

Have you ever been aggravated by swarms of mosquitoes, irritated by ticks and chiggers, or agitated by fleas? These discomforts and many more are experienced by some horses for extended periods of time because of external parasites.

A parasite is defined as “a plant or animal living on, in, or with another living organism (its host) at whose expense it derives food and shelter.” External parasites of horses usually bite (with the exception of certain flies) and/or suck blood for food, and use body temperature and the hair of the host for comfort and shelter.

Foals and young growing horses are especially susceptible to all types of parasites, which may result in temporary or permanent lack of development.

External parasites are a problem to many horses. They are often associated with improper nutrition, mild forms of disease, stress, and sometimes conditions of general neglect. External parasites are easier to eradicate or control than internal parasites, but response to treatment may be disappointing unless a total health program is practiced.

The most common external parasites are (1) flies, (2) lice, (3) mites, (4) ticks, and (5) a fungus causing ringworm. Both ringworm and mange mites are communicable to man.

Flies

Flies are a constant source of annoyance to horses, making them restless and ill at ease. The house fly and face fly feed on skin, nasal and eye secretions, or debris, but do not bite. The tenaciousness of the feeding face fly makes its presence particularly annoying to horses. They are commonly found in the northern half of the United States.

Horn flies, stable flies, and deer and horse flies are biting insects that suck blood. Since they show a preference, some horses are severely harassed by these pests. Biting flies can be vectors of serious diseases such as encephalomyelitis.

Blow flies are common to large areas of the United States, and effect damage by laying eggs in wounds. One type hatches into maggots which feed on dead tissue, retarding healing and enlarging the wound. The other type hatches into screwworms, which feed on live tissue, causing severe damage and sometimes death. Both types are easily eradicated by cleaning the wound and applying a proper medicant.

Control

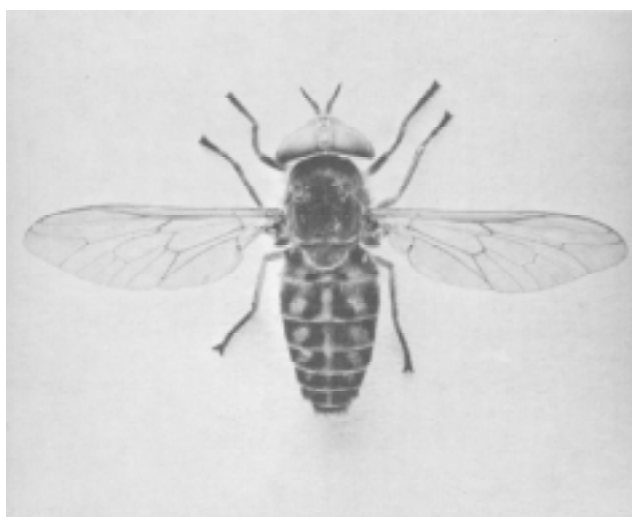
Fly control is best effected by removal of waste and decaying vegetable material. Manure should be stored in covered containers or spread thinly (for rapid drying) on fields not used by horses.

Remove moist hay, straw, garbage, and grain frequently during warm weather. Use screens when practical.

