American Dog Tick (aka Wood Tick)
- Widely distributed east of the Rocky Mountains.
- Adult females are most likely to feed on humans.

Blacklegged Tick (aka Deer Tick)
- Widely distributed across the U.S.
- Adults may be out searching for hosts in the winter any time the temperature is above freezing.

Brown Dog Tick
- Southwestern U.S. and along the U.S./Mexico Border.
- The only tick that can complete its entire life cycle indoors or out.

Lone Star Tick
- Widely distributed in the Southeastern and Eastern U.S.
- The adult female is distinguished by a white dot or “lone star” on her back.

Gulf Coast Tick
- Southeastern coast of the U.S. and the Gulf of Mexico.
- Larvae and nymphs may feed on birds and small rodents, while adult ticks feed on deer and other wildlife.

Western Blacklegged Tick
- Pacific coast of the U.S., particularly Northern California.
- Although all life stages bite humans, adult females are more often reported on humans.

Rocky Mountain Wood Tick
- Rocky Mountain states in the U.S. and Southwestern Canada.
- Adult ticks are primarily associated with pathogen transmission to humans.

**BEHAVIOR**
- Ticks feed on the blood of their hosts and become active at about 45 °F.
- Soft ticks live in the nests of their hosts, while hard ticks live in the environment, except when feeding.
- Ticks have prolonged feeding behaviors that make them excellent vectors of disease.
- Ticks “quest” by clinging to vegetation in a position to latch onto passing animals.
- Hard ticks excrete a milky white substance that hardens like latex and helps them maintain their hold on hosts.

**HABITATS**
- Border areas of lawns.
- Wooded areas.
- Tall brush/grass.
- Under leaves, under ground cover (plants) in yard, and in leaf litter.
- Around stone walls and woodpiles where mice and other small mammals live.
- Ticks are generally found around bodies of water where wildlife gather to drink.

**DISEASES**

Below is a list of diseases, the ticks that transmit them and when applicable, the regions they can be found. To learn more about tracking tips and the spread of these diseases, visit www.CDC.gov/ticks.

- **Anaplasmosis**: transmitted by the blacklegged tick along the Pacific coast, the Northeast, and the Midwest.
- **Babesiosis**: transmitted by the blacklegged tick in the Northeast and Midwest.
- **Borrelia Mayonii**: transmitted by the blacklegged tick in Minnesota and Wisconsin.
- **Colorado tick fever**: transmitted by the Rocky Mountain wood tick in the Rocky Mountain states at elevations of 4,000 to 10,500 feet.
- **Ehrlichiosis**: transmitted by the lone star tick.
- **Heartland virus**: transmitted by the lone star tick in the Midwestern and Southern United States.
- **Lyme disease**: transmitted by the blacklegged tick in the Northeastern U.S. and Upper Midwestern U.S., as well as along the Pacific coast.
- **Powassan disease**: transmitted by the blacklegged tick in the Northeastern states and the Great Lakes region.
- **Rickettsia parkeri rickettsiosis**: transmitted by the Gulf Coast tick.
- **Rocky Mountain spotted fever (RMSF)**: transmitted by the American dog tick, Rocky Mountain wood tick and the brown dog tick.
- **STARI (Southern Tick-Associated Rash Illness)**: transmitted by the lone star tick.
- **Tularemia**: transmitted by the American dog tick, the Rocky Mountain wood tick, and the lone star tick throughout the U.S.

*Resource: The Center for Disease Control *https://www.cdc.gov/ticks/diseases/index.html”
Be prepared for tick season with a combination of products that will help keep customers safe. Zoëcon has a lineup of highly effective adulticides with a variety of active ingredients and applications so you will be ready to fight ticks wherever they're hiding.

### Active Ingredients

<table>
<thead>
<tr>
<th>Product</th>
<th>Active Ingredient(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lambda 9.7 CS</td>
<td>Lambda-Cyhalothrin</td>
</tr>
<tr>
<td>Mavrik® Perimeter</td>
<td>Tau-fluvalinate</td>
</tr>
<tr>
<td>Essentria® IC-3</td>
<td>• Rosemary Oil&lt;br&gt;• Geraniol&lt;br&gt;• Peppermint Oil</td>
</tr>
<tr>
<td>ExciteR™</td>
<td>• Pyrethrins&lt;br&gt;• Piperonyl Butoxide</td>
</tr>
</tbody>
</table>

### Application

<table>
<thead>
<tr>
<th>Product</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lambda 9.7 CS</td>
<td>Apply as a spot treatment to kennels, yards, runs, and other areas where pets may frequent.</td>
</tr>
<tr>
<td>Mavrik® Perimeter</td>
<td>This easy-to-use barrier treatment is ideal for use around residential and commercial buildings. With no visible residue or lingering odor, use Mavrik® Perimeter to treat lawns, gardens, and trees. Safe to bees once dried.</td>
</tr>
<tr>
<td>Essentria® IC-3</td>
<td>Apply Essentria® IC-3 outside as a perimeter spray treatment and on vegetation for natural tick control.</td>
</tr>
<tr>
<td>ExciteR™</td>
<td>Apply alone as a fogging, general surface, space, spot or crack-and-crevice treatment or combined with an insecticide as a tank-mix synergist to help combat tick resistance. ExciteR™ insecticide is approved for use both outdoors and indoors.</td>
</tr>
</tbody>
</table>

### Hand Application Equipment

- **Lambda 9.7 CS**
  - 0.8 fl oz dilution per gal of water and spray at a rate of 2 to 5 gal per 1,000 sq ft.
- **Turf and Grass**
  - 5 to 10 fl oz per acre. See label for dilution rates.

### Perimeter Treatment

- **Party Treatment**
  - Dilute at a rate of 1 fl oz per gal of water and spray at a rate of 5 gal per 1,000 sq ft.
- **Perimeter Treatment**
  - Dilute 1 to 8 fl oz per gal of water and apply at the rate of 2 gal per 1,000 sq ft or until area is thoroughly wet.
- **Turf and Grass**
  - 2 to 4 fl oz per gal of water and apply at the rate of 2 to 4 gal per 1,000 sq ft.

### Benefits

- **Lambda 9.7 CS**
  - Specifically formulated to avoid heat breakdown.
  - Perimeter applications for backyard pest control.
  - Can be converted to foam to treat structural voids.

- **Mavrik® Perimeter**
  - Immediate knockdown of ticks.
  - Dried residues are non-toxic to bees.
  - Small, easy-to-use 8 oz bottle.

- **Essentria® IC-3**
  - Natural insecticide has no water setbacks and no pyrethroid restrictions.
  - Ideal tank-mix partner.
  - A recent study shows IC-3 halts tick questing.

- **ExciteR™**
  - Use as a stand alone product or combine with other insecticides to increase effectiveness and speed of knockdown.
  - No odor.
  - Moves through porous surfaces.

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To learn more about the Zoëcon® lineup of tick control products, visit zoecon.com or contact your local distributor.

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