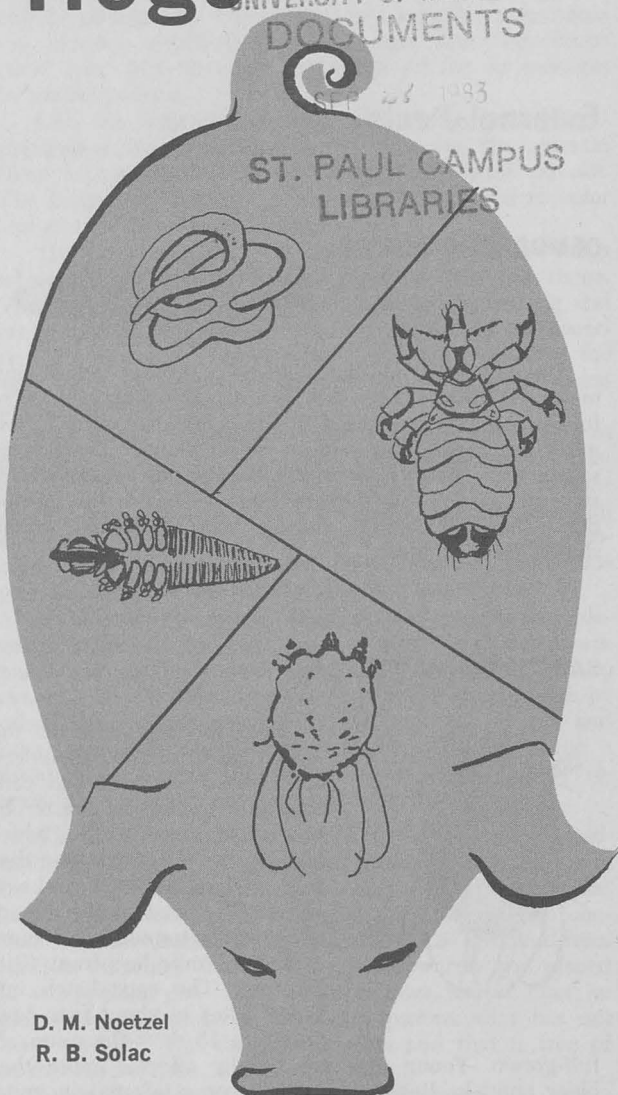


# Pests and Parasites of Hogs

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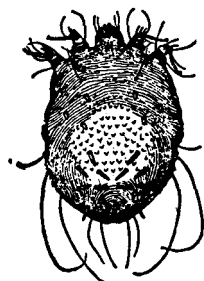
## External Pests

### DEMODECTIC MANGE



Characterized by hard, round swellings on or just under the surface of the skin, this mange (sometimes called follicular mange) is caused by tiny worm-like mites. These mites live in the hair follicles or oil glands. **There is no satisfactory chemical control although the treatment for sarcoptic mange may help to check spread of the infestation.** Heavily infested animals with advanced lesions should be slaughtered.

### SARCOPTIC MANGE



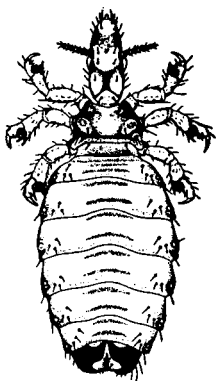
Look for this along the top of the neck, on the shoulders, and around the eyes and ears. Sarcoptic mange is caused by tiny round parasitic mites which burrow into the skin where they feed on lymph, blood, and skin tissues. The female mites deposit their eggs in tunnels in the outer skin. Each mite lays from 40 to 50 eggs. The eggs hatch into larval mites in about four days.

In 10 to 15 days the mites are full-grown. Young pigs are usually affected more than older animals. Baby pigs may become infested by mites from the sows.

Mange mites cause irritation which makes infested animals rub and scratch themselves vigorously. The skin thickens, cracks, and often “weeps” or bleeds. Secondary infection sometimes results. Advanced lesions may attract flies to further irritate the condition. Heavy infestations result in weight loss, and mangy hogs are downgraded at market.

Thorough spraying or dipping (see table) will control sarcoptic mange as well as lice if they are present.