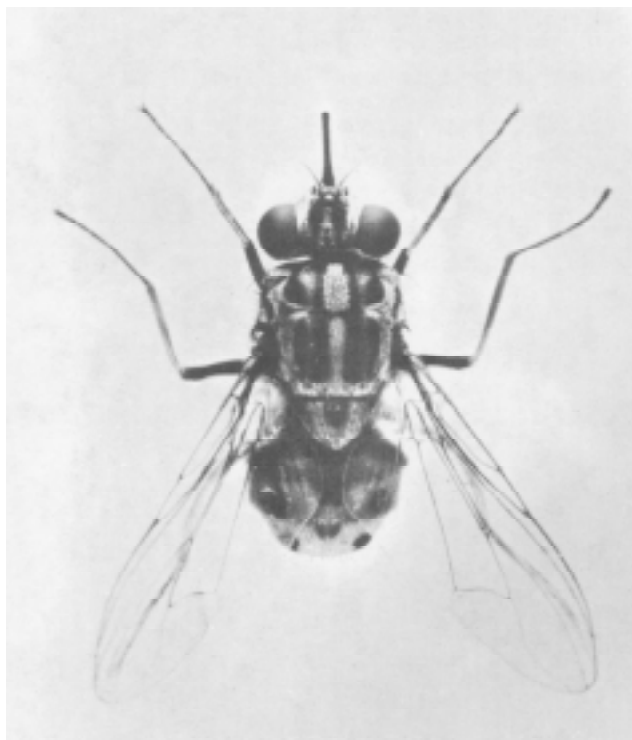


Life Cycle

The four stages of the life cycle are the egg, the larva, the pupa, the adult. House, stable, and horn flies commonly lay their eggs in manure or occasionally in decaying vegetation or any moist collection of spilled grain. Face flies lay their eggs in fresh manure on pastures. Horse and deer flies deposit eggs in the mud of swamps, salt marshes, or on vegetation near water.



HORSE FLY



STABLE FLY

Treatment

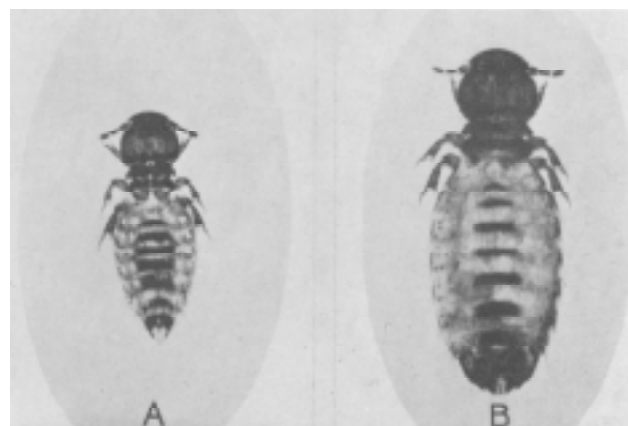
Successful treatment of flies varies from one part of the country to another and will be influenced by the degree of immunity they have established for a specific product. For this reason a qualified person should be consulted for recommendation in a given area. Regardless of the area, pesticides should be considered poisonous and should be regarded with extreme caution. Read the directions carefully and follow them closely. Do not permit sprays to contaminate feed or surfaces that horses will lick. Do not store them where they may accidentally get into feed. Baits are effective but poisonous and should be placed out of reach of horses because many contain enough sugar to induce their consumption. Strands or cords treated with insecticide and hung in stables are often effective. Daily sponging or spraying may be necessary to give protection from horse flies and face flies. For those insecticides commonly used and recommended for your area, contact your local county agent or veterinarian.

Lice

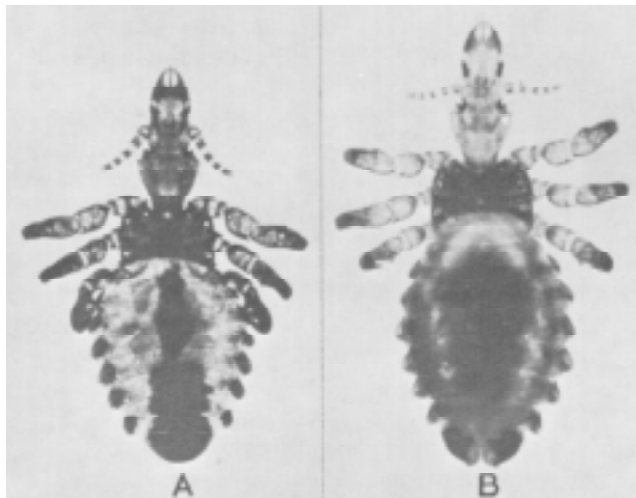
Lice that infest horses are of both the biting and sucking kind. Long hair is conducive to maximum reproduction and spread of lice, thus they are often observed in poorly groomed and poorly housed horses, especially in early spring. Symptoms include rubbing, biting, general unthriftiness, and patches of skin denuded of hair.

