

What's the Problem with Pesticides Used for Mosquito and Tick Control?



- Most mosquito and tick control services spray **pyrethroids**, which are synthetic derivatives of pyrethrins (a naturally occurring insecticide derived from *Chrysanthemum cinerariifolium*).
- Just because it's "natural" **doesn't mean it's safe** for people, pets, and the environment.
- Pyrethroids are **highly toxic to all insects**, including pollinator species. (1)
- There's growing concern that pyrethroid exposure may be **harmful to humans**, especially to pregnant women and children, as studies have shown that there is a probable association between pyrethroid exposure and neurodevelopmental issues, including behaviour and cognitive development. (2) (3)
- Pets are sensitive to pyrethroids, particularly cats, who may be **seriously poisoned** by contact with pyrethroids. (4)
- Because pyrethroids do not break down as quickly in the environment as pyrethrins, repeated spraying can result in **accumulation in the environment**. (5)
- Contaminated runoff from pyrethroid application near bodies of water poses a significant risk to **aquatic species**, and the risk is exacerbated by **bio-accumulation** of pyrethroids in sediment. (6)
- When mosquito and tick control services fog an area with pesticide, the **majority of the pesticide spray goes into the air**, creating harmful air pollution that can be inhaled by anyone nearby or downwind, including children or pets who might be playing in a neighbouring yard.
- If someone has a **window or door open while this spraying occurs** in the area, that air pollution can come indoors and concentrate there.

(sources on the back)



Photos:
Dorte Windmuller

Keep Your Yard Safe for People, Pets, and Pollinators

Say No to Mosquito Spraying

Use These **Safe and Effective Methods** Instead

Mosquitoes breed in standing water. Make sure to **remove all sources of standing water** from your yard. Check trays underneath pots, eavestroughs, empty containers, wheelbarrows—everywhere that water can accumulate.

This simple measure goes a long way to preventing mosquito infestations.



For step-by-step instructions on using **Mosquito Dunks**, see Homegrown National Park's "Bucket Challenge":

homegrownnationalpark.org/mosquito-bucket-challenge/

Place a few buckets of water with dissolved **Mosquito Dunks** (available from hardware stores) around your yard. Mosquito Dunks are small pucks containing Bti, a natural soil bacterium that kills mosquito larvae and breaks mosquitoes' breeding cycle. **This is a safe and effective way to reduce the mosquito population in an area without harming people, pets, and pollinators.**



Photo: Dorte Windmuller

SOURCES

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2. Andersen HR, David A, Freire C, et al. Pyrethroids and developmental neurotoxicity - A critical review of epidemiological studies and supporting mechanistic evidence. *Environ Res.* 2022;214(Pt 2):113935. doi:10.1016/j.envres.2022.113935
3. Ntantu Nkinsa P, Fisher M, Muckle G, et al. Childhood exposure to pyrethroids and neurodevelopment in Canadian preschoolers. *Neurotoxicology.* 2023;99:120–128. doi:10.1016/j.neuro.2023.10.001
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Visit this website for more information on pollinator gardens and native plants:



cliffcrestbutterflyway.com

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5. Li H, Cheng F, Wei Y, Lydy MJ, You J. Global occurrence of pyrethroid insecticides in sediment and the associated toxicological effects on benthic invertebrates: An overview. *J Hazard Mater.* 2017;324(Pt B):258–271. doi:10.1016/j.jhazmat.2016.10.056
 6. Li H, Cheng F, Wei Y, Lydy MJ, You J. Global occurrence of pyrethroid insecticides in sediment and the associated toxicological effects on benthic invertebrates: An overview. *J Hazard Mater.* 2017;324(Pt B):258–271. doi:10.1016/j.jhazmat.2016.10.056