## LICE



A lousy hog will scratch and rub himself vigorously; this rubbing may destroy the hair in patches or even wound the skin. This condition is brought about by the feeding habits of the lice. Since they feed on blood, lice obtain their food by puncturing the skin of the host with their mouthparts. Lice feed frequently and at each feeding make a new puncture—thus causing the irritation and itching.

Hog lice are about the largest of the bloodsucking lice attacking warm-blooded animals. The adult females may reach a length of  $\frac{1}{4}$  inch. As in the case of mange mites, the life cycle is passed entirely on the host. The eggs, or “nits,” are fastened to the hair. A female louse may lay about 90 eggs during a 25- to 30-day period. The eggs hatch in about 2 weeks. Young lice often congregate in the ears of hogs. They become full-grown in 10 or 12 days.

Heavy infestations cause lowered feed efficiency, arrested growth of young pigs, and a general unthriftiness which makes the animals subject to the attack of other parasites or diseases. Lice probably transmit a virus which causes swine pox.

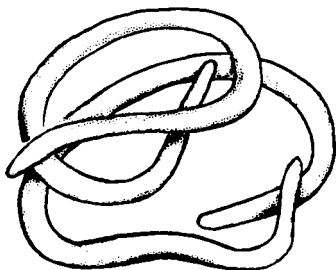
You may apply sprays in the same way as prescribed for the control of sarcoptic mange. Several chemicals will control lice but may not give adequate control of mange (see table).

## FLIES

Houseflies, stable flies, and blowflies often become troublesome around swine-housing and feeding areas. For information on fly control see Entomology Fact Sheet 35, “Fly Control for the Dairy Herd.”

# Internal Parasites

## LARGE ROUNDWORMS



It is generally accepted among hog raisers that most hogs have roundworms. If you are in doubt, ask your veterinarian to take a sample of the hogs' droppings for a worm egg examination.

The large intestinal roundworm (*Ascaris suis*) is a thick worm, which, when full-grown, is about the length and diameter of a pencil and is yellow to pink in color.

The adult worms live in the small intestine where they lay eggs. The eggs are passed out with the manure and become infective in about 2 to 3 weeks. The hogs eat these infective eggs which then hatch in the intestine. The larvae and immature worms penetrate the intestinal wall and are carried to the liver by the bloodstream. After the worms grow a little in the liver, the circulating blood carries them to the lungs where they are coughed up and swallowed. The roundworms complete their life cycle by developing in the intestine where a single female worm lays thousands of eggs daily. In all, it usually takes 50 to 60 days for a new generation to develop from egg stage to egg stage.

Damage is caused mostly by the larvae when they migrate through the various organs and tissues. They cause "white spotted livers" which are condemned on meat inspection. They pave the way for pneumonia which may result in "thumps." Unthrifty hogs and permanently stunted pigs may result from such damage. The greatest harm is done to pigs up to 4-5 months old.

There are a number of chemicals recommended for control of roundworms (see table), but careful management and rigid sanitary measures are also necessary. If possible, confine pigs for a few days after treatment in a pen not intended for their permanent use.

Try to keep pigs on areas free of worm eggs. Keep all hogs, other than sows, away from young pigs.

1. Scrub farrowing crates, stalls, and pens at least a week before little pigs are expected.

2. Wash the sides and udders of the sow with warm, soapy water before putting her into the clean crate or pen.

3. Haul the sow and pigs from the hog house to clean ground, not pastured the previous year, or farrow in huts on clean pasture.

4. Remove manure frequently from cement floors, platforms, and aprons of farrowing, creep, growing, and finishing units.

## LUNGWORMS

Signs of lungworm infection are severe coughing, difficult breathing, and loss of appetite. Parasitic pneumonia may develop, especially in young pigs. These conditions result from irritation and obstruction of the air passages by the lungworms.

Like the large roundworms, swine lungworms (*Metastrongylus*) live in the pigs' lungs; however, they remain there to maturity while the large roundworms do not. The lungworm varies from white to pinkish-red in color and grows up to 2 inches long.

The adult worms live in the air passages of the lungs where they feed on the discharges of inflamed tissue. Their eggs are coughed up and swallowed by the pig and are finally passed in the manure. Earthworms are necessary for further development of the eggs, because the eggs hatch in the earthworms which, in turn, are eaten by the pigs.

