



Frequently Asked Questions About Anvil Spraying To Reduce Risk of Eastern Equine Encephalitis

What is Eastern equine encephalitis (EEE)?

Eastern equine encephalitis (EEE) is a rare but serious disease caused by a virus. The virus infects birds that live in freshwater swamps and is spread from bird to bird by infected mosquitoes. If a mosquito infected with the virus bites a horse or human, the animal or person can become sick. The risk of getting EEE is typically highest from late July through early September. EEE can cause severe illness in any age group, however, people under the age of 15 are at particular risk. The mortality rate for humans who contract EEE is high and survivors often suffer severe neurological damage.

How would aerial spraying be conducted?

Aerial spraying is generally conducted during the early evening and night time hours (i.e., usually from dusk up to shortly after midnight) in areas of concern. Mosquito control professionals apply these pesticides as an ultra low volume (ULV) spray. ULV sprayers dispense very fine aerosol droplets that stay aloft and kill adult mosquitoes on contact.

Would some areas located in the spray area be excluded?

Yes. Surface drinking water supplies, certified organic farms, fish hatcheries, and limited endangered species habitats might be excluded.

What pesticide product would be used in the aerial spraying?

The product to be used in aerial spraying is called Anvil 10+10. Anvil 10+10 is the same product routinely used in ground spraying. Anvil contains sumithrin, which is a man-made pesticide product similar to the natural components of the chrysanthemum flower that is used to control mosquitoes in outdoor residential and recreational areas. Sumithrin can also be found in other pesticide products used indoors in pet shampoo and lice treatments and on pets to control ticks and insects, such as fleas and ants. Piperonyl butoxide is also an active ingredient in Anvil, acting to increase the ability of sumithrin to kill mosquitoes.

What health impacts among the general population can be expected with the aerial spraying of Anvil?

Due to the very low concentrations of Anvil used to control mosquitoes during aerial spraying, adverse health effects should not result.

Are there any restrictions on consuming fruits and vegetables from home gardens or local farms?

No. The U.S. Environmental Protection Agency has established a tolerance (acceptable levels) for sumithrin, the active ingredient in Anvil. Sumithrin is currently approved for use on food crops, fodder crops, pasture or grazing areas. The application is not expected to leave a detectable residue on food crops, pastures or forage crops, and livestock may be grazed in treated areas following the application. Again, the Department would like to stress that detectable residues are not expected with this application. Applications of the same chemical made in California at maximum label application rates resulted in residues below the level of detection.

Are there any other precautions that I should take before eating fruits and vegetables following the application?

As always, consumers should always rinse any homegrown or purchased fruits and vegetables with water prior to preparation or consumption of any fruits and vegetables.

Will organic farms be sprayed also?

No. Certified organic farms will be excluded from the application areas and will not have the mosquito insecticide applied to them.

What about my animals, are they safe outdoors?

Please note that it is NOT necessary to bring animals indoors during the spray although reasonable precautions are recommended. Water supplies in open containers used for watering of animals should be discarded and fresh water provided following the aerial application. You may keep pets indoors during spraying to minimize their risk of exposure. Pets that remain outdoors could be exposed to small amounts of pyrethroids, but would not be expected to experience adverse health effects from the spraying. Again, there are many pesticide products (e.g., flea collars, pet shampoo, dips) containing sumithrin that are used directly on pets to control ticks and insects.

If I am a beekeeper, should I take special precautions to protect them prior to or following aerial spraying?

No. Pyrethroid applications at night will not impact honeybee colonies since honeybees are inside the hives at night.

What are the environmental characteristics and impacts of sumithrin?

Sumithrin is rapidly inactivated and decomposed by exposure to light and air with a half-life of less than one day in the air, and on plants and other surfaces subject to sunlight. It does not dissolve easily in water, and is broken down by microorganisms in streams and water bodies that receive sunlight. Thus, residues in water would not be expected. Because of environmental fate and dilution characteristics and the fact that spraying does not occur over drinking water supply reservoirs, exposure via drinking water is not expected. Anvil and other pyrethroid pesticides are toxic to terrestrial and aquatic invertebrates (e.g., dragonflies, beetles) and to fish. However, as the size of the fish pool or pond decreases the risk to the fish increases. The risks to large natural water bodies are minimal. Thus, you may want to cover a small ornamental fish pond in your yard during the night of spraying.

Whom should I contact to find out whether or when aerial spraying will be conducted in my area?

Your local health department will be aware of any plans for aerial spraying. Announcements will be made through local media outlets (e.g., local cable). You may also call 617-626-1732 to listen to a pre-recorded message about mosquito control in your area.

What if I think that I am experiencing an adverse reaction to pesticide spraying?

If you think that you are experiencing any health effects from pesticides, call your doctor or the Massachusetts Poison Control Center 800-222-1222 or go to your local Emergency Room. Toxicology staff at the MDPH can also be consulted by calling the West Nile Virus (WNV) information line at 1-866-MASS-WNV (press 5 to be connected to the Bureau of Environmental Health), or by calling (617) 624-5757.

For more information, please contact:

- **For general information about mosquito control:** visit the following webpage www.mass.gov/agr/mosquito/index.htm or contact the State Reclamation and Mosquito Control Board within the Massachusetts Department of Agricultural Resources at (617) 626-1777.
- **For questions about mosquito control in your city or town:** Contact your local board of health (listed in the telephone directory under “government”)
- **For questions about aerial spraying and health effects of pesticides or to report any concerns about adverse reactions to pesticides:** MDPH, Bureau of Environmental Health at (617) 624-5757
- **For general questions about EEE:** MDPH, Division of Epidemiology and Immunization at 617-983-6800 or toll free at 1-866-MASS-WNV or online at [West Nile Virus](http://www.mass.gov/agr/westnilevirus/). You may also contact your local board of health (listed in the telephone directory under “government”).