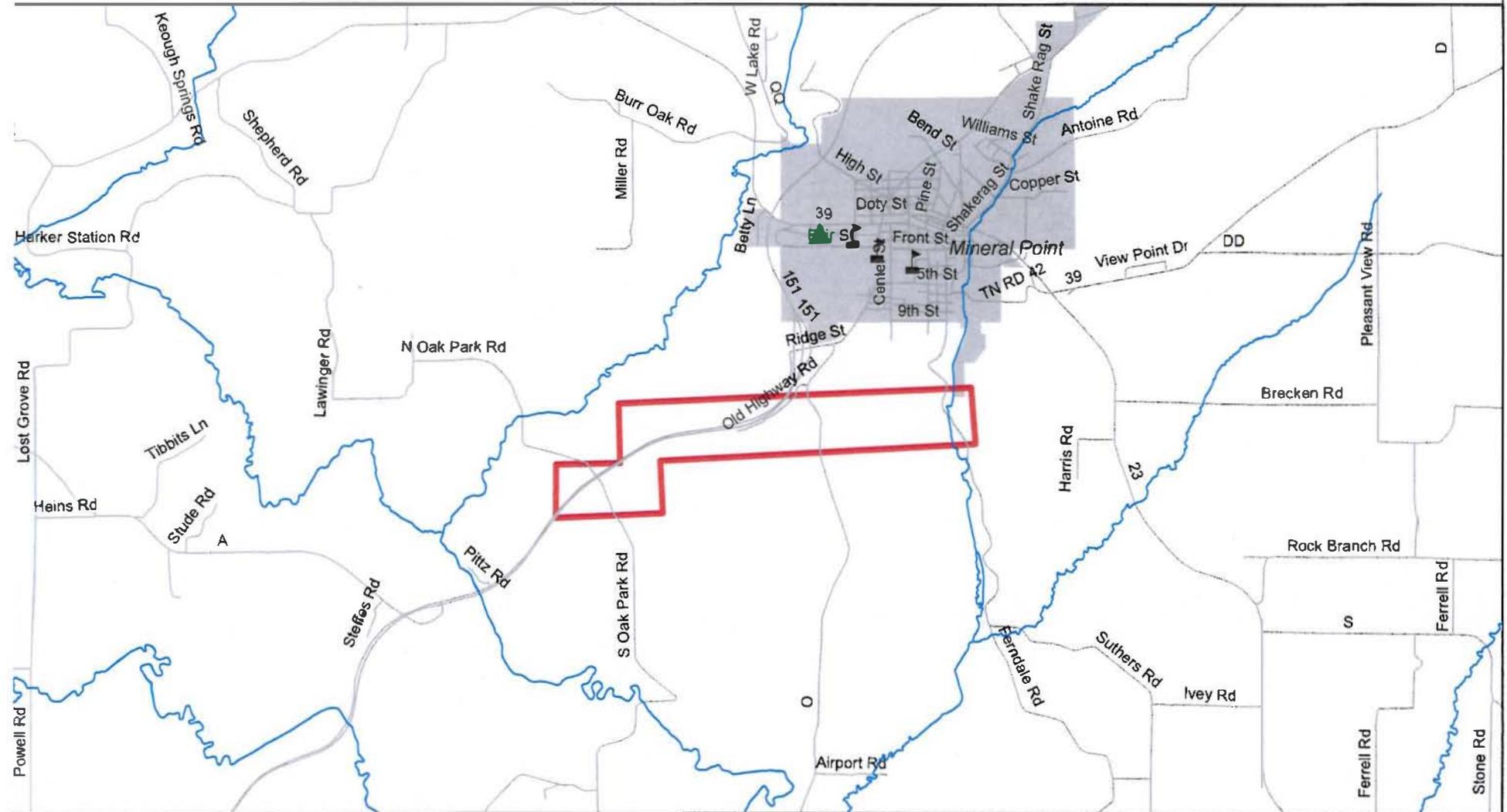
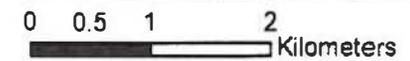
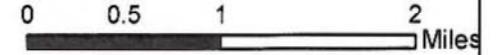


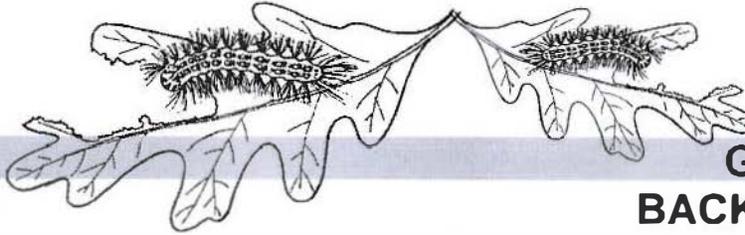
School



Organic Farm

1:60,000





**Exotic pest**

- Native to Europe and Asia
- Introduced to North America in 1869 near Boston
- Distribution ranges from Maine south to Virginia and northwest through Wisconsin
- Well established in eastern and central Wisconsin and is spreading westward

