

**Strategies for Tick Control**

Concern about ticks and the various diseases they can spread is a very real issue for residents of this part of the country. Often the first response may be, “What can I spray to keep my family safe?” Before embarking on such a journey, it would be wise to consider various strategies.

PERSONAL PROTECTION

First and foremost are taking personal protective measures which are inexpensive and have been proved to be the most effective strategy. These include careful and regular body checks of all family members (including pets), wearing light colored clothing with long sleeves and long pants when working outside, showering immediately after working outdoors, and washing and drying clothes at high temperatures to kill any remaining ticks on clothing. Keep pets out of areas that may have ticks.

YARD MODIFICATIONS

 Modifications to your yard include the removal of barberry which has been proven to be an attractive place for ticks to reside, eliminate or discourage places that may be moist (under groundcovers, etc.), develop a border of wood chips or gravel between lawn and woods, move children’s play areas away from wooded areas, etc.

SPRAYING

Spraying your yard is a popular option but it is best to be informed about the various products that may be used and the limitations of spraying itself. If using a commercial applicator, find out what chemicals will be used. Harsh chemicals, which should be avoided, fall into these broad categories:

**Carbamates** such carbaryl (Sevin) is extremely toxic to bees and beneficial insects and moderately toxic to fish.

**Pyrethrins** are frequently in combination with piperonyl butoxide or other chemicals. Pyrethrins are toxic to bees and highly toxic to cats, fish and other aquatic organisms.

**Pyrethroids** is a class of synthetic compounds which includes permethrin. Permethrin is extremely toxic to bees and fish and highly toxic to cats.

Other considerations about spraying:

Pesticides should not be applied on windy days to avoid drift and non-target species.

Before spraying close windows and doors of your home.

Pesticides should not be applied near wetlands, streams, ponds, etc. Even organic pesticides can be toxic to fish and aquatic species.

Family members and pets, especially cats, should be kept off the treated area for 12-24 hours.

Effects of spraying will last only a given time and additional applications will be needed.

BOTANICAL INSECTICIDES

Botanical insecticides may be safer, but sometimes less effective, than traditional chemical compounds. They are not regulated by the government and usually are not standardized (amount of active ingredient can greatly vary due to extraction methods, growing conditions, etc.). Most have not been tested for effectiveness and/or toxicity to bees.

The botanical product that has been tested for its effectiveness against black-legged ticks is garlic oil (Hays and Stafford, Journal of Medical Entomology, March 30, 2015). The study concludes that garlic oil could provide a minimal-risk option for control of ticks.

More information can be obtained from a company called Mosquito Barrier which sells a garlic product that can be used for mosquitoes, ticks and other insect pests. Garlic will repel pests rather than killing them, so for bees the question is whether they are repelled to the extent that they no longer provide essential pollination services. Since bees normally come to a plant because of color, not scent, this is not a major concern, but to be safe spraying might be limited to non-blooming plants.

***It is reported that the royal gardens in England are frequently treated with garlic spray, despite the odor which dissipates after a day.***

A number of commercial applicators use cedarwood oil to treat for ticks. Cedarwood oil is known to be toxic to fleas, ticks and mosquitoes specifically; while other pests are repelled by the odor. Cedarwood is known to be non-toxic to humans and pets. Its effectiveness and/or any toxicity issues for bees are unclear, but in general it most likely is a safer choice than synthetic chemicals.

BIOLOGICAL CONTROLS

A naturally occurring fungus, Metarhizium anisopliae, has recently become available under the name Met-52. Residential trials in Connecticut and New Jersey showed good control of nymphal ticks. This fungus poses minimal risk to non-target species and does not harm many beneficial insects such as bees, green lacewings, lady beetles, or earthworms. It is offered by a number of different companies available on the internet.

OTHER

Tick tubes filled with permethrin treated cotton balls have been on the market since the late 1980s. However, studies have shown them to be ineffective in reducing numbers of infected ticks. (Communication from Kirby Stafford, Connecticut Agricultural Experiment Station).

CONCLUSIONS

**Various strategies should be employed to reduce risk of contact with ticks. All strategies should be consistent with IPM (Integrated Pest Management) principles which mandate that the least toxic solution to a problem be given preference. Again, using personal protection measures is very effective if done regularly.**

*NRWA thanks our friends at Protect Our Pollinators for this tip sheet. More information on alternatives to pesticides are available at norwalkriver.org, propollinators.org, pollinator-pathway.org.*