

# Livestock & Poultry

Department of Entomology

## CONTROL OF SWINE PESTS

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### HOG LICE

The hog louse is the largest bloodsucking louse infesting domestic animals. In the adult stage it is nearly 1/4 inch long. Hog lice are parasitic on swine only and will attack hogs of any age or condition. However, hogs in an unthrifty condition may be more susceptible to attack. The resulting itching and discomfort caused by the lice piercing the skin to suck blood cause the animals to scratch with their feet and to rub against feeders, posts, or any stationary objects. This causes the skin to become thick, cracked, tender, and sore. Infested animals are restless, less profitable, and more susceptible to disease. A heavy infestation of lice causes a condition on the skin similar to measles. The hair cannot be removed without skinning, so hide loss and a discounted carcass can result. In addition, it is claimed that the hog louse transmits swine pox virus among pigs, and may be a potential transmitter of other diseases such as hog cholera and eperythrozoonosis.

Hog lice pass their entire life cycle on the host. Female lice attach their eggs directly to the bristles of the hog, close to the skin. Up to 90 eggs will be laid during a 25-30 day period. The eggs hatch in 12-20 days, while the young lice or nymphs mature in another 10-12 days. The entire life cycle takes about 25 to 30 days. Hog lice are of a slate blue color and are often overlooked because they may resemble the skin of the hog. They feed mainly on the tender areas of the skin, and are first noticed in small clumps inside the ear, or in folds of skin around the neck. They also favor areas around the upper inside surface of the legs and around the tail. These lice are most common in the winter, but can be found on animals the entire year.

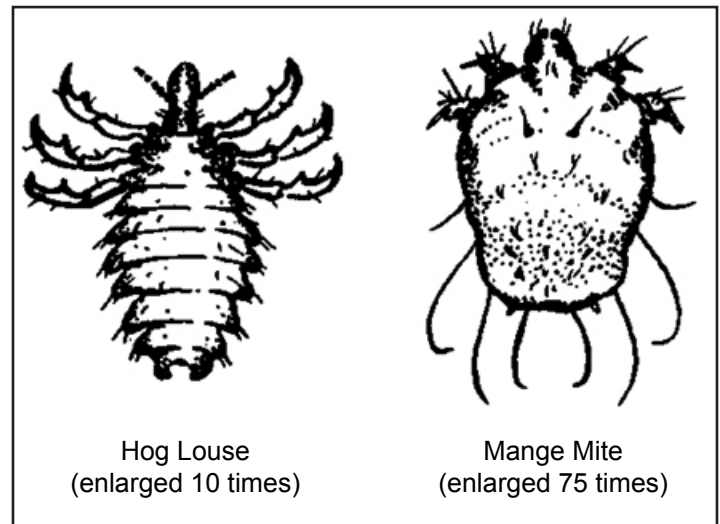
### MANGE

Common mange of hogs is caused by tiny mites which burrow through the skin, making thread-like tunnels up to 1 inch long. Within these tunnels, the females lay their eggs. Eggs hatch in 3-10 days and a generation can be completed in 2 weeks. These mange mites, also called sarcoptes or itch mites, are too small to be readily seen with the naked eye, but

are visible through a hand lens. These mites cause severe itching, and infested animals rub vigorously.

Sarcoptic mange is highly contagious and may spread rapidly through a herd of hogs by direct contact among the animals. Lesions may start on any part of the pig's body, but usually appear first on the head-around the eyes, nose, or ears. The mites are often present inside the ears and may be overlooked when the hogs are examined or treated for mange. Since infested swine scratch the first lesions with their hind feet, the next appearance of the disease is often on the hind legs. The lesions grow gradually and may spread over the whole body. The skin about the eyes, ears, and along the top of the neck and back becomes scurfy, inflamed, scabby, and eventually raw and cracked. The bristles also become stiff and stand upright, giving the animals a rough, unkempt appearance. In addition, a secondary bacterial infection may occur where the mites have burrowed; advanced lesions may attract flies to further complicate the condition.

Demodectic mange mites are small, elongated mites about half the size of sarcoptic mange mites, but they are not as commonly found on hogs. When infestations do occur, they penetrate hair follicles or oil glands and cause small, hard



nodules or pimples. These nodules may increase in size to about 1 inch in diameter, and often rupture, releasing a creamy-white, cheesy material. The complete life cycle is not known, but the mites require about 3 weeks to develop through three immature stages to the adult. Adults will live for 1-2 months. Initial infection begins around the nose and eyelids, then moves to the abdomen and inner thigh areas. Neither serious pruritus (itching) nor other clinical problem is usually involved with this parasite. Occasionally, the pimples become infected and an abscess develops.

## HOG LICE AND MANGE CONTROL MEASURES

Good management practices are a must if lice and mange on hogs are to be controlled. These parasites are introduced onto a farm by introduction of new animals. Any external parasite program should start with good bio-security. All new animals brought into a herd should be isolated in a separate building until they can be treated for internal and external parasites as well as other disease problems.

The initiation of a total herd control program can be very effective when followed strictly and continually. Such a program is composed of an initial treatment followed by a maintenance schedule. Initially, all animals in the herd should be properly treated. If sprays are applied, a second treatment should be made 5 to 21 days following the first treatment. Also, treat all floors, walls, and equipment surfaces which come in contact with the animals. Before treatment, be sure to remove or empty all feeders and waterers from pens if animals are to be sprayed there.