**Damage**

- Caterpillars feed on the leaves of up to 500 species of trees and shrubs, favoring oak
- May defoliate several million acres in the United States during the summer months
- Defoliated trees grow a new set of leaves, but are weakened and may be killed by other pests
- The first defoliation occurred in Wisconsin in 1999

**Impact on people**

- Expense to homeowners and communities of removing and replacing dead trees
- Potential decline in property values from tree loss
- Allergic reactions to caterpillar hair
- Nuisance

**Costs to businesses**

- Inspections and treatments for nursery and Christmas tree growers, timber interests, and paper companies shipping materials to non-infested areas
- Lost recreation dollars
- Environmental damage

**Life cycle**

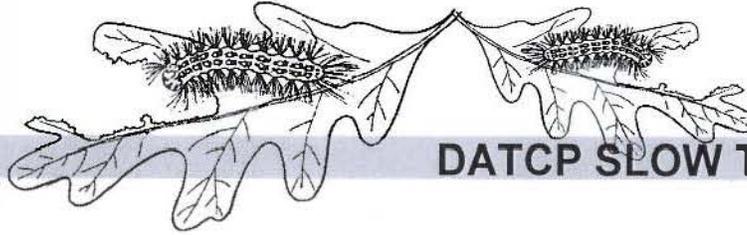
- Caterpillars emerge from late April to late May and begin feeding
- Stop feeding and pupate, forming a cocoon-like shell in late June to mid-July
- Adult moths emerge from pupae, mate and die in mid-July to early August
- Eggs over-winter in an egg mass, protected in a blanket of the female moth's hair

**Rapid spread**

- Each female lays an average of 600 eggs in an egg mass
- Gypsy moths thrive in many habitats because they are not picky eaters
- Because they're not native to North America, they have few natural enemies
- Egg masses are often moved long distances and into new areas on firewood, vehicles, tree trimmings, and other outdoor items

**Goals of Wisconsin  
Cooperative Gypsy  
Moth Program**

- The DNR "Suppression" Program aims to reduce high gypsy moth populations to prevent defoliation in established areas and facilitate federal cost sharing for the suppression treatments
- The Dept. of Agriculture "Slow the Spread" Program aims to delay the establishment of gypsy moth in the western part of the state and to eradicate isolated populations there



The Wisconsin  
Department of Agriculture,  
Trade and Consumer  
Protection Gypsy Moth  
Slow the Spread Program

- Wisconsin is one of several states participating in the U.S.D.A. National Slow the Spread of the Gypsy Moth Project.
- The program concentrates at the front of the gypsy moth spread zone, which are areas where the pest has not yet been established. In Wisconsin, this is mostly the western half of the state.
- As part of the STS program, DATCP detects spread of gypsy moth by conducting aerial spraying, trapping and egg mass surveys. Trapping and egg mass survey information is used to determine spraying areas.
- DATCP also deals with quarantine issues and regulations for nurseries, paper and lumber mills, and movers to help prevent accidental spread of gypsy moth.

Wisconsin started a state survey program for gypsy moth in the 1970s after the pest was first known in the state. In 1999, Wisconsin became part of the STS Program. Spray program information for the current year, including maps of the proposed spray sites, are available online at [www.gypsymoth.wi.gov](http://www.gypsymoth.wi.gov). Information is also available by calling 1-800-642-MOTH or by e-mailing [gypsymoth@wisconsin.gov](mailto:gypsymoth@wisconsin.gov).

#### **Benefits**

- Reduces the spread of gypsy moth to 3 miles per year.
- Protects the extensive urban and wild land hardwood forests in the south and upper Midwest.
- Protects the environment through the use of gypsy moth specific treatment tactics.
- Unifies and promotes a well coordinated, region-wide action based on biological need.
- Yields a benefit to cost ratio of more than 4 to 1 by delaying the onset of impacts that occur as gypsy moth invades new areas.

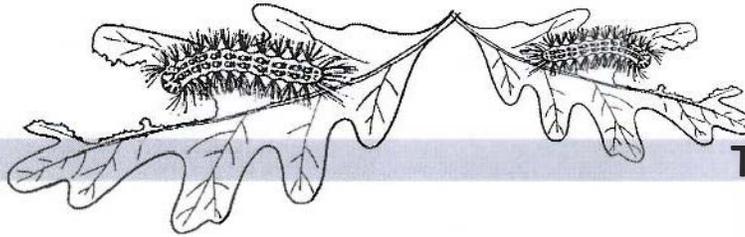
#### **Treatment methods**

A single or double aerial application of the microbial insecticide Foray, containing the bacterium, *Bacillus thuringiensis kurstaki*, (Btk). Gypchek, a viral insecticide specific to gypsy moth caterpillars, will be applied where endangered or threatened moths or butterflies are present or are likely present. Mating disruptor works to confuse male moths when searching for a female in the summer and prevents reproduction.

