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External parasites of swine

James McKean and Jerry DeWitt

Quick Facts

Swine parasites can mechanically transmit diseases. Losses of all causes from hog parasites are estimated at \$10 to \$50 million annually.

The hog louse is a blood-sucking parasite that carries out all of its life cycles on the skin surface.

Mange mites, (two types affect swine), will burrow into the upper two-thirds of the dermis and therefore are difficult to treat and control effectively. Both types of parasites are exclusive to hogs and are transmitted primarily by hog-to-hog contact.

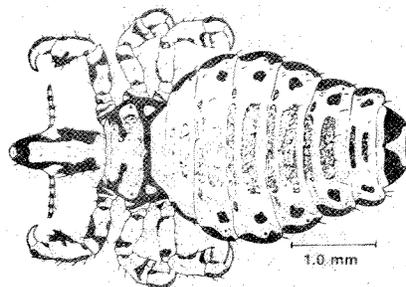


Figure 1: The hog louse is a bluish-black pest approximately 1/4-inch long. It is most readily observed on the necks of infested pigs.

structure but smaller than the adult. The nymphs will go through three maturation stages to adulthood. During development, lice may feed in clumps, generally on the more tender areas of the skin. Hog louse infestation starts around the ear and expands to the lower body and then to soft-skinned abdominal areas. All stages of the life cycle occur on the skin surface. The pest does not burrow into the skin.

Symptoms

Mild louse infestations may cause no clinical problems. In more extensive infestations, the pests can be seen as dark bluish-black discolorations on the skin. The continuous sucking of blood and lymph causes irritation to the skin, leading to some itching.

Damage from lice is primarily irritation, making the hogs restless and decreasing feed intake and growth rate in growing-finishing pigs. In addition, anemia may occur in young pigs because of blood loss. Lice also are capable of mechanically carrying swine pox virus, *Eperythrozoon suis* and other diseases to susceptible pigs.

External parasitism is a continuing problem for swine producers. Estimates of losses to louse and mange infestations range from \$10 million to \$50 million annually. Lice and mange mites also can mechanically transmit diseases such as swine pox and eperythrozoonosis. The major problems are caused by the hog louse—*Haematopinus suis*—and mange mites—*Sarcoptes scabiei* and *Demodex phylloides*.

Life Cycle of the Hog Louse

The hog louse (Figure 1) is a blood-sucking parasite that feeds exclusively on the pig. It is a large pest, about 1/4-inch, that clings to the hair of the neck, behind the ears and in the folds of the skin. It can survive for two to three days off the pig in warm bedding, but it generally will not attack other species. The life cycle of the louse takes about 25 to 30 days to complete from adult-egg-adult. The adult life span is about 35 days.

An adult female will lay three to four eggs daily for approximately 25 days. These eggs are attached to the hair shaft and hatch as nymphs (immature forms) in 12 to 20 days. Nymphs are similar in

¹James McKean and Jerry DeWitt, Iowa State University. Reviewed by Frank Peairs, Colorado State University Cooperative Extension entomologist and associate professor; entomology (reviewed 12/92)
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Life Cycle of Mange Mites

Mange mites of two types affect swine. *Sarcoptes scabiei* var. *suis* is the most common mite found on swine. *S. scabiei* burrows into the upper two-thirds of the dermis. Initial infestation generally begins in the inner ear and spreads over the head, along the neck and then across the body. The life cycle takes about 15 to 25 days to complete.

New females, as they mature, mate close to the skin surface and then begin new tunnels for their young. This is the only external exposure during the life cycle. The adult female lays one to three eggs daily for about 15 days. These eggs hatch in tunnels in about five to 10 days and mature to adults in 10 to 15 days. The mature female dies approximately 30 days after reaching maturity.

Symptoms

Initially, with mange mite infestation, the animal's skin has small raised areas covered with brownish scabs. This is followed by hyperkeratosis—thickened, rough skin. An intense itching may accompany the infestation, although in mild infestations itching may be negligible. The activity of the mites increases as skin temperature is elevated by fever or high environmental temperature. This increases the irritation and feeding rates and may intensify the itching in affected pigs.

Probably the highest mite activity is found during the summer but creates less of a problem for producers because of less contact spread and better control ability. High winter populations probably reflect the difficulty of treatment during cold weather and more contact spread.

Treatment

Successful treatment of lice and mange is a difficult assignment because it requires a complete

break in the parasite's life cycle. Because of the increased susceptibility of baby pigs to lice and mange and the increased toxicity of many chemicals to pigs under weaning age, the sow becomes a focal point for pest control measures.

Treat sows routinely for mange control 30 days prior to farrowing. The mange mites, because of their habit of burrowing deep into the skin and the tissue debris which results, are protected from many surface-applied products. Amitraz (Taktic), as spray or dip and ivermectin injections are approved for mange control. If pigs are sprayed, be sure to treat ears.

Successful louse control can be accomplished with amitraz (Taktic), coumaphos (Co-Ral®), fenthione (Teguran®), fenvalerate (Ectrin), lindane, methoxychlor, permethrin (Ectiban), and stirophos (Rabon®).

No known treatment for demodectic mites is available. Infected animals should be removed from the herd to minimize further transmission.

Weather Influences

Spray applications can be made during winter months by selecting sunny, calm days when the temperature is above freezing. Use small portable, low-volume misting applicators for good parasite control. Insecticides can be in an oil or water base with a small quantity (4 to 6 ounces per animal) applied. Because of the smaller volume, fewer problems of chilling are encountered during cold weather application.

Products, use concentrations and approved uses may change periodically. Read and follow the product container label to insure safe and effective treatment.

Carefully observe pre-slaughter intervals because of the residue-producing potentials of these chemicals. Read the label for information on withdrawal times, proper product usage, and application rates. Do not overtreat animals with any pesticide.

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