The young lungworms or larvae become infective to pigs in about 3 or 4 weeks, and a single earthworm may harbor 2,000 of them. Pigs swallowing the earthworms quickly free the larvae which penetrate the intestinal wall and eventually find their way to the lung where they complete their development and mate. Female lungworms produce eggs 3-4 weeks after pigs eat earthworms.

If infection is severe, parasitic pneumonia may develop, especially in young pigs. The effect of lungworm parasitism on the growth and health of pigs is hard to evaluate on the farm because it is often complicated by other disease-producing agents like bacteria, viruses, and other parasites. Lungworms have been proven to be a reservoir for swine influenza virus and are indirectly responsible for many outbreaks of influenza.

The infection may be controlled by methods of sanitation and by preventing contact between young pigs and lungworm-infected earthworms. Once a pasture or lot has had many infected earthworms on it, it may remain contaminated for years. Infected pigs should be removed from the lots on which they picked up the worms and placed in a dry, clean pen with a concrete floor, slatted floor, or placed on well-drained, temporary pasture that has not been used for pigs for several years and that is free of trash, manure, litter, and excess humus.

See table for drugs used in chemical control.

# CHEMICALS FREQUENTLY USED IN THE CONTROL OF PESTS AND PARASITES OF HOGS\*

<i>Pest or Parasite</i>	<i>Chemical</i>	<i>Amount</i>	<i>Remarks</i>
Sarcoptic mange (mites and lice)	**lindane	1½ lbs. 25% wettable powder or 1 qt. 20% emulsifiable concentrate per 100 gal. water as spray or dip. Use 1 to 2 qts. total spray per animal.	Treat sows at least 40 days before farrowing. Do not treat pigs before 3 months old. Treat at least 30 days (spray), or 60 days (dip), before slaughter. Lindane is on the Minnesota restricted use list. This is the only permitted use in the state.
	or		
	malathion	1 gal. 55-57% emulsifiable concentrate per 100 gal. water.	Do not treat pigs before 3 months old. Treat at least 28 days before slaughter.
	or toxaphene	3 qts. 60% emulsifiable concentrate per 100 gal. water.	
Lice only	coumaphos (Co-Ral)	2 lbs. 25% wettable powder per 100 gals. water.	Do not treat animals under 3 months of age.
	or		
	crotoxyphos (Ciodrin)	1 gal. of 25% emulsion concentrate per 100 gals; apply up to 1 gal. per animal.	Not oftener than once a week.
	or		
	crotoxyphos plus dichlorvos (Ciovap)	1 qt. in 12 gals. of water (0.25%); apply up to 1 gal. per animal.	Not oftener than once a week.
	or		
	**dioxathion (Delnav)	2½ qts. of 25% emulsion concentrate per 100 gals.	Not oftener than once every 2 weeks. Restricted to use by certified applicator only.
	or		
	fenthion (Tiguvon)	3% pour-on; ½ oz. per 100 lb.	14 days withholding.
	or methoxychlor	8 lbs. 50% wettable powder per 100 gals. as spray or dip.	No time limitations.
Large Roundworms, Nodular Worms, and Whipworm†	Dichlorvos (ATGARD)	Mix particular concentration of drug as directed on label.	Do not use in feed when animals are treated with cholinesterase-inhibiting drugs, pesticides, or chemicals. Keep out of reach of children and fowl.
	(ATGARD C)	.0384-.0550% in feed (Follow specific feeding directions.)	
	Hygromycin	Part of ration, 12 gm/ton	<b>Do not use in feed 15 days before slaughter.</b>
Large Roundworms, Nodular Worms, Lungworms, and Intestinal Threadworms	Levamisole HCL	0.08% in feed.	<b>Do not use in feed 72 hours before slaughter.</b> Keep out of reach of children.
Large Roundworms and Nodular Worms	Piperazines	Follow directions on container (1 day).	In wet or dry feed or water.
	Pyrantel tartrate	Follow directions on container.	Do not mix in feeds containing bentonite. Do not feed 24 hours before slaughter.
Large Roundworms	Thiabendazole	0.005-0.1% in feed. (Follow specific feeding directions.)	<b>Do not use within 30 days of slaughter.</b> Aid in the prevention of roundworm infection.

\*Formulations vary among chemical manufacturers. Follow directions and precautions found on containers!

\*\*These are restricted use chemicals.

†Not discussed in folder but are commonly found parasites of hogs.

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