

Identification

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 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 some serious diseases. Among them are the black-legged tick or deer tick (*Ixodes scapularis*), the Rocky Mountain spotted fever tick (*Dermacentor andersoni*), American dog tick (*Dermacentor variabilis*) and the lone star tick (*Amblyomma americanum*).

Behavior

The life cycle of hard ticks involves 4 stages. It begins with the female laying eggs. Depending on the species, clusters of hundreds to thousands of eggs may be laid in protected cracks and crevices, which soon develop into six-legged larvae. The larvae will then 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 larva is fully engorged, at which time it drops off the animal. Several weeks later the larva molts and emerges as a nymph. At this time the nymph climbs again onto a similar site where it waits for the next host animal and repeats the process. The final instar nymph molts into an adult. The adult is capable of waiting significant periods of time before feeding, in some cases 6 to 9 months. Once the adult female has attached to and fed from a host, she then detaches and can only then begin to lay eggs.

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 and 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 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 Associated with Ticks

Ticks have been implicated with vectoring many diseases to humans. Rocky Mountain Spotted Fever, Relapsing Fever, Lyme Disease and Encephalitis are among the more serious. The real danger from ticks arises from the hosts they choose during the early stages of their life cycle. In many cases, they feed from animals which are reservoirs of diseases. Such is the case for the Black Legged Tick whose larvae and nymphs feed



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

on the blood of the white footed mouse, a known reservoir of Lyme disease, then commonly vector this disease to humans. A well executed tick control program and common sense measures of avoiding tick bites go a long way in reducing the hazards ticks pose around the home.

Use the SmartCap™ advantage against ticks

- Long residual – Studies have shown Cy-Kick CS to provide residual control of ticks beyond 90 days.
- Low phytotoxicity – Thorough tick treatment involves treatment to a variety of heavily foliated areas on the property. Cy-Kick CS is well suited for these applications due to its low phytotoxicity.

Cy-Kick CS Control Tips

- Thorough residual surface application should be made to the building perimeter and to areas on the property most likely harboring ticks.
- Tick harborages usually include foundation plantings, dense garden beds, bushes, weedy areas, leaf litter or debris, tall grass areas, foundations, fences

Tip: Consider any areas that provide good “questing” opportunities as ideal treatment sites.

Tip: If animal hosts are present, treat places where they may encounter ticks as they rest or roam.

Recommended Dilution Rates

Indoors, apply 1 to 2 oz per gallon of water. Outdoors, apply 0.5 to 1.0 oz per 1,000 square feet OR:

Oz of Cy-Kick CS	Per Gallon of Water	% Dilution
1.2-2.4 oz	15 gallons	0.0038-0.0075%
2-4 oz	25 gallons	0.0038-0.0075%
4-8 oz	50 gallons	0.0038-0.0075%
8-16 oz	100 gallons	0.0038-0.0075%

(See label for complete use directions.)



Other Product Control Tips

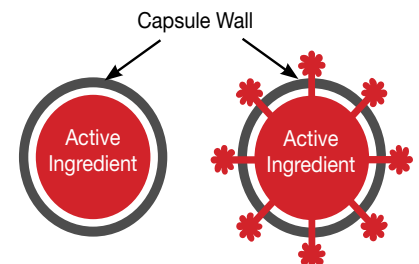
- Ultracide® Pressurized Flea IGR & Adulticide is very effective for controlling ticks indoors. It is very useful in treating carpets, upholstered furniture and pet resting sites on exposed surfaces.
- Cy-Kick CS Pressurized Crack & Crevice® Residual is another great treatment option indoors. Cracks and crevices behind baseboards and door and window frames are common hiding places that should be treated.

General Recommendations

- Educate customer about the nature of tick control
- Establish realistic expectations for control
- Homeowner should consult with veterinarian to have pets treated to control on animal ticks
- Efforts should be made to control pest hosts such as rodents in/around the home, discourage deer from areas commonly occupied by humans and keep lawns mowed, brush trimmed and leaf litter away from the home
- Make efforts to avoid tick bites when doing treatment
 - Wear appropriate clothing, tuck pants into socks or boots, apply tick repellent to outside of clothing and visually inspect for ticks following treatment

Smartcap Technology

SmartCap Technology from BASF offers the best in microencapsulation formulation science to provide you with the enhanced residual control and durability on porous surfaces, virtually eliminating costly callbacks.



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.

Always read and follow label directions.

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