



Prescription Treatment[®] brand Pest Management Bulletin

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Scott Bauer, USDA Agriculture Research Service, www.insectimages.com



Matt Pound, USDA Agriculture Research Service, www.insectimages.com



The four most common species of “wood ticks” are (top to bottom) black-legged tick, Rocky Mountain spotted fever tick, American dog tick and the lone star tick.

Ticks

Ticks are arachnids belonging to the sub-class Acari, which includes both mites and ticks. Over 80 species of ticks have been identified in the U.S. These can be divided into two taxonomic families: the hard ticks (*Ixodidae*) and the soft ticks (*Argasidae*). Both families are associated with the transmission of diseases to humans, but the members of the hard tick family are more frequently encountered in and around homes. Within the family of hard ticks there are several species referred to as “wood ticks” that are of key importance due to their frequent interaction with humans in the outdoor environment and the transmission of diseases. Among them are the black-legged tick, also known as the deer tick (*Ixodes scapularis*), the Rocky Mountain spotted fever tick (*Dermacentor andersoni*), American dog tick (*Dermacentor variabilis*) and the lone star tick (*Amblyomma americanum*).

The brown dog tick (*Rhipicephalus sanguineus*) is another commonly encountered hard tick. Unlike the wood ticks which usually inhabit outdoor wooded areas and fields, the brown dog tick may be found in great numbers living inside the home or anywhere dogs are found. The brown dog tick is perhaps the most frequently encountered tick inside homes due to its close association with dogs. A special section on brown dog ticks is located on the back page.

Biology

The life cycle of hard ticks consists of four stages, beginning with the egg. Depending on the species, clusters of hundreds to thousands of eggs may be laid in protected cracks and crevices, which quickly develop into six-legged larvae. The larvae, sometimes referred to as “seed ticks”, crawl to a place where they may brush up against a passing host. The larvae will crawl onto the host animal and begin feeding on its blood. Feeding takes a matter of days before the larvae are fully engorged, at which time they usually drop off the animal. Most hard ticks feed from a variety of host animals over the course of their life cycle. Several weeks following the first feeding, larvae molt and emerge as nymphs, now with eight legs. Hard ticks have only one larval instar. The nymphs now climb again onto similar sites where they wait for the next host animal and repeat the process. Finally the nymphs molt into adults. Adult ticks require several days of feeding before they are able to reproduce. Females are capable of surviving significant periods of time before feeding, in some cases a year or more. Male ticks die quickly after mating. The adult female dies shortly after laying eggs.



Ticks spend most of their time waiting to attach to a host animal in a process called questing.



Ticks have been implicated with vectoring many diseases from animals to humans.



Tick dragging is when you take a white flannel sheet and drag it over the area suspected of harboring ticks.



If pets are present in the home, a localized indoor treatment to bedding or resting areas may be made with Ultracide Pressurized Flea IGR & Adulticide.

Questing

Ticks spend most of their time waiting to attach to a host animal in a process called questing. Ticks can't fly or jump, so they are dependant on their hosts coming to them to provide a meal. In order to take advantage of these opportunities, ticks will climb up the stems of tall grass, weeds or other suitable objects to wait patiently for a passing mammal to brush up against them. Ticks can sense a suitable host by detecting chemical cues – especially carbon dioxide, vibrations, shadows and motion. When they sense a host approaching, they hold out several of their legs and cling to it as it passes by or may simply drop from a perch onto the host.

Health Risks

Ticks can vector many diseases to humans. Rocky Mountain spotted fever, relapsing fever, Lyme disease, tick paralysis and encephalitis are among the more serious. The real danger from ticks relates to the host they choose during the early stages of their life cycle. In many cases, ticks feed from animals which are reservoirs of diseases. For example, larvae and nymphs of the black-legged tick feed on the blood of white-tailed deer and white-footed mice (*Peromyscus*), both known reservoirs of Lyme disease. Then they feed on humans and transmit this disease. A well executed tick control program and common sense measures to avoid tick bites greatly reduce the hazards ticks pose around the home.

Tick Management Scenario

We have been called into a residential account. The owner found a tick on her toddler and saved it in a jar. She is very concerned about Lyme disease and other tick related illnesses.



Inspect

Inspection should begin with identifying the tick to be controlled. Unless the service is of a preventative nature, always try to begin with identifying a specimen. Very often homeowners will have collected one.

One technique used to inspect for ticks and obtain tick specimens outdoors is called “dragging”. It involves the use of a white flannel sheet which is literally dragged over areas suspected of harboring ticks. Questing ticks cling to the sheet. The contrast between the white sheet and the dark color of the tick makes them very visible. Ticks can then be counted and/or identified. The small size of ticks and the complexity of their habitat make conventional visual inspection very difficult.

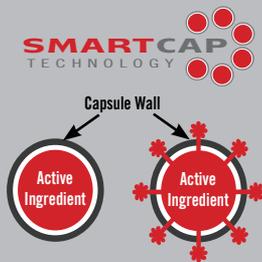
In this case the specimen is identified as black-legged tick or deer tick (*Ixodes scapularis*). This information helps to focus our inspection. We want to look at possible animal hosts and likely harborages.

Animals Present Indoors?

