

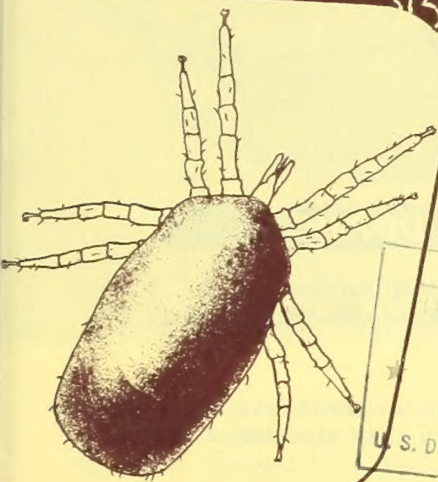
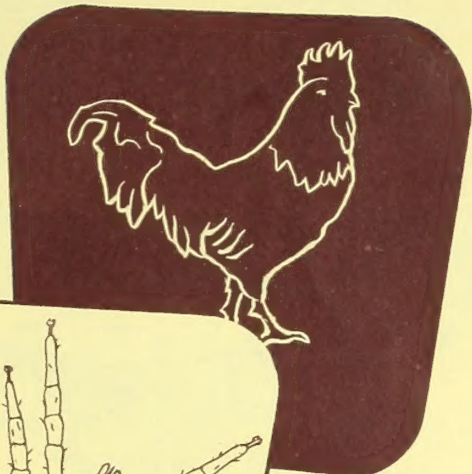
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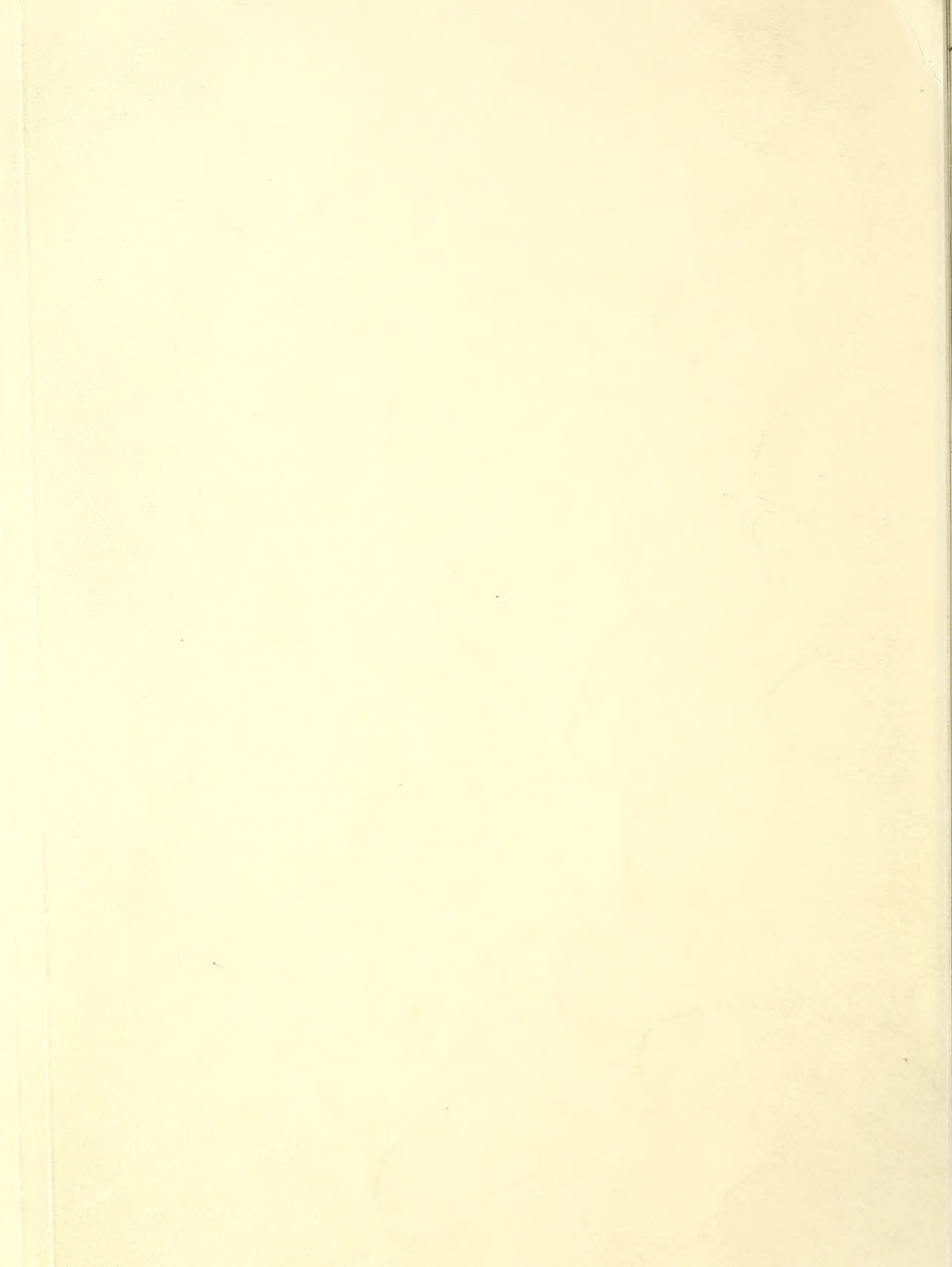
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# POULTRY MITES

