

Bti for Mosquito Control

1. What is Bti?

Bti is a biological or a naturally occurring bacteria found in soils called *Bacillus thuringiensis* subspecies *israelensis*. It contains spores that produce toxins that specifically target and only effect the larvae of the mosquito, blackfly, and fungus gnat. EPA has registered five different strains of Bti found in 48 pesticide products that are approved for use in residential, commercial and agricultural settings primarily for control of mosquito larvae.

2. Does Bti pose health risks to humans?

No, Bti has no toxicity to people and is approved for use for pest control in organic farming operations. It has been well tested by many studies on acute toxicity and pathogenicity (ability to cause disease) for *Bacillus thuringiensis* including studies specifically on Bti. Based on these studies, EPA has concluded that Bti does not pose a risk to humans.

3. Where else has Bti been used for mosquito control?

Bti is designed to kill developing mosquito larvae by being applied to standing water where those larvae are found. Bti can be used around homes in areas and containers where water can collect, such as flower pots, tires, and bird baths. Bti can also be used to treat larger bodies of water like ponds, lakes, and irrigation ditches. Bti is used across the United States for mosquito control.

4. Will Bti work?

Yes, Bti has been shown to be effective in reducing mosquito larval populations and will also help in Puerto Rico's ongoing battle with Zika, dengue and chikungunya.

5. Are insects becoming resistant to Bti?

No. There is no documented resistance to Bti as a larvicide in Puerto Rico. A recent study confirmed previous research showing a lack of Bti resistance in mosquito populations that had been treated for decades with Bti.

6. Are there special precautions to be taken during Bti spraying?

No special precautions are needed for applying Bti. A number of Bti products are sold as "homeowner" products and are easy and safe to use. People do not need to leave areas being treated. However, as is the case with many microbial pesticides, some commercial use Bti products may require applicators to wear a dust/mist filtering mask.

7. How will I know if aerial spraying is going to take place?

Decisions about where and when to spray will be made by officials in Puerto Rico. Listen for announcements with the dates, times and locations of upcoming sprayings on social media sites, newspapers or radios.

8. Does Bti pose risk to crops or water supplies?

No. Bti has no toxicity to people so it can be applied safely to mosquito habitat without a detrimental impact on food crops or water supplies. In fact, Bti can be used for pest control in organic farming operations.

9. Is Bti harmful to wildlife including honey bees?

Studies indicate Bti has minimal toxicity to honey bees. Bti produces toxins that specifically affect the larvae of only mosquitos, black flies and fungus gnats. These toxins do not affect other types of insects including honey bees.

10. Is there a medical test to show whether I've been exposed to Bti?

Since Bti has no toxicity to humans, a medical test to show exposure to the active ingredient has not been developed.

11. What other measures should be taken to control mosquitos besides aerial spraying?

1. Eliminate any standing water (even tiny amounts) to prevent infected mosquitos from laying their eggs (breeding) in standing water.
2. Use window and door screens to block infected mosquitos from entering your home, workplace or children's schools.
3. Use EPA-registered insect repellents to prevent getting bitten. EPA-registered means the product works and is safe when you follow the directions.
4. Dress in light-colored clothing, long pants, and long sleeves and try to avoid areas where mosquitoes are present.