We discover that there are no pets in the home. If there were, we would inspect their bedding, resting areas, runways. We likely recommend an on-animal tick treatment for dogs or cats administered by a vet, as well as Crack & Crevice® treatments to suspected harborage areas and possibly a localized indoor treatment to bedding or resting areas with a product such as Prescription Treatment® brand Ultracide® Pressurized Flea IGR & Adulticide. The animals most closely linked to deer ticks are white tail deer and the white footed deer mouse. The inspection inside



Tick harborages usually include foundation plantings and dense garden beds.



The capsule wall protects the a.i. from surface conditions and the environment. The a.i. diffuses quickly out of the capsule when in contact with an insect's exoskeleton.



Cy-Kick CS Smartcaps cling to ticks as they crawl across treated surfaces.



When treating the area for ticks, your focus should be on planting beds, cluttered areas, shrubs, overgrown areas, beneath sheds and porches, along fence lines and ecotone areas.

the home indicates no evidence of rodent activity; however, if rodent activity was observed, it would be important to eliminate the infestation and control ticks in the rodents habitat.

Outdoors

Outdoors, we look for evidence of animal activity (burrows, droppings, runways) and identify harborage conditions appropriate for ticks - such as high grass, shady cluttered areas, ecotone areas (where lawns transition to woods or shrubs), etc. These are the areas where we will focus our efforts.



Prescribe

Prescribing a remedy for tick problems involves both chemical and non-chemical options. First, think about how the customer's property can be made less attractive to ticks. Is there clutter in the yard that can be removed? Has the lawn been mowed and edges trimmed? Are there weedy plant beds that can be cleaned up? Is there an excess of brush or overgrown bushes? Can deer, rodents or other animals be discouraged from entering or living in the yard by the use of either physical exclusion or repellents?

When considering pesticide options, the areas and surfaces being treated will determine the best product and formulation choice. Cy-Kick® CS Controlled Release Cyfluthrin shows little or no phytotoxicity, so it is unlikely to damage plants and shrubs that require treatment. It has a long residual life on mulch, leaves and turf. With SmartCap™ technology, the active ingredient is encased in a capsule which acts as a barrier to reduce dermal exposure for applicators and those contacting treated surfaces. Microcapsules rest on the treated surface rather than being absorbed into porous surfaces or binding to organic substrates. The microcapsules therefore remain available to ticks crawling across these surfaces. These reasons make Cy-Kick CS an excellent residual choice for exterior perimeter tick treatments.



Treat

Apply Cy-Kick CS at a rate of 1 oz. of concentrate per 1,000 square feet in appropriate dilution of water through a power sprayer. 8 oz diluted in 50 gallons applied at a rate of about 6.25 gallons per 1,000 square feet works very well.

The critical locations for control are places where ticks may be questing or where they may be dropped by animal hosts. Your focus should be on planting beds, cluttered areas, shrubs, overgrown areas, beneath sheds and porches, along fence lines and ecotone areas. Keep in mind that questing ticks may climb, so treatment to any area should include the ground areas up at least 3 feet. It's very important that applications made to dense foliage penetrate through to the soil. Using high pressure helps to coat both sides of the leaves and obtain better penetration into the protected areas beneath shrubs.



Communicate

Customers with tick concerns should be given accurate information about ticks and tick borne diseases. The Centers for Disease Control (CDC) website www.cdc.gov is a good resource for information. Creating a fact sheet



Mat Pound, USDA Agricultural Research Service, Bugwood.org
Brown dog tick indoor populations often increase rapidly.



The dog should be treated by the homeowner or better yet, a veterinarian.



Your treatment plan should include floor level treatments, as well as low and high wall treatments.



Floors and upholstered furniture should be vacuumed then treated in similar fashion to that of a flea treatment with Ultracide Pressurized Flea IGR & Adulticide.

which includes information on tick biology, health issues, tactics for tick population reduction around the home is also a great idea. As a professional, you have knowledge that your customers value.



Follow-up

The best way for a customer to avoid ticks and tick bites is to stay away from tick infested areas. Yard work, gardening and playing in the yard brings people and pets into areas that are potential tick breeding grounds. Inspecting these areas and making recommendations to correct conditions conducive to tick populations should be part of an ongoing program. Well planned targeted treatments during spring, summer and fall will help manage tick populations in these areas. Managing ticks, like most pests is an ongoing process, not a one time event.

Brown Dog Ticks

Brown dog tick indoor populations often increase very rapidly, and require indoor treatment more often than the “wood ticks”. The best strategy for controlling brown dog ticks is to coordinate treatment of the dog, the home and the surrounding grounds to be conducted on the same day. The dog should be treated by the homeowner or better yet, a veterinarian. The outdoor treatment should consist of a general application of Cy-Kick CS similar to what was described earlier for wood ticks, only with special emphasis on any areas in the yard where the dog runs or rests. Indoors, a thorough crack and crevice treatment should be made to all rooms where the dog spends time or where ticks have been observed. Larvae and nymphs are often observed climbing up doorways and walls, so your treatment plan should include floor level treatments, as well as low and high wall treatments. Floors and upholstered furniture should be vacuumed then treated in similar fashion to that of a flea treatment with Ultracide Pressurized Flea IGR & Adulticide. Don’t forget to treat the underside of furniture. Crack and crevice treatments should be made with a residual product such as Cy-Kick CS behind/beneath all baseboards, window and door frames, cabinets, tables and other hard furniture as well as wall fixtures such as switch plates and picture frames. Void spaces requiring treatment should be treated with Tri-Die Silica + Pyrethrum Dust. Following treatment, an additional follow up service a month later is advisable for inspection and for any additional treatments required as eggs hatch.



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