## how to control them

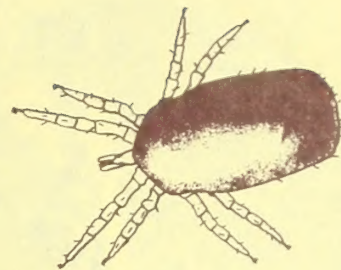
Leaflet No. 383

U. S. DEPARTMENT OF AGRICULTURE



# POULTRY MITES

## how to control them



Poultry mites retard the growth of poultry, lower vitality, damage plumage, and reduce egg production. Fowls heavily infested by mites sometimes die.

Mites reproduce rapidly, especially in summer, when tremendous numbers may occur. They are spread from yard to yard in infested crates and coops, and by poultry and wild birds. Persons who work with infested poultry may carry mites on their clothing.

Mites most commonly found on poultry are the chicken mite (or roost mite),<sup>1</sup> the northern fowl mite,<sup>2</sup> the scaly-leg mite,<sup>3</sup> the depluming mite,<sup>4</sup> and chiggers.<sup>5</sup> The adult mites are  $\frac{1}{40}$  to  $\frac{1}{30}$  inch long.

Several insecticides are used in controlling poultry mites. They are used in dusts, sprays, roost paints, dips, and ointments. A dust is ready for use when purchased. A spray, roost paint, or dip is made by mixing an emulsifiable concentrate or wettable powder with water.

Apply sprays with a small power sprayer or a garden-type compressed-air sprayer. If you apply a wettable-powder spray with a compressed-air sprayer, agitate the liquid frequently to keep the powder in suspension in the spray mixture. . . . For treating small surfaces, such as a roost, use a paintbrush and a can. . . . Use a rotary-type hand duster for dusting an entire flock.

The insecticide to use, its strength, and the method of applying it depend on the kind of mite to be controlled.

Do not depend on an insecticide to do the whole job. Eliminate hiding places by removing loose boards and rubbish. Use roosts and nests of the knock-down type: they are easy to clean and easy to treat with an insecticide. Provide good ventilation in the poultry house.

### CHICKEN MITE

Chicken mites attach themselves to poultry during the night and suck blood. During the day they hide in cracks of poultry houses and coops. Their excrement looks like a salt-and-

pepper mixture. If you examine cracks, you may see masses of mites, their eggs, and the silvery skins cast by the immature mites.

