

Chemical Factsheet

Bacillus Thuringiensis (Bt)

including *israelensis*, *kurstaki*, *aizawai*, *tenebrionis* strains

General Information

- Fact Sheet: [bacillus thuringiensis.pdf](#)
- Product Names:
 - Grubgone! G** (Phyllom Bioproducts Corp)
 - Phyllom** (Phyllom Bioproducts Corp)
 - Bonide Mosquito Beater** (Bonide Products Inc)
 - BTI Granule Larvicide** (Certis USA, LLC)
 - Thuricide** (Valent BioSciences Crop)
 - BMP** (Becker Microbial Products Inc)
 - Cutlass** (Certis USA)
 - Condor** (Certis USA)
 - Agree** (Certis USA)
 - CryMax** (Certis USA)
 - Lepinox** (Certis USA)
 - Florbac Slurry Biological Larvicide** (Valent Biosciences Corp)
 - Security BT Dust** (Wellmark International)
 - Green Light BT Worm Killer** (Swiss Farms Prds)
 - Javelin** (Certis USA)
 - Allpro Sustain** (Value Gatrdens Supply)
 - Summit Mosquito Bits** (Summit Chemical Co.)
 - Meridian** (B2E Microbials)
 - Fourstar** (Fourstar Microbial Products)
 - Dipel** (Bonide Products)
 - Britz Bt Dust** (J.R. Simplot Co.)
 - Ringer vegetable Insect Attack** (Woodstream Corp)
 - Safer Bt Caterpillar Killer** (Safer Inc)
 - Xentari Biological Insecticide** (Valent Biosciences Corp)
 - Novodor** (Valent Biosciences Corp)
 - Chemsico Insect Granules** (Chemsico)
 - Vectobac** (Valent Biosciences Corp)
- Chemical Class: Microbial insecticide; Soil bacterium
- Uses: Used to control Coleoptera, Lepidoptera or Diptera insects in field, greenhouse, water-grown crops, ornamentals, nursery, forest, food/nonfood storage, and standing waters. Approved uses in [Organic Agriculture](#), Aquaculture, [Least-toxic mosquito control](#).
- Beyond Pesticides rating:

Health and Environmental Effects

See citations at end of document.

- Cancer: No
- Endocrine Disruption: Insufficiently Studied

- Reproductive Effects: Insufficiently Studied
- Neurotoxicity: Insufficiently Studied
- Kidney/Liver Damage: Insufficiently Studied
- Sensitizer/ Irritant: Possible (1)
- Birth/Developmental: Insufficiently Studied
- Detected in Groundwater: Not Likely
- Potential Leacher: Insufficiently Studied
- Toxic to Birds: Not Likely
- Toxic to Fish/Aquatic Organisms: Possible: kurstaki and israelensis [moderate]; aizawai [high] (1)
- Toxic to Bees: Yes: aizawai strain (2)

Residential Uses as Found in the ManageSafe™ Database

- [Bagworms](#)
- [Mosquitoes](#)
- [Gypsy Moths](#)
- [Pantry Moths](#)

Additional Information

- Regulatory Status:
 - [EPA Regulatory Documents](#)
 - [EPA Regulation of Bt Crops](#)
 - [Plant Incorporated Protectants](#) (PIPs)
 - [Corn Rootworm Resistance](#)
 - Beyond Pesticides [GMO BT crops comments](#)
- Supporting information:
 - [Beyond Pesticides' GE page](#)
 - [Bt Factsheet](#) (National Pesticide Information Center)
 - [Bt Fact Sheet](#) (Northwest Coalition for Alternatives to Pesticides)
 - [PAN Pesticides Database: Bt](#) (Pesticide Action Network)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Field-evolved resistance by western corn rootworm to multiple *Bacillus thuringiensis* toxins in transgenic maize](#) [Gassmann, A., et al. PNAS. 111(14):5141-5146]
 - [Bt Corn and Insect Resistance: An Economic Assessment of Refuges](#). Hurley, T.M., Babcock, B.A. and Hellmich, R.L. (2001) Bt Corn and Insect Resistance: An Economic Assessment of Refuges, Journal of Agricultural and Resource Economics. Available at: <https://www.jstor.org/stable/40987102>.
 - [Resistance to Bt Maize by Western Corn Rootworm: Effects of Pest Biology, the Pest-Crop Interaction and the Agricultural Landscape on Resistance](#). Gassmann, A.J. (2021) Resistance to BT maize by western corn rootworm: Effects of pest biology, the Pest-crop interaction and the agricultural landscape on resistance, Insects. Available at: <https://www.mdpi.com/2075-4450/12/2/136>.
 - [A Th2-type immune response and low-grade systemic inflammatory reaction as potential immunotoxic effects in intensive agriculture farmers exposed to pesticides](#). Lozano-Paniagua, D. et al. (2024) 'A th2-type immune response and low-grade systemic inflammatory reaction as potential immunotoxic effects in intensive agriculture farmers exposed to pesticides', Science of The Total Environment, 938, p. 173545. doi:10.1016/j.scitotenv.2024.173545.

Gateway Health and Environmental Effects Citations

1. Perez, J.; Bond, C.; Buhl, K.; Stone, D. 2015. *Bacillus thuringiensis (Bt) General Fact Sheet*; National Pesticide Information Center, Oregon State University Extension Services.
<http://npic.orst.edu/factsheets/btgen.html>.
2. Beyond Pesticides ChemWatch Factsheets. (Cited under factsheets on [Beyond Pesticides Gateway](#); see top of individual chemical page)

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