Life Cycle

The adult lice attach their eggs to the hair, usually close to the skin (the so-called nits). Here they hatch in from 11 to 20 days. The young lice reach maturity and the female begins laying eggs when she is 11 to 12 days of age. Lice live their entire lives on the host, and can exist only about three days when off the host animal.



BITING LICE



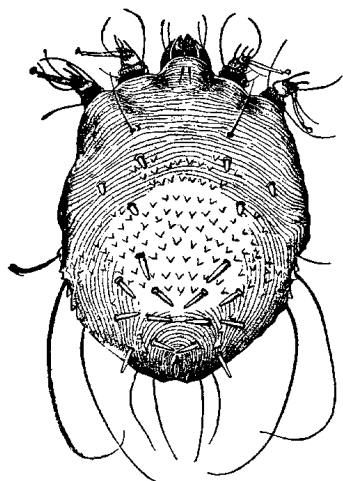
SUCKING LICE

Prevention

Proper feeding, grooming, and clean stabling will do much to prevent louse infestations. Lice may be carried from one animal to another on harness, saddles, blankets, brushes, or curry combs moved directly from a lousy animal to one free from lice.

Treatment

Horses may be dipped, sprayed, sponged, or dusted thoroughly for lice control. The treatment should be repeated in two to three weeks in order to destroy the lice hatching from eggs not destroyed by the first application. Contact your county agent or veterinarian for the recommended insecticides most commonly used in your area under prevailing regulations.



**SARCOPTIC MANGE MITE
FEMALE MAGNIFIED 100 TIMES**

Mites

Mites are microscopic creatures that cause horse mange. Positive identity is difficult because skin scrapings must be examined carefully under a microscope. Three genera exist: *Sarcoptes*, *Psoroptes*, or *Chorioptes*. Sarcoptic mites burrow under the skin scurf where they lay eggs and reproduce. Chorioptic type may cause foot mange resembling scratches, although all three may cause mange on any part of the body.

Symptoms include irritation, itching, inflammation, loss of hair, crusty scab formation, and folding of the skin.

Life Cycle

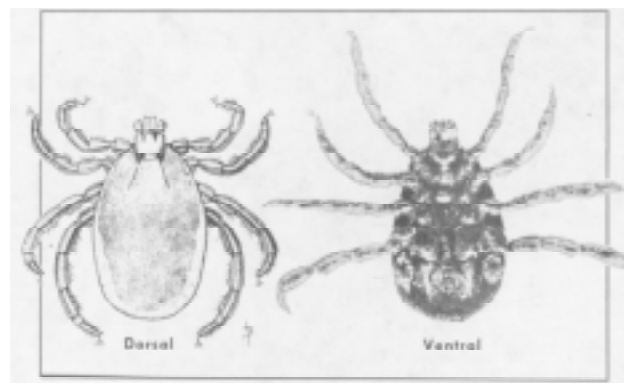
Female mites lay from 10 to 25 eggs during the laying period, which lasts from 12 to 15 days. After this period the female dies in the burrow. Eggs hatch in 3 to 10 days into young mites. After passing through several molts, they reach maturity and are ready to begin egg laying again in from 10 to 12 days.

Treatment

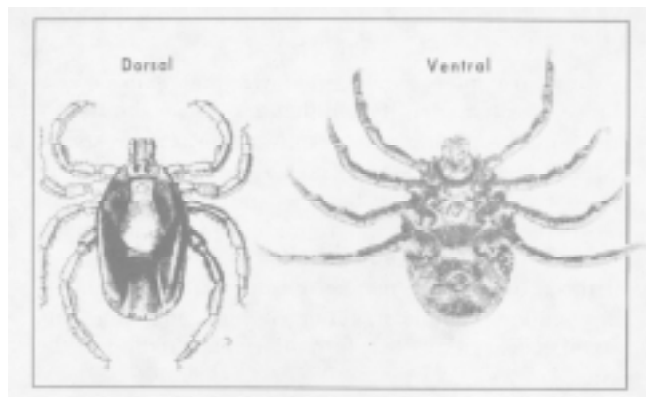
Mange is difficult to eradicate in any species of animal. Experience indicates that infested animals should be re-treated every 7 days in order to gain control. Dusts are not effective. Spraying or thorough wetting with a brush-washing technique is necessary to reach the well-hidden mites. Your county agent or veterinarian are your best sources for information regarding the prevailing regulations for the kinds and use of insecticides.