Females require a blood meal before laying eggs. Under favorable conditions, eggs hatch and mites mature in about 10 days. Several generations a month are produced in the summer. In winter the mites develop more slowly, and may be dormant in northern regions that are exceptionally cold.

In heavily infested coops, fowls have pale combs and wattles. They become droopy and weak and are more susceptible to other parasites and to diseases. Some fowls die.

### Control

Use a 2.5-percent DDT spray or a 0.5-percent lindane spray. Apply it to roosts, nests, and inside wall surfaces. Pay particular attention to cracks and rough spots. A second application may be necessary in 10 to 14 days.

Lindane or malathion, applied at 1-percent strength, can be used as a roost paint. One pint of paint will cover about 150 feet of roost. The insecticide on the roosts kills mites crawling to the chickens, and the fumes kill mites that are already on the chickens.

The percentage of insecticide in commercial preparations of wettable powders and emulsifiable concentrates varies. The chart below shows how to prepare a 0.5-percent spray. (To make

### PREPARING A 0.5-PERCENT SPRAY

Purchased product	Amount of product to mix with water	
	With 5 gallons	With 1 gallon
Wettable powder:		
20-percent.....	1 pound 1 ounce	3½ ounces
25-percent.....	13 ounces	2½ ounces
50-percent.....	6½ ounces	1½ ounces
75-percent.....	4½ ounces	1 ounce
Emulsifiable concentrate:		
20-percent.....	2 cupfuls	6½ tablespoonfuls
25-percent.....	1½ cupfuls	5 tablespoonfuls
50-percent.....	¾ cupful	2½ tablespoonfuls
75-percent.....	½ cupful	1½ tablespoonfuls

<sup>1</sup> *Dermanyssus gallinae*.

<sup>2</sup> *Bdellonyssus sylviarum*.

<sup>3</sup> *Knemidokoptes mutans*.

<sup>4</sup> *Knemidokoptes gallinae*.

<sup>5</sup> *Eutrombicula alfreddugesi*.



### **SPRAYING**

**to control chicken mites**

a 1-percent or a 2.5-percent spray, use proportionately larger amounts of the wettable powder or emulsifiable concentrate; multiply by 2 or by 5.)

### **NORTHERN FOWL MITE**

Northern fowl mites, which look like chicken mites, stay on the fowls. They congregate near the vent, tail, and neck, and suck blood. Feathers become soiled. Scabs often form on the skin of infested fowls.

#### **Control**

Use malathion as a dust in litter for chickens only. Apply a 4-percent dust at the rate of 1 pound per 50 square feet of floor space. Repeat as necessary. Apply dust uniformly with a hand-operated plunger duster, rotary hand duster, or shaker jar.

Use undiluted sulfur (325 mesh) as a dip or as a dust, or paint the roosts with nicotine sulfate.

For a dip mixture, use 2 ounces of sulfur to each gallon of water. Dissolve 1 ounce of soap in the water. Dip on warm days only. Wet the feathers to the skin.

You can dust birds individually with sulfur, but application must be thorough.



### **PAINTING ROOSTS**

**to control chicken mites  
and northern fowl mites**

If you paint the roosts, apply nicotine sulfate (40-percent nicotine) half an hour before roosting time. Repeat in 2 weeks.

### **SCALY-LEG MITE**

Scaly-leg mites burrow under the scales of the fowls' feet and lower legs. The burrowing causes itching and irritation. The scales are pushed up from the legs, scabs or crusts form around them, and they are easily detached.

If untreated, the legs and feet become distorted and some of the terminal joints of the feet may be lost.

#### **Control**

Apply crude oil to the fowls' feet and lower legs with a brush or by dipping. (Kerosene is less effective than crude oil.) Do not get oil on the upper legs. One treatment is usually enough, but if the distorted scales have not been shed within a month, repeat the treatment.

An equally effective method is to soak the feet in warm soapsuds until the scales are loosened, and then grease the lower legs and the feet with lard containing 15 percent of fine sulfur.

