



# Cattle Producer's Handbook

Animal Health Section

691

## External Parasites: Economic Impact, Control, and Prevention

*Bill Kvasnicka, Extension Veterinarian, University of Nevada, Reno*  
*Bill C. Clymer, Director of Research, CAVL, Inc., Amarillo, Texas*

The economic losses to livestock as a result of insect parasites runs into many millions of dollars each year in the U.S. The horn fly, face fly, and heel fly are the major summer pests. Cattle lice and grubs are considered to be the biggest “winter season” pests.

Specific products for parasite control are not mentioned in this presentation. Please consult your local extension educator for control recommendations. Before any pesticides are used, read and follow the label.

### Damage Caused by Arthropod Parasites on Livestock

Parasitic arthropods, by definition, obtain some benefit from their association with their animal hosts, and in so doing, harm that host. Damage that these arthropods can do can be divided into these categories—direct damage, indirect damage, and associate effects.

#### Direct Damage

**Blood Feeding:** Some arthropods like mosquitoes and ticks feed on blood in order to obtain the necessary proteins to develop their eggs. When large numbers of these parasites are present, animals may develop anemia, and in some rare instances, even may die from loss of blood.

**Tick Paralysis:** Certain species of ticks, while blood feeding, secrete a toxin in the anticoagulant they use to prevent blood from clotting. This reaction, known as tick paralysis, produces slow, wasting disease that may even result in death if the ticks are not removed from the base of the skull. Removal results in instant recovery.

**Damage to Products:** Mites, lice, and myiasis-producing maggots may damage hair, hide, wool, feathers, and meat, thus making them unsuitable for sale.

**Altered Behavior:** Livestock under attack by arthropod pests may alter their behavior to avoid the pain and annoyance associated with ecto-parasites. This may prevent them from feeding and producing at the level that might be expected without interference. Examples include head shaking, stampeding, congregating in a circle with their heads in the middle, wading in water, and severe, persistent scratching.

#### Indirect Damage

**Disease Transmission:** Some arthropod parasites serve as vectors by transmitting disease pathogens from one animal to another. These organisms include viruses like equine encephalitis, bacteria like the one responsible for pinkeye, and rickettsial organisms like anaplasmosis.

**Injury:** When animals attempt to flee from insect attack, they may suffer from injury, spontaneous abortions, bruised udders, etc.

**Stress-Related Pathogens:** Loss of vigor due to the direct damage inflicted by arthropods may cause hosts to become more vulnerable to pathogens such as shipping fever and other problems associated with stressed animals.

**Secondary Infections:** Secondary infections may have entry points in damaged hide and wool due to ectoparasitic invasion that later may produce serious abscesses.