

of the poultry the same as blood-sucking livestock lice, they really feed by chewing the feathers, dry scales and scabs on the skin. Their mouthparts are adapted for chewing rather than for sucking blood. The constant irritation brought about by the presence of the lice causes poultry to appear nervous and droopy, to have ruffled feathers and lowered wings, and to show a decrease in egg production, a low vitality, and a definite lack of resistance to disease. Lice rarely kill adult birds though they frequently kill young chicks.

Nearly all of the lice have about the same growth habits, length of life, and method of reproduction. Usually the eggs are attached singly or in groups near the base of the feathers. The young which hatch from the eggs resemble the larger adults in shape and form, and they have similar living and feeding habits. They grow rapidly and pass to the adult stage usually in about three weeks. Because of their rapid increase and the extent of their damage, every poultry raiser should be well informed on the habits and control of poultry lice.

The Head Louse.—This louse is especially serious on young chickens which have been hatched and brooded by an infested hen. It is the best adapted of all poultry lice to live on young chickens and it leaves the brooding hens to crowd onto them as soon as they are hatched. It usually attaches its eggs to the down and small feathers on the head and neck of the chicks, and within three weeks a new generation is mature and ready to lay more eggs.

To prevent this louse from infesting young chickens, treat the setting hen by the pinch method, as described below. If the young chicks become infested, treat the down on their heads with a pinch of sodium fluoride.

The Body Louse.—This is the most annoying louse of mature chickens, and, in some cases, it may also attack young chickens. The body louse prefers to live on the skin of the older birds in the densely feathered regions, such as below the vent, but in case of unusually severe infestations it may be found on any part of the body. As this louse lives primarily on the skin, it often causes those regions which it frequents to become reddened. In one case, 35,000 of these lice were found on a single bird.

The Shaft Louse.—This species is the least important of the lice that live on chickens. Although it may be found about the vent on mature fowls, it lives mostly on the feathers, where it feeds on the barbs and on the scales along the shaft. It is not able to infest young chickens because of the absence of well-developed feathers.

Other chicken lice, such as the wing louse, the fluff louse, and the large chicken louse are of less importance, but are found on chickens from time to time. There are probably few flocks of chickens in the state which do not have at least a few lice.

Other Poultry Lice.—Turkeys, geese, ducks, and guineas are also subject to attack by their own particular species of lice. While their

breeding and feeding habits are similar to those of the chicken lice, they are in each case a different species and they are seldom, if ever, found on chickens. Methods of control, however, where they are necessary, are the same as for the chicken lice.

Control of Lice

Since all poultry lice spend their entire life on the birds, one of the quickest and easiest ways to eliminate them is by thoroughly painting the top of the perches with an undiluted solution of 40% nicotine sulphate just before the flock goes to roost. Nicotine fumes are released by the body heat of the fowls and the gas penetrates the feathers to kill the lice. One treatment is usually sufficient but the birds should be repeatedly examined and a second application made if necessary. Adequate ventilation should be provided especially in hot weather to prevent the possibility of the nicotine fumes accumulating and injuring the birds.

Many poultry raisers prefer to use sodium fluoride for eliminating the lice on poultry. This may be applied either by the pinch method as a powder, or mixed with water as a dip. A pinch of the powder applied to the skin beneath the feathers under each wing, on each thigh, on the head, on the neck, two on the back, on the breast, on the tail, and below the vent of each bird, is a cheap and effective control. One pound of the dust will treat about 100 fowls.

Although the dip method is very effective and inexpensive it may be used only during warm weather. The dipping solution includes one ounce of sodium fluoride to one gallon of lukewarm water. Each bird, including the head, is submerged in the solution, and the feathers should be ruffled in order that the liquid may reach all parts of the skin. One pound of sodium fluoride will treat about 200 birds.

A dust bath is usually also provided by poultrymen so that the fowls may have a chance of dusting themselves and thus helping to get rid of lice. It is advisable to place it under cover and use fine road dust mixed with coal ashes. Although the fowls may all have access to the dust bath, many will not use it and it cannot be depended upon for the complete control of lice.

Mites

The mites that attack poultry differ greatly from the lice in form and in living habits. They belong to the same group of animals as the spiders and ticks and feed only by sucking the blood of the poultry. The chicken mite and the feather mite suck blood from the surface of the body, while the scaly-leg mite burrows beneath the scales of the legs and feet.

The Chicken Mite.—The chicken mite or 'red mite' is the worst blood-sucking pest of poultry in Missouri. It may actually kill setting hens or make them leave their nest, and a flock may stop laying,

appear droopy, listless, and badly run-down. When full-grown the mite is about the size of the head of a pin and is just visible to the unaided eye. It is gray in color but takes on a deep red appearance after feeding on blood. This species sucks the blood of the fowls during the night and hides during the day in cracks about the perches, dropboards, walls, and nests, and in the droppings. The mite eggs are laid in such places, and during warm weather a complete generation may be produced within a week or 10 days. Because of the secretive habits of the mite, and the rapidity with which it reproduces, a hen house may be overrun with the mite in a very short time without the owner's knowledge of its presence.

Control.—Since this mite does not breed on the fowls and remains away from them during the day, nothing is gained by treating the birds. To control it effectively, treat the hiding places where it spends most of its life. First, thoroughly clean the chicken house, removing all litter, nesting material, and droppings. Then spray all infested parts of the house with creosote, kerosene, or other available oil. In severe infestations, repeat the spray two or three times at 5-day intervals.

The Feather Mite.—During recent years this close relative of the chicken mite has appeared among many poultry flocks throughout the northern states, and there is some indication that it is distributed by the English sparrow and other birds. It differs from the chicken mite in that it lays its eggs on the feathers, and generally spends its entire life on the birds. It resembles the chicken mite in shape, size, and in being a blood feeder, and when established in a flock will quickly cause the birds to become run-down. At times, when its numbers become excessive, it is found in the nests and on the perches, but it usually remains among the feathers on the birds.

Control.—A thorough cleaning of the chicken house and the use of oil as recommended for the chicken mite, supplemented by the dipping of each bird in a solution containing 2 ounces of flowers of sulphur, 1 ounce of soap, and 1 gallon of water, is an effective method of control.

The Scaly-Leg Mite.—This microscopic mite burrows and lives beneath the scales on the feet and legs of poultry and causes the enlargement of the scales and often in severe cases, a deformity of the feet and legs. The mites, in time, spread throughout the flock and when scaly-leg is noted treatment should be applied promptly.

Control.—To control this mite, dip the legs and shanks of each infested bird in a mixture of equal parts of kerosene and linseed oil, and repeat the treatment again in 30 days.