

Natural Tick & Mosquito Repellent



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Tick Killz™ Natural Tick & Mosquito

Tick Facts

- **Arachnids that live on the blood of mammals, birds, and sometimes even reptiles and amphibians.**
- **Tend to flourish in warm, humid climates because they require moisture to undergo their metamorphosis.**
- **Sandy soil, hardwood trees, rivers and the presence of deer are all good predictors of dense tick population.**
- **Tick go through 3 stages; larval, nymph & adult.**
- **Female ticks can lay up to 3,000 eggs.**
- **Require small vector as nymphs (mice, which eat under bird feeders).**



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Tick Facts

- **Eggs are laid in the spring, become larva during the summer, become nymphs the following spring and typically reach adulthood by the following fall (18 month cycle).**
- **Ticks live in wooded and brushy areas where leaf litter is abundant; they also dwell in high grass areas.**
- **Adult ticks usually feed on large animals and sometimes on humans.**
- **Risk of human bites is greatest in the late spring and summer months (May through August).**



Tick Killz™ Natural Tick & Mosquito

Mosquito Facts

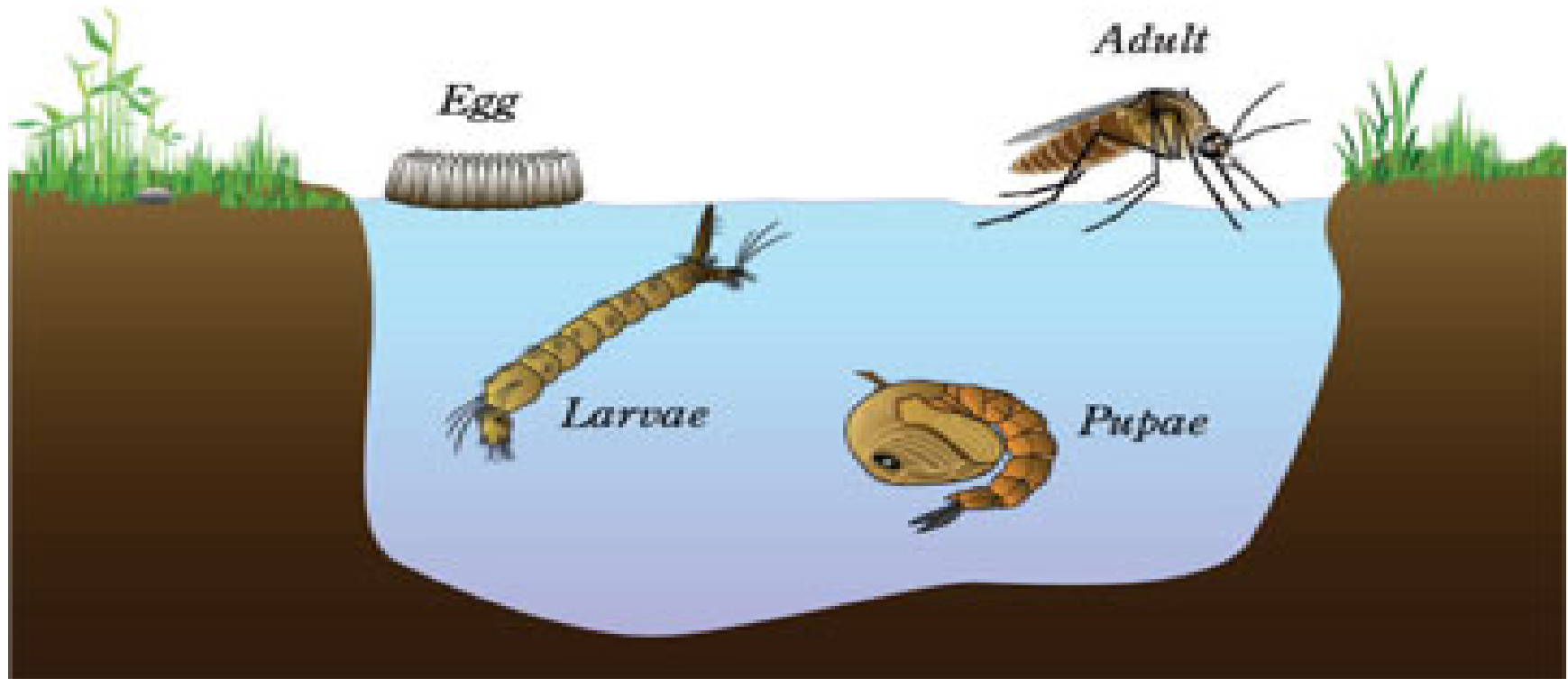
- **There are over 3,500 species of mosquito around the world, not all are blood eaters.**
- **Mosquitoes go through 4 stages in their life cycle; egg, larva, pupa & adult (or imago) forms.**
- **In most species, adult females lay their eggs in stagnant water, near the water's edge, or attach their eggs to aquatic plants; some even breed in lakes, puddles, marshes, etc...**
- **The first three stages of development are largely aquatic, with typical adult life cycles ranging from as little as a week to several months.**