#### **Timing of treatment**

It is weather dependent, but generally starts by middle to late May in southern Wisconsin; later further north. Caterpillars are targeted when they are less than half-inch long and when leaves on host trees are less than half size. Mating disruptor treatments start right before moths emerge from their cocoons in the summer.

**For additional help, call 1-800-642-MOTH  
or visit Wisconsin Gypsy Moth on the Web at <http://gypsymoth.wi.gov>**



**Actual name** Foray, containing *Bacillus thuringiensis var. kurstaki (Btk)*

**Type of product** Bacterial insecticide

**How Btk is made** Btk is a strain of a common soil bacteria that occurs naturally. It is cultured by fermenting grains and potatoes with fish or corn meal, similar to brewing beer. The final product contains 90% water, the leftover growth medium, carbohydrates, inert ingredients approved as food additives, and the active ingredient.

**How Btk works** The active ingredient is a toxic protein produced by bacteria when the product is fermented. The protein interacts with bacteria in the caterpillar's digestive tract to kill the caterpillar within a few days.

**What Btk affects** Different strains of *Bacillus thuringiensis* affect different species of insects. The kurstaki strain affects the caterpillars of moths and butterflies that ingest it. Not all species of caterpillar are affected by Btk but gypsy moth, tent caterpillars, and Karner blue butterflies are all susceptible. We do not use Btk where we know there are Karner blue butterflies or other threatened or endangered species of moths and butterflies that could be harmed. Numerous studies have documented no apparent toxicity for humans, pets, wild animals, birds, honeybees, or fish. Due to rare cases of mild, short-lasting allergic reactions by humans, you may wish to stay indoors with your windows closed during a spray if you have severe food or chemical sensitivities.

**Application rate** Btk is applied at the rate of 3/4 gallon per acre.

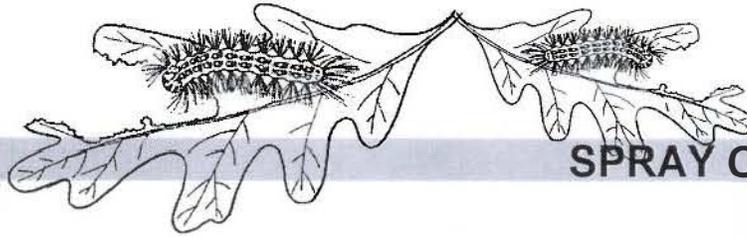
**Application timing** Most effective if applied when gypsy moth caterpillars have hatched and begun feeding, usually mid-May in southern Wisconsin through early June further north.

**Spraying Program** The current year's spray program information, including maps of the proposed spray sites, will be available online starting in early February at the website below. Information is also available by phone or by emailing [dnrfrgypsymoth@wisconsin.gov](mailto:dnrfrgypsymoth@wisconsin.gov).

**Why we use Btk**

- Breaks down in sunlight within days
- Highly effective; around 90-95% mortality of gypsy moth caterpillars normally seen in treated areas
- No apparent toxicity to people, animals, and insects other than caterpillars
- Readily available

**For more information, call 1-800-642-MOTH  
or visit Wisconsin Gypsy Moth on the Web at <http://gypsymoth.wi.gov>**



**Targeted pests**

Newly hatched gypsy moth caterpillars are targeted in the spring with biological pesticides. Adult male moths are targeted in the summer with mating disruptant, such as pheromone flakes.

**Goals**

To protect and preserve Wisconsin's trees by slowing the spread of gypsy moth establishment in western Wisconsin and suppressing established gypsy moth populations in eastern and central Wisconsin.

**Expected start dates**

- May to June: applications of Btk and Gypchek.
- Late June to July: applications of mating disruptant.

**Number of treatments**

- One or two applications of Btk, five to 10 days apart.
- One application of Gypchek.
- One application of mating disruptant.

**Daily start time**

- Btk and Gypchek: at around sunrise as weather conditions permit.
- Mating disruptant: at around 7 a.m. as weather conditions permit.

**Daily finish time**

As late as weather conditions remain acceptable: normally noon or early afternoon for Btk and Gypchek; late afternoon for mating disruptant.

**Application rates**

- Btk and Gypchek: 2 quarts per acre.
- Pheromone flakes: one to two flakes per square foot of tree canopy or 1/4 to 1/2 cup per acre.

