

Livestock Insect Series

# Ticks on Beef Cattle

Dr. Donald R. Johnson  
 Extension Entomologist

Dr. Gus Lorenz  
 Extension Entomologist -  
 IPM Coordinator

Glenn Studebaker  
 Extension Entomologist

Dr. John D. Hopkins  
 Assistant Specialist -  
 Entomology and  
 Insecticide Testing  
 Coordinator

Ticks are not insects. They belong to the class Arachnida along with spiders, scorpions, daddy longlegs and mites. They are most closely related to mites. All adult members of their class have eight legs, which distinguishes them from insects, which have six.



are referred to as one-, two- or three-host ticks depending on how many animals they must parasitize to complete their life cycle. The most important cattle tick in Arkansas is the three-host tick. The larva, nymph and adult stages of three-host ticks are each spent on a different

animal. These three hosts can all be different species of animals.

Heavy infestation of ticks on cattle results in a loss of condition, failure to gain properly and a severe degree of anemia. Tick bites are irritating and cause the infested animal to rub and scratch, resulting in a scabby skin condition, sometimes followed by secondary infection.

Ticks frequently use wild animal hosts to maintain tremendous populations in the vicinity of treated cattle herds. Ticks produced on wildlife can reinfest treated cattle, and they continually pose a problem for Arkansas cattle producers. Ticks are also capable of transmitting diseases such as anaplasmosis to cattle.

## Life History of Ticks

There are four stages in the life cycle of ticks: the egg, the six-legged larva or seed tick, the nymph and the adult which has eight legs. The larva, nymph and adult obtain food by piercing the skin of animals and sucking blood. Eggs are laid on the ground, not on the host animal. Ticks

## Most Important Summer Ticks on Cattle in Arkansas

The most important ticks found on cattle in Arkansas during the summer are the three-host ticks known as the Lone Star Tick, the American Dog Tick and the soft tick known as the "Spinose" Ear Tick.

### Lone Star Tick (*Amblyomma americanum*)

This tick is the one most commonly observed on cattle in Arkansas during the summer. Large populations of this tick, such as those commonly experienced in the Ozark and western regions of Arkansas, can cause considerable problems to cattle and humans. The long mouthparts cause deep, irritating wounds. During heavy infestations, animals suffer severely from the bite and may develop an anemic condition from loss of blood. This species of tick is also known to transmit human disease

*Arkansas Is  
 Our Campus*

Visit our web site at:  
<http://www.uaex.edu>

such as Rocky Mountain spotted fever and tularemia (rabbit fever). Organisms that cause Lyme disease have been found in Lone Star Ticks, but there is no proof this tick gives the disease to people. The tiny Deer Tick, *Ixodes dammini*, common in the northeastern and northern midwest United States, is the most important carrier of Lyme disease.

The Lone Star Tick is a three-host tick and indicates no particular host preference when searching for a blood meal. The favored attachment sites on cattle include the perianal region, udder or cod, dewlap and loose skin about the belly and leg attachments.

Adult Lone Star Ticks are usually most abundant in Arkansas in May, June and July. Seed ticks (larvae) appear later in the summer and continue to infest cattle.

The female Lone Star Tick has a solitary white spot on the back. Males are smaller than females and have several white spots scattered on the back. Larvae (seed ticks) and nymphs are brown and have no distinctive markings. A life cycle requires about a year to complete.

### **American Dog Tick (*Dermacentor variabilis*)**

This tick is a three-host tick that occurs in grassy brush covered areas of Arkansas. High humidity favors this species. Dogs are the preferred host of the adult, but it has been recorded on numerous wild and domestic animals as well as man. Larvae and nymphs prefer small rodents. This tick may cause annoyance to domestic livestock, but it is not a known vector of cattle disease. It is important not only because its bite is annoying and because it is a vector of Rocky Mountain spotted fever and tularemia, but also because its bite sometimes causes paralysis in livestock and man. The life cycle usually takes about 2 years, and adult activity is noticeable in Arkansas from May until September.

### **Spinose Ear Tick (*Octobius megnini*)**

The Spinose Ear Tick first appeared in Arkansas during the drought years of the early 1950s when Texas cattle were imported to this area to obtain water. Infestations were somewhat localized. During the 1980s, the range of infestation appeared to spread as indicated by more frequent requests for specimen identification from areas not previously known to be infested. The extent of the spread is not known, but

many more cattle are probably infested than have been reported.

Parasitic larvae and nymphs of this species cause serious damage to livestock. They attach in the inner folds of the outer ear and suck blood. The wounds may become infected with pus-forming organisms that give rise to a condition known as canker ear. The constant irritation causes animals to become dull, unthrifty and even to lose weight. Infested animals shake their heads and rub their ears in an attempt to relieve the irritation. The ticks are not vectors of disease.

Infestation is spread by introduction of an infested animal or animals into previously uninfested herds. Bulls and replacement heifers that are to be kept for some time are most likely to be involved. Since the nymphs may remain in the ear for four months, any animal kept on a farm for that period of time could provide the source for infestation of the whole herd.

## **Tick Control**

Ticks thrive in high humidity conditions. Regular weed and brush control in pastures decreases humidity and greatly reduces tick populations. Use only recommended insecticides on cattle and follow label directions carefully. Do not treat sick or weakened animals, and avoid treating young calves unless the pesticide is registered for such use.

### **Lone Star Ticks and American Dog Ticks**

Use one-half to one gallon of spray mix per animal when treating for Lone Star Ticks or American Dog Ticks. Remember to reach hard-to-spray areas around the tail and head, and beneath the body. Treat cattle every two to four weeks from May through mid-September. Your county Extension agent has information concerning which insecticide to use.

### **Spinose Ear Ticks**

Insecticidal ear tags are the most economical and labor-saving control procedure for this pest. Puff dusters and liquid insecticides in mineral oil are also effective in control. About one teaspoonful of insecticide oil solution should be placed in each ear. Your county Extension agent has publications available suggesting insecticides to use for tick control.

---

**DR. DONALD R. JOHNSON**, Extension entomologist, and **DR. GUS LORENZ**, Extension entomologist - IPM coordinator, are with the Cooperative Extension Service, University of Arkansas, Little Rock. **GLENN STUDEBAKER**, Extension entomologist, is located at the Northeast Research and Extension Center, Keiser. **DR. JOHN D. HOPKINS** is assistant specialist - entomology and insecticide testing coordinator, Cooperative Extension Service, University of Arkansas, Lonoke Agricultural Center, Lonoke.

---

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Director, Cooperative Extension Service, University of Arkansas. The Arkansas Cooperative Extension Service offers its programs to all eligible persons regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Equal Opportunity Employer.