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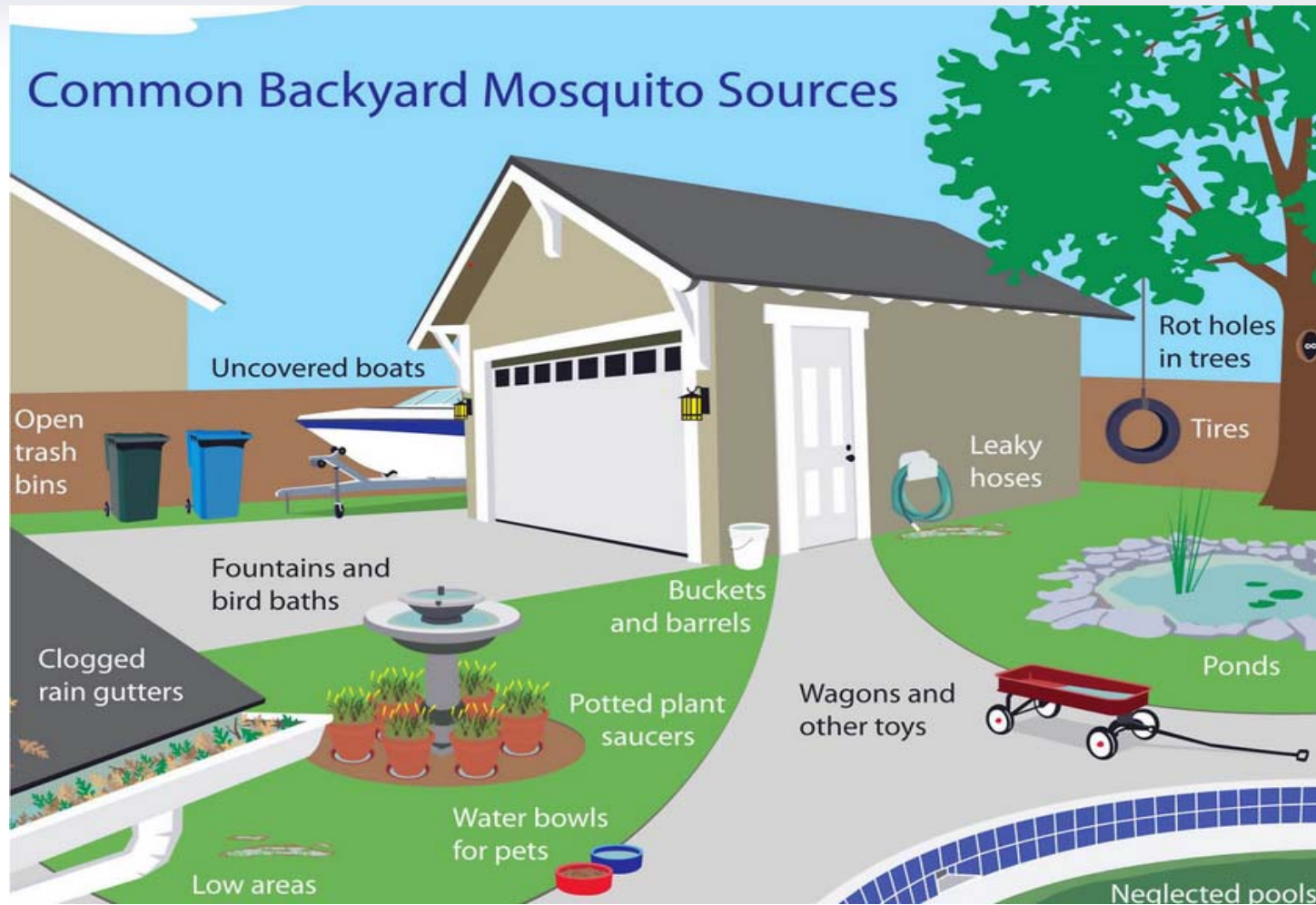
Mosquito Facts: Life Cycle