After initial treatments, all sows should be routinely treated prior to farrowing. Treat piglets at weaning. Treat boars every 3 months. Isolate any new additions to the herd and treat before they are co-mingled with the rest of the herd.

Choosing an external parasite control product is important. If only lice are a problem, choose any of the products listed in Table 1. Sarcoptic mange is generally more difficult to control and there are fewer compounds registered. Choose a product and application method that addresses your existing

problem and production system. If sprays or dips are used, apply them to ensure 100% coverage of the animals. During severely cold weather, injectables, pour-on treatments or dust applications may be the best to use.

Of the products listed in Table 1, always read and follow label directions to ensure safe and effective treatment. Withdrawal periods, as specified on the labels, must be carefully observed because of the residue-producing potentials of these chemicals. Read the label information on withdrawal times, proper product usage and application rates. Do not overtreat animals with any compound.

## FLIES

Several species of flies may be present around swine facilities. House flies are the most common but the stable fly, little house fly, and mosquitos may also be present. House flies are pests primarily because of their general annoyance to swine and other animals. The stable fly, equipped with bayonet-like mouthparts for sucking blood, has an irritating bite, and several of these flies can severely hamper animal performance. Mosquitoes, which breed in standing water around hog lots and in lagoons, can also cause great annoyance to animals by their biting activities. Besides the importance of mosquitoes in disease transmission, house flies and stable flies have been implicated in the transmission of hog cholera and other human and animal diseases.

Sanitation: House flies, little house flies, and stable flies develop in moist manure and wet decaying organic matter of all kinds found around animal premises. No insecticide can be expected to control flies as long as breeding sites exist. A thorough sanitation program is a must to hold down fly populations in and around swine facilities. All manure, spilled feed, wet straw, and decaying plant material should be removed twice a week to break the breeding cycle of house flies and stable flies. These flies can complete a generation from eggs to adults in as few as 10 days. This can be done by spreading manure and other waste material to dry or by placing it in pits or lagoons to become liquefied. If you use

Compound	Formulations*	Lice	Sarcoptic Mites
amitraz (Taktic)	Spray	X	X
coumaphos (Co-Ral)	Spray, Dust	X	
lindane	Spray	X	X
malathion	Spray, Dust	X	X
methoxychlor	Spray	X	
permethrin (Atroban, Ectiban, Expar, Insectrin, Overtime, Permaban, Permethrin, Purina Hard Hitter, Swine Guard, others)	Spray, Dust	X	X
tetrachlorvinphos (Rabon)	Spray, Dust	X	
ivermectin (Ivomec)	Injectable, Pour-on, Feed Additive	X	X

a liquid manure pit, do not allow accumulations of manure above the water line, either floating or sticking to the sides, since this is ideal for fly production.

Insecticides for Hog Premises: Table 2 lists the insecticides recommended for fly control on swine and swine premises. For treating hogs with the listed insecticides, read and follow label directions for proper use of formulations and product chosen. Residual premise sprays should give control up to 4 weeks. Knockdown sprays, with no residual action, should be applied when flies first appear in the spring. Fly baits are most useful as a supplement to sprays. They alone cannot be expected to control fly populations.

Larvicides can be applied directly on manure and other fly breeding sources; but their use should be reserved for treatment of fly breeding spots not eliminated by normal sanitation practices.

<b>Table 2. Insecticides for Fly Control on Swine and Swine Premises</b>
<p><b>On Swine</b>            Permethrin (Several trade names)            Synergized pyrethrins (Several trade names)</p>
<p><b>Residual Sprays</b>            Permethrin (Several trade names)            Cyfluthrin (Tempo)            Lambda-cyhalsthrin (Demand)            Dimethoate (Cygon)            Tetrachlorvonphos (Rabon)            Tetrachlorvinphos and dichlorvos (Ravap)</p>
<p><b>Knockdown Sprays</b>            Synergized pyrethrins (Several formulations and trade names)</p>
<p><b>Baits (Granular)</b>            Methomyl (Several trade names)            Imidacloprid (Quickbayt)</p>
<p><b>Larvicides for Treating Manure</b>            Dimethoate (Cygon)            Tetrachlorvinphos (Rabon)            Tetrachlorvinphos and dichlorvos (Ravap)</p>

#### SCIENTIFIC NAMES:

Hog Louse - *Haematopinus suis* (Linn.)

Sarcoptic Mange Mite - *Sarcoptes scabiei* (De Geer)

Demodectic Mange Mite - *Demodex phylloides* (Csokor)

READ AND FOLLOW ALL LABEL INSTRUCTIONS. THIS INCLUDES DIRECTIONS FOR USE, PRECAUTIONARY STATEMENTS (HAZARDS TO HUMANS, DOMESTIC ANIMALS, AND ENDANGERED SPECIES), ENVIRONMENTAL HAZARDS, RATES OF APPLICATION, NUMBER OF APPLICATIONS, REENTRY INTERVALS, HARVEST RESTRICTIONS, STORAGE AND DISPOSAL, AND ANY SPECIFIC WARNINGS AND/OR PRECAUTIONS FOR SAFE HANDLING OF THE PESTICIDE.

Revised 9/2007

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