

## **Common External Parasites in Poultry: Lice and Mites**

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Parasites can be detected on the external surfaces of the body by way of a thorough physical examination. Periodical examination of the flock can help to detect an early infestation and can help to prevent a larger flock outbreak. It is important to detect infestations early because of the restrictions on treatments available for food-producing birds. Moreover, many of the parasites have an environmental component so treating the environment is also necessary for controlling infestations. Prevention and early detection are the keys to successful treatment and control of external parasites in poultry flocks. The most common external parasites seen in poultry are lice and mites.

### **Poultry Lice**

Poultry lice are tiny, wingless, 6-legged, flat-bodied, insects with broad, round heads. They lay their eggs on the host bird's feathers, especially near the base of the feather shaft. A female louse will lay 50 to 300 eggs at a time, which she cements to the feather shaft. There are several species of lice that affect poultry, and multiple species can affect a bird at any given time. Some species can be localized on specific locations like the quill lice; or others can be found over most of the body surface like the chicken body lice. The lice found on poultry do not suck blood as the lice found in other species of animals; rather they feed on dry skin scales, feathers, and scabs. However, they will ingest blood extruding from irritated skin. The entire life cycle of the lice occurs on the host bird, primarily in the feathers. Poultry lice are host specific and cannot be transferred to humans.

Fall and winter are the most common times to observe lice infestations. Inspect the ventral region of the bird for live lice crawling on the bird and for nits (lice eggs) as most infestations start in this area of the bird's body. Eggs are white and commonly appear in bunches on the lower feather shaft. Feathers of infested birds may have a moth-eaten appearance. Due to the feather damage, the bird may have a dull or roughened appearance.

### **Poultry Mites**

There are two major types of mites found on the body of poultry. They are the Northern Fowl Mite (or in tropical environments, the Tropical Fowl Mite) and the Chicken Mite (or Red Roost Mite).

The Northern Fowl Mite is the most common external parasite in poultry, especially in cool weather climates. It sucks blood from all different types of fowl and can live in the temperate regions of the world. As compared to the Chicken Mite, the Northern Fowl Mite primarily remains on the host for its entire life cycle. These mites can live off the host bird for 2 to 3 weeks. These mites are small and black or brown in color, have 8 legs,

and are commonly spread through bird-to-bird contact. The Tropical Fowl Mite is comparable to the Northern Fowl Mite but lives in the tropical regions.

The Chicken Mite is a nocturnal mite that is primarily a warm weather pest. These mites suck the blood from the birds at night and then hide in the cracks and crevices of the houses during the day. Chicken Mites are dark brown or black, much like the Northern Fowl Mite.

The life cycle of mites can be as little as 10 days, which allows for a quick turnover and heavy infestations. Mites can be transferred between flocks by crates, clothing, and wild birds. Mites are capable of living in the environment and off the host bird for a period of time. Diagnoses of mite infestations are similar to that of lice; however since mites can live off the bird and some are nocturnal, inspect birds and housing facilities at night especially if you suspect that the Chicken Mite is the cause of the infestation. Observable signs may include darkening of the feathers on white feathered birds due to mite feces; scabbing of the skin near the vent; mite eggs on the fluff feathers and along the feather shaft (Figure 2); or congregations of mites around the vent, ventral abdomen, tail, or throat. Since mites congregate around the ventral region, they can also reduce a rooster's ability of successful matings.

### **Flock Symptoms**

Flocks infested with lice or mites show similar general symptoms. Birds will have decreased egg production; decreased weight gain; decreased carcass-grading quality; increased disease susceptibility; and decreased food intake. If any of these generalized symptoms are observed, a visual evaluation is recommended. Inspect birds around the ventral region for signs of lice or mites since infestations usually start in this area of the bird.

### **Treatments**

Sanitation and cleanliness are the keys to lice and mite control. Sanitation includes cleaning and disinfecting housing facilities and equipment between flocks. Moreover, reducing people traffic through housing facilities is recommended. Eliminating the contact between flocks and wild birds can reduce the potential transfer of external parasites. Chemical control can include the use of carbaryl (Sevin®). Treat the walls, floors, roosts, nest boxes, and the birds simultaneously. When dusting an entire house, be careful to avoid feed contamination. One treatment method for small flocks or individual birds is the use of a dusting bath with Sevin®. Place the bird into a garbage bag containing the medicated powder with the birds' head out and rotate/shake the bag to completely cover the bird with powder. Be sure not to inhale the medicated powder during treatments. The use of a facial mask is recommended to prevent inhaling this medicated powder. Because the life cycle of lice and mites is approximately 2 weeks, treatments should be repeated every 2 weeks as needed. Carefully read all labels prior to treatment to make sure withdrawal times are followed for food-producing poultry. Severe lice or mite infestations can be treated initially with a kitten strength dose of a pyrethrin-

based medicated spray on the birds to reduce the initial numbers. If problems persist, contact a veterinarian for treatment with such medications as Ivermectin. Prevention is the best method of treatment. For poultry used in exhibition or for new poultry entering the flock, a minimum quarantine period of 2 weeks is recommended. During this time birds should be physically examined and treated if necessary.

**Table 1. Comparison chart to distinguish between lice and mites.**

	<b>Lice</b>	<b>Mites</b>
<b>Size</b>	2-3 millimeters long	1 millimeter diameter (ground pepper)
<b>Speed</b>	Fast-moving	Slow-moving
<b>Color</b>	Straw-colored (light brown)	Dark reddish black
<b>Egg location</b>	Base of feather shaft	Along feather shaft
<b>Egg color</b>	White	White or off-white
<b>Best detection time</b>	Daytime	Nighttime or Daytime
<b>Location</b>	Lives only on host	Lives on host and in environment

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