Mosquito Life Cycle



Tick Killz™ Natural Tick & Mosquito

Mosquito Facts



Despite our best cultural efforts, mosquito (and ticks) will likely persist.

Tick Killz™ Natural Tick & Mosquito

General Information

- **Kills and repels ticks, mosquitoes, fleas and a host of other nuisance insects.**
- **Dries clear won't stain foundation, pavers etc...**
- **Made from 100% organic ingredients.**
- **Perfectly safe for use around children and pets, will not harm the environment or beneficial insects, such as bees, butterflies, earthworms, etc...**
- ***25(b) Exempt: "Because EPA has determined that certain "minimum risk pesticides" pose little to no risk to human health or the environment, EPA has exempted them from the requirement that they be registered under the Federal Insecticide, Fungicide, and Rodenticide Act."...EPA***



Tick Killz™ Natural Tick & Mosquito

Product Information

Active Ingredients: 55.4%

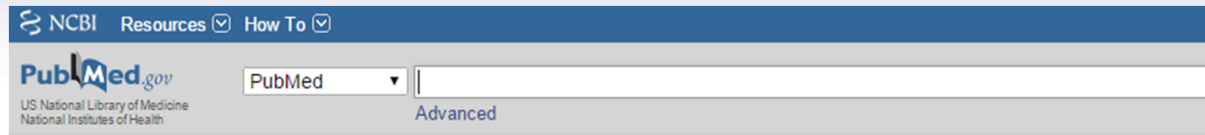
- Cedar Oil: an essential oil derived from the foliage, and sometimes the woods and roots, of various types of conifers, most in the pine or cypress botanical families.
- 2-Phenethyl Propionate: The ester of phenethyl alcohol and propionic acid derived from food sources such as peanuts...Tick Killz derives this ingredient from Guava.
- Peppermint Oil: Derived from peppermint.

Inert Ingredients: 44.6%

- Ethyl Lactate, also known as lactic acid ethyl ester, is found naturally in small quantities in a wide variety of foods including wine, chicken and various fruits. Because Ethyl Lactate is easily biodegradable, it is considered to be a GREEN solvent.



Tick Killz™ Natural Tick & Mosquito Scientific References



[Environ Entomol.](#) 2014 Jun;43(3):762-6. doi: 10.1603/EN13270. Epub 2014 Mar 31.

Bioactivity of cedarwood oil and cedrol against arthropod pests.

Eller FJ¹, Vander Meer RK, Behle RW, Flor-Weiler LB, Palmquist DE.

Abstract

Heartwood samples from *Juniperus virginiana* L. were extracted with liquid carbon dioxide, and the bioactivity of carbon dioxide-derived cedarwood oil (CWO) toward several species of ants and cedrol toward ticks was determined. Repellency was tested for ants, and toxicity was tested for ticks. Ants in an outdoor bioassay were significantly repelled by the presence of CWO on a pole leading to a sugar-water solution. Similarly, CWO was a significant repellent barrier to red imported fire ants and prevented them from finding a typical food source. **Black-legged tick nymphs exhibited dosage-dependent mortality when exposed to cedrol and at the highest dosage (i.e., 6.3 mg/ml) tested, the cedrol killed 100% of the ticks. These repellency and toxicity results together demonstrate a clear potential for the use of CWO as a pest control agent.**



[Naturwissenschaften.](#) 1984 May;71(5):265-6.

Cedarwood oil as a potential insecticidal agent against mosquitoes.

Singh D, Rao SM, Tripathi AK.



[Asian Pac J Trop Biomed.](#) 2011 Apr;1(2):85-8. doi: 10.1016/S2221-1691(11)60001-4.

