# Conservation Forum

For and by members of PGC – Sandy Menke, Conservation Chair

## Insect Sprays, the Bad and the Good

Lots of rain in the spring brings on the inevitable...that familiar buzzing in your ear, a sting on your skin followed by itching. Yes, they have hatched. The joys of mosquito-free gardening are over until the next real dry spell or frost (forgive me for saying that word in June). We had a man in our backyard a month ago to prepare a quote on some work. He took a look at our woods and instantly wanted to give advice on a great mosquito yard spray. I wanted to advise him of the adverse effects of many pesticides, but felt this was not the time, and decided I needed to do a little research. Should we kill the little buggers or repel them...or both?

Analyzing two decades of reports, an international panel found there was "clear evidence of harm' from use of two pesticide types, neonicotinoids and fipronil. Neonics are widely used insecticides whose effects can be instant and lethal, or chronic. Exposure can impair smell and memory in some species, curb procreation, reduce foraging, cause flight difficulties and increase disease susceptibility. They have been cited for recent decline in bees all over the world. Plants also absorb neonics, and are also harming other fish and birds as they leach into soil and water. The most affected species were terrestrial invertebrates such as earthworms, which are crucial soil-enrichers. Bees and butterflies were next, followed by aquatic invertebrates, then birds, and finally fish. Neonics can be 5,000 to 10,000 times more toxic to bees than DDT.

And then there is DEET, chemical name is N,N-diethyl-meta-toluamide and is a derivative of toluene. Market research shows that over 100 million people use DEET-based insect repellents. This primarily affects the nervous system and may cause breathing difficulties. DEET can cause long-term side effects because 50% of the chemical penetrates into the deeper layers of the skin and around 15% of it, to the bloodstream.

**So if we don't spray our yard with pesticides, what can we do?** Read labels. Look for natural ingredients. Or to be sure of what you are using, try making essential oil repellents.

### How-to Make Homemade Essential Oil Insect Repellent Spray

Makes 4 ounces

- 2 ounces distilled or boiled water
- 1.5 ounces witch hazel or vodka
- 30 drops citronella essential oil*
- 25 drops peppermint essential oil*
- 15 drops tea tree essential oil *

*Shake well. Keep spray from eyes & mucous membranes*
*Shake & reapply every 2 hrs, or as needed.*
*Store in a dark bottle away from heat or sun.*

- Other effective essential oils that are recommended to repel mosquitoes are: lemon, eucalyptus, catnip, basil, clove, thyme, lemongrass, geranium, or lavender. Planting any of these near your outside sitting area may also help.

For the best results, make sure you are using therapeutic grade oils. Do your research if you plan to use this on a pregnant woman, young children or someone undergoing holistic treatments, as essential oils can interact with certain treatments. Lavender and tea tree oils are the only essential oils that can be applied directly to the skin, all others should always be diluted. This mixture could also be sprayed on your dog's collar to help keep pests off of him/her, but do not use on cats, as may be toxic.

**Sometimes no matter how much we try to protect ourselves we will still get bit. So how can you stop the itch or the pain?** Apply to the bite one of the following: lavender, tree oil, apple cider vinegar, chilled already-brewed chamomile tea bag, ice, or a paste of water & baking soda.

Love this quote by the Dalai Lama: 'If you think you are too small to make a difference, try sleeping with a **mosquito**.'

Data resources: Buzzle.com, Phys.org, & tasty-yummies.com