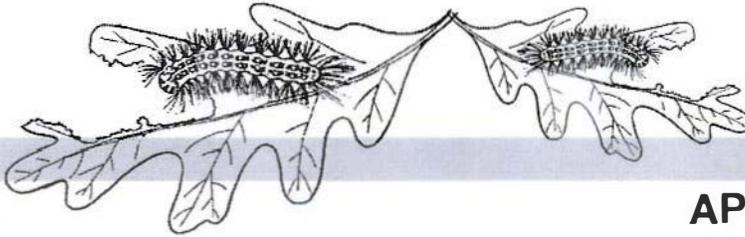
**Necessary weather conditions**

Low winds to reduce drift; high humidity levels to reduce evaporation; no precipitation.

**Planes used**

Aerial application planes are fitted with global positioning systems (GPS) and a computer/satellite system for application precision.

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or visit Wisconsin Gypsy Moth on the Web at <http://gypsymoth.wi.gov>**



**Why planes are used**

Gypsy moth caterpillars feed on tree leaves. Airplanes are the most efficient and cost-effective way to apply products to the tree canopy over a large area. Aerial application uses less than a gallon of pesticide per acre and is far less expensive per acre than ground-based pesticide applications.

**The pilots**

Professional pilots who fly the pesticide spray planes are licensed and certified by the Federal Aviation Administration. They are also licensed and certified by the State of Wisconsin as commercial pesticide applicators. Wisconsin also accepts applicator licensing and certification from qualified states.

**The companies**

Businesses that provide aerial application of pesticides are licensed by the State of Wisconsin. The companies that were awarded the spray contracts for the Wisconsin Gypsy Moth Program meet all of Wisconsin's strict requirements as pesticide application businesses.

**The planes**

- Spray planes require special flight training.
- The planes carry global positioning systems (GPS) for computer-controlled spraying precision.
- While the spray planes are flying, they are monitored by observers in planes flown by Wisconsin DNR pilots.

**Security measures**

In recent years, public concern has increased about the possible use of spray planes as instruments of terrorism. The pilots and the Wisconsin Cooperative Gypsy Moth Program are aware of this concern and take extra precautions during gypsy moth treatments including:

- An established chain of custody from the product manufacturers to Wisconsin for all of the biological pesticides.
- Securing pesticides according to the current pesticide law.
- Identification requirements and restricted access to planes.
- On-site security.
- Notification of local law enforcement, local officials and local media.
- Planes are secured or disabled when not in use.



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Postal Customer

**Airplanes hired by the Wisconsin Cooperative Gypsy Moth program will soon fly near or over your home or business to spray trees in the area. The planes fly very low -- just above the treetops, they are very loud and begin flying after sunrise. The planes will remain in the area as weather conditions allow for the completion of the day's spray plan.**

**Why are we spraying?** We found a growing population of gypsy moth in your area. Left untreated, they can defoliate trees, create a public nuisance, and possibly cause human health problems from their droppings and hairy shed skins.

**What is a gypsy moth?** Gypsy moth is a destructive, invasive insect from Europe. It feeds on up to 500 different species of trees and shrubs and has the potential to defoliate trees when present in large numbers.

**What will the planes spray?** Planes will spray one of three biological products: *Bacillus thuringiensis var. kurstaki* (Btk), Gypchek or mating disruption.

**When will spraying begin?** It depends on weather conditions and gypsy moth development. However, spraying usually starts in May and lasts until late July or early August. Planes may start spraying as early as sunrise.

**Why must the planes spray so early and fly so low?** We need the high humidity and calm winds of early morning to assure the spray does not evaporate or blow away. The planes must fly low to apply the product onto the tree leaves where the caterpillars feed. The planes will continue spraying as weather conditions allow and the area is finished. This may mean spraying into the late morning or afternoon if necessary.

**Is the spray toxic to humans?** The spray is not toxic to people. Those

who have severe allergies or have chemical sensitivities may wish to leave the spray area until spraying is done.

**What about animals and bees?** The sprays are not toxic to animals and bees. The noise of low-flying planes may frighten pets or livestock, so keep them inside, if possible, or monitor them.

**How will the spray affect my organic certification?** The products used will not affect your organic certification. The Btk product is approved for use in certified organic food production by the Organic Materials Review Institute. Gypchek contains a naturally occurring virus specific only to gypsy moth and is made up of crushed, infected gypsy moth caterpillars. Mating disruption is approved for use by the Midwest Organic Services Association.

**Will the spray damage the finish on vehicles?** No, but you may need to presoak or pretreat any spots on your vehicle before washing.

**How will I know when you'll spray?** We will notify local media or you can call our hotline at 1-800-642-6684 for our daily spray plans and updates. You also can receive notification via e-mail by sending us your name and e-mail address to [gypsymoth@wisconsin.gov](mailto:gypsymoth@wisconsin.gov). **Spraying depends on good weather so plans can change at the last minute.**

For more information, visit our website at <http://gypsymoth.wi.gov>.