Bioefficacy of *Mentha piperita* essential oil against dengue fever mosquito *Aedes aegypti* L.

Kumar S¹, Wahab N, Warikoo R.

CONCLUSIONS: **The peppermint essential oil is proved to be efficient larvicide and repellent against dengue vector.** Further studies are needed to identify the possible role of oil as adulticide, oviposition deterrent and ovicidal agent. The isolation of active ingredient from the oil could help in formulating strategies for mosquito control.



Tick Killz™ Natural Tick & Mosquito

Tick Killz Versus Synthetic Chemical Treatments

1. The national Academy of Science reports that children are more vulnerable than adults to the dangerous lawn care pesticides.¹
2. Studies have linked pesticides to cancer, asthma, hyperactivity and other ailments.^{2,3}
3. A study published in the Journal of the National Cancer Institute finds that household and garden pesticide use can increase the risk of childhood leukemia as much as sevenfold.⁴
4. Scientists believe that the amount of toxic chemicals in the environment that cause developmental and neurological damage are contributing to the rise of physical and mental effects being found in children.⁵
5. A 2005 study published in the Journal of the American Medical Association found that students and school employees are being poisoned by pesticide use at schools and from drift off of neighboring farmlands.⁶

Citations

1. National Research Council, National Academy of Sciences 1993. Pesticides in the Diets of Infants & Children, National Academy Press, Washington, DC 184-185
2. Leiss J et al, 1995. Home Pesticide Use and Childhood Cancer; A Case-Control Study. *American Journal of Public Health*, 85; 249-252
3. Repetto R et al, 1996 March, Pesticides and Immune System. The Public Health Risk, World Resources Institute, Washington, DC
4. Lowengart R et al, 1987. Childhood Leukemia & Parents Occupational and Home Exposures. *Journal of the National Cancer Institute*, 79.39
5. National Research Council 2000. Scientific frontiers in developmental toxicology and risk assessment, Washington, DC: National Academy Press; Physicians for Social Responsibility. The Nat. Environmental Trust, The Learning Disabilities Assoc. of Amer.2000
6. Alarcon, WA et al, 2006. Acute illnesses associated with pesticide exposure at school. *Journal of American Medical Association* 294(4); 455-465



Tick Killz™ Natural Tick & Mosquito

Customer Testimonials

Joe Magazzi

From: Moriarty's Lawn Care, Inc. [moriartyslawncares@yahoo.com]
Sent: Monday, September 01, 2014 9:06 PM
To: Joe Magazzi
Subject: testimonials

I have two dogs that were getting ticks almost every time they went outside. Joe told me to try Tick Killz. I was pleasantly surprised that they have not gotten a tick and the mosquito population has been significantly reduced since using Tick Killz. I love that it's all natural.

Thank you,

Kevin Moriarty
Moriarty's Lawn Care, Inc.

Joe Magazzi

From: Newfies4ever [Newfies4ever@verizon.net]
Sent: Friday, June 05, 2015 8:57 AM
To: Joe Magazzi
Subject: Re: Tick Killz Follow-Up

Hi Joe!

Well..... Spring is usually the Worst for the Ticks!!! This has been our best season yet! Hardly any on our dogs or cat!
We have almost 7 acre's - about 3 clear and 2 wooded. The dogs have free roam as we are fenced in all the way. We only sprayed the cleared area a week or so after we got it. Found a few deer ticks on the cat - so we will be spraying again this weekend!

Thanks again! We will definitely be purchasing again! Well worth it for our "furry babies"!

Alesia



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Mix and Application Rates

- 1 ounce of Tick Killz concentrate should be mixed with 4-5 gallons of water to make the final Ready-To-Use (RTU) product.
- For best results, apply at a rate of no less than 1 RTU gallon per 1,000 square feet.
- 1 ounce of concentrate therefore covers 5,000 square feet (or 8 ounces per acre).
- For Mist Blowers: Use 4 ounces of concentrate for every 3 gallon mist blower tank.
- 30-day residual repellent benefit. This benefit is contingent upon factors such as weather conditions, amount of product applied, etc...
- **Available in: Hose-End Sprayer, 8 oz, 32 oz and 64 oz sizes. 2.5 gallons coming this spring? Bulk containers also available (30 & 275 gallon sizes).**