Ticks

Ticks are a problem to horses in many parts of the country. Like other biting insects, they are vectors of some serious diseases. Piroplasmosis recently infected over one hundred horses in the southeastern part of the United States. In 1960, the red tick, carrier of African horse fever, was identified for the first time in this country, in zoo animals in Florida.



TICKS - MALE



TICKS - FEMALE

Life Cycle

The four stages include the egg, the six-legged larva or seed tick, the eight-legged nymph, and the adult. Transition from one stage to the next occurs by molting. The number of generations produced annually varies from one every two or more years up to four or five per year, depending on the species. All ticks attach to the host and feed on blood.

Treatment

In areas where ticks are a serious problem, dipping entire animals must be resorted to. If only a few ticks are found, swab them with cotton dipped in alcohol or chloroform. Since ticks breathe by means of spiracles or holes found on the abdomen, this tends to anesthetize or suffocate them. Several insecticides are available. Follow the recommendations of your county agent or veterinarian regarding their use.



**RINGWORM OF THE HORSE DUE TO
*TRICHOPHYTON EQUINUM***

Ringworm

Ringworm is caused by various species of fungi, arranged in circles on the skin. If penetration is deep enough, severe itching results; and secondary infection may lead to abscesses. The lesions are usually covered with greyish crusts through which short hairs protrude.

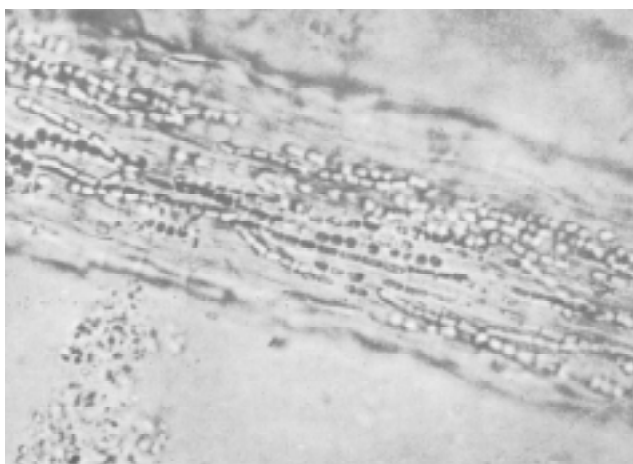
Treatment

If only a few lesions are present, soften crusts with warm soap and water and remove, dry the area, and paint with tincture of iodine daily for one to two weeks. If lesions are extensive, contact your veterinarian, since there are many new fungicides more effective than iodine. When treating or handling infected horses, use rubber gloves and wash hands thoroughly after treatment. All scrapings should be carefully disposed of. Children are particularly prone to ringworm infections.

Under the best management conditions horses harbor some parasites. Their effect is not spectacular or may be unnoticed, but they decrease work efficiency and cause discomfort. Heavy infestations render horses useless and may cause death or permanent damage. For these reasons a total health program should be effected.

PRECAUTIONS

MOST INSECTICIDES ARE POISONOUS TO MAN AND OTHER ANIMALS; PARTICULARLY CONCENTRATES PRIOR TO DILUTION FOR APPLICATION. ALL PRECAUTIONS ON THE LABELS SHOULD BE FOLLOWED FOR THEIR USE AND STORAGE. READ THE LABEL CAREFULLY! AVOID CONTAMINATION OF FEED AND WATER WITH INSECTICIDES.



**HORSE HAIR INFECTED BY *T. EQUINUM*
ECTOTHRIX TYPE OF PARASITISM, X522**

NOTES

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