### **DEPLUMING MITE**

Depluming mites burrow into the skin and cause an irritation at the base of the feathers.



## DIPPING

to control northern fowl  
mites and depluming mites

In trying to relieve the irritation, fowls pull out their feathers until they are almost naked.

### Control

Use the sulfur dip recommended for northern fowl mite control. A second treatment in 3 or 4 weeks may be necessary.

## CHIGGERS

Chiggers that attack poultry are the same tiny red mites that attack man. They attach themselves to the skin of poultry in clusters under the wings and on the back and neck. Injury is most severe among young fowls.

Infested fowls become droopy and emaciated, and refuse to eat. Abscesses and extensive areas of inflammation are common. Many birds die.

### Control

Rub one of the following substances on infested fowls to kill the chiggers: Sulfur ointment, kerosene, lard, mineral oil, or vaseline.

Use a good disinfectant, such as a 4-percent carbolic acid solution, on areas that contain pus.

If there is no practicable way to keep poultry out of places where chiggers are likely to be—



## DUSTING

to control northern fowl  
mites

such as meadows, patches of weeds or berries, orchards, and woodland—spray or dust the places with toxaphene, chlordane, or lindane. Remove fowls and livestock from the area to be treated. Keep them out of the area at least 2 days after completing the treatment; confine fowls in the poultry house and animals in barnyards if necessary.

### SPRAYING

Apply toxaphene or chlordane at the rate of 2 pounds per acre, or lindane at the rate of  $\frac{1}{4}$  pound per acre. To prepare a spray, mix an emulsifiable concentrate or wettable powder with water. The amount of concentrate or powder that you must use to obtain the required dosage depends on the percentage of actual insecticide in the product you buy. A chart on page 8 shows the percentages most commonly found in retail products and, for each product, the amount needed in a spray mixture prepared for treating 1 acre or for treating 1,000 square feet.

The amount of water needed depends on the density of the vegetation to be treated, ranging from 25 gallons per acre (for sparse vegetation) to 50 gallons per acre. From  $\frac{1}{2}$  to 1 gallon is needed to treat 1,000 square feet.

Spray treatments will usually prevent reinfestation for 4 weeks or longer.

Use a cylindrical compressed-air sprayer or a knapsack sprayer for treating small areas. Power sprayers are desirable for treating large areas.

### DUSTING

Dusting may be easier than spraying if you have to treat a large area.

Apply a 5-percent toxaphene or chlordane dust at the rate of 40 pounds per acre (or 1 pound per 1,000 square feet), or a 1-percent lindane dust at the rate of 25 pounds per acre (or 0.6 pound per 1,000 square feet). The treatment gives control for about the same period as sprays.

Use a rotary hand duster or a power duster, depending on the size of the area to be treated.

### PREPARING A SPRAY FOR CHIGGER CONTROL

Insecticides, and forms in which they may be purchased	Amount of purchased product to mix with water	
	For treat- ing 1 acre	For treat- ing 1,000 square feet
<b>Toxaphene and chlordane</b>		
Emulsifiable concentrate:		
40-percent.....	2½ quarts	2 ounces
50-percent.....	2 quarts	1½ ounces
65-percent.....	1½ quarts	1 ounce
Wettable powder:		
25-percent.....	8 pounds	3 ounces
42-percent.....	5 pounds	2 ounces
<b>Lindane</b>		
Emulsifiable concentrate:		
20-percent.....	1½ pints	0.6 ounce
25-percent.....	1 pint	0.5 ounce
Wettable powder:		
25-percent.....	1 pound	0.5 ounce

### PRECAUTIONS

Handle insecticides with care. Most of them are poisonous to people and to animals if used carelessly. . . . Wash off any insecticide that is spilled on the skin. . . . Don't spray or dust near feed and water troughs. . . . Don't use insecticides in strengths greater than those recommended.

NOTE.—Negative numbers of the four photographs on the inside pages are, left to right: 13788A, 13789A, 13784A, and 13785A.

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