Tick Killz™ Natural Tick & Mosquito Application Locations

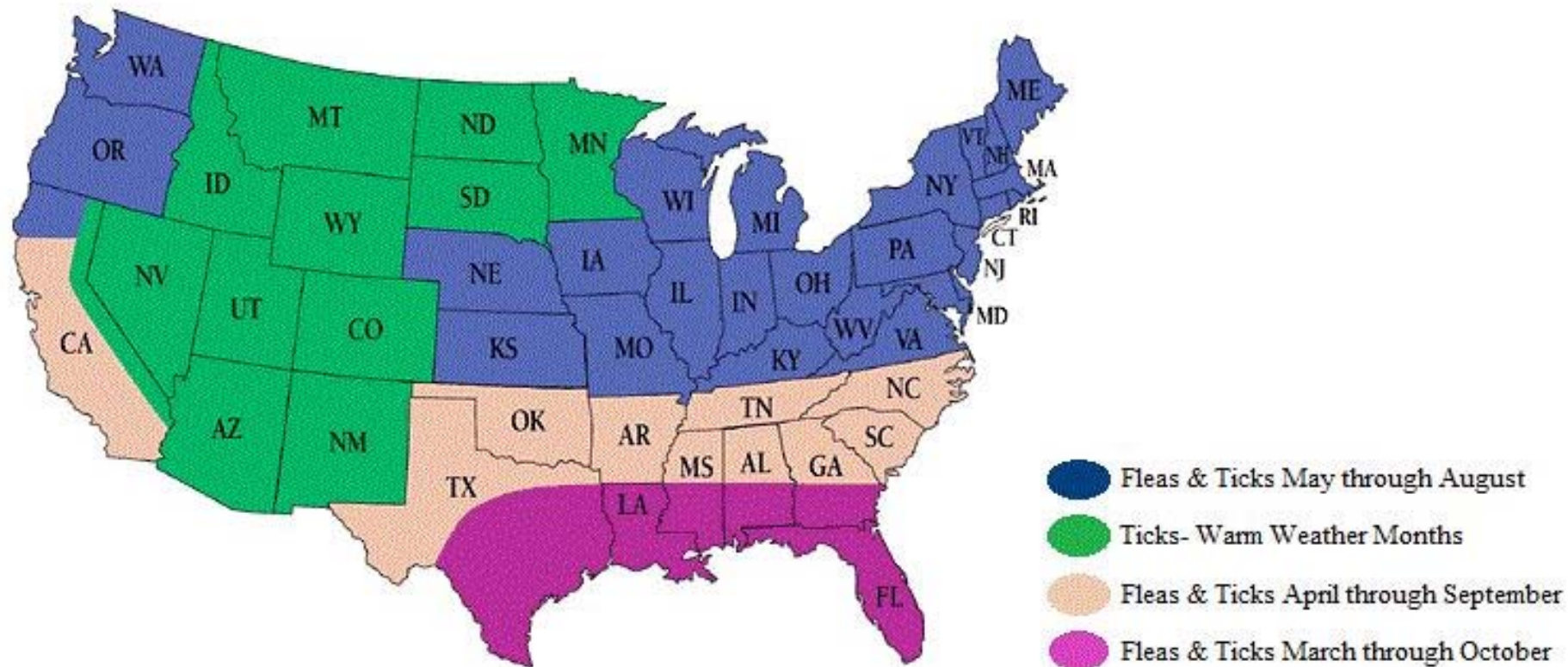


Treatments should include vegetation in the yard & on the perimeter.



Tick Facts:

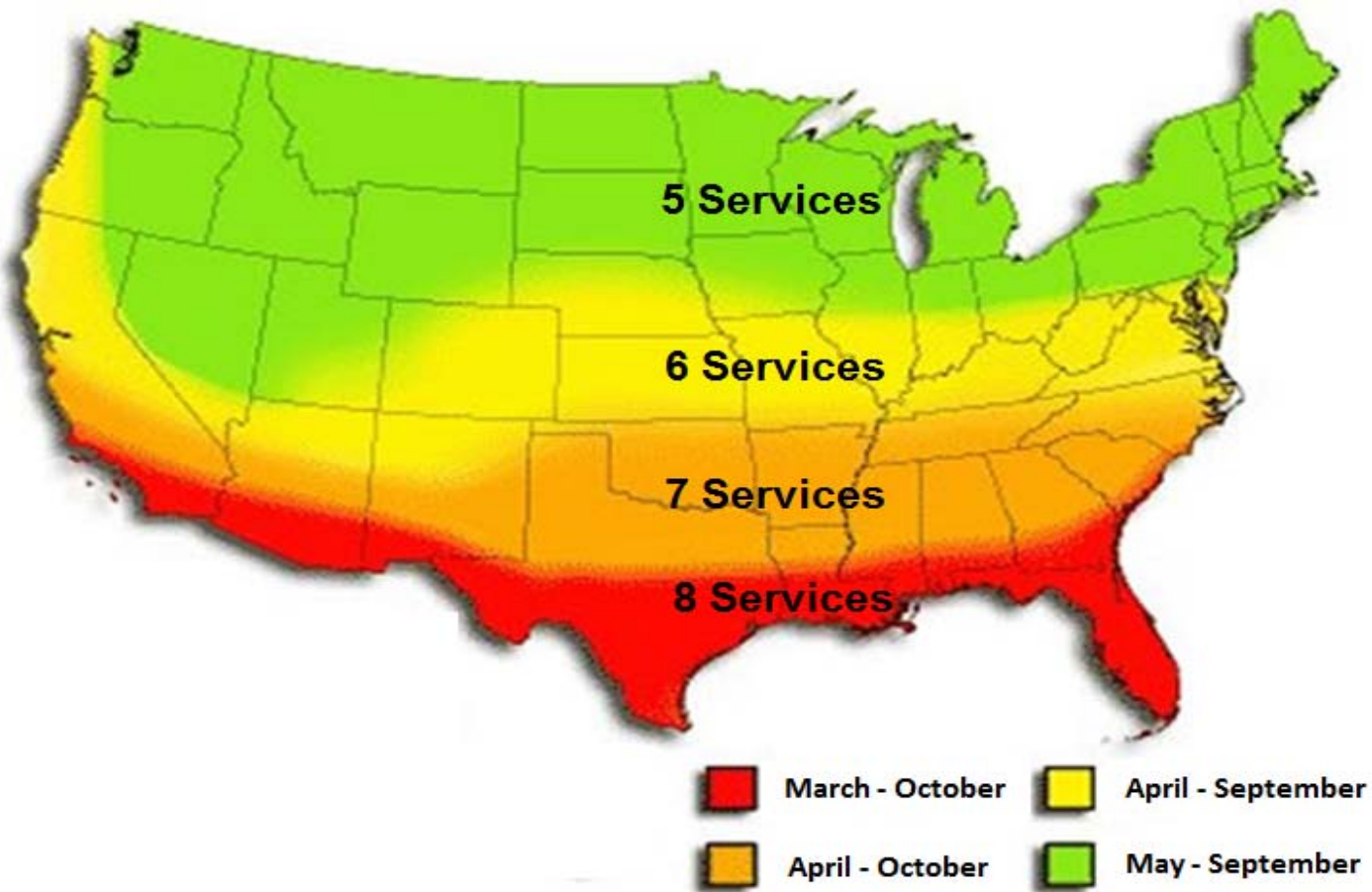
Tick (and Flea) Prevalence Map and Timing



The actual start and duration of the flea and tick season may vary depending on temperatures, rainfall, and humidity.



Tick Killz™ Natural Tick & Mosquito Application Frequency



Treatment Frequency Varies by Location and Conditions.

Summary – Marketing Assessment

Growing Consumer Demand for Natural Products & Services

Natural or organics are the fastest growing sector of nursery sales and turf care.

- A 2008 survey indicated that about 12 million households were using only natural products on lawns and gardens, up from 5 million in 2004. *That's a 240% Increase!*
- 20% of consumers have bought an environmentally friendly lawn-and-garden product (2005).
- An estimated yearly 10% annual growth for the organic fertilizer market. That is twice the projected growth for all lawn and garden goods.
- Scott's organic line of products have doubled sales each year since their inception.





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Organic Products For All The Green Industries. *Finally*, Organics Doesn't Mean Compromising Results

