

Diseases of Farmyard Poultry

Part 4 – External and Internal Parasites of Chickens

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All animals carry parasites which have evolved to live on or in certain species, each species having their own type of parasite which may or may not live briefly on say, a human. Some of the parasites are benign and some are pathological. Keeping all parasites at a low level should be the aim of poultry keepers.

Warmer temperatures are ideal weather for the proliferation of mites and lice. If just the thought of crawling lice and biting mites makes you start to itch and shiver then imagine how the hens suffer from these pests, some of which can kill. Some of the more efficient treatments are not licensed for poultry. Products are mentioned which can be obtained either through agricultural merchants or through a large animal vet.

External parasites

Red Mite (*Dermanyssus gallinae*) (1mm long, red in colour when fed)

This tiny bloodsucker (Fig 1) causes anaemia in hens and can pass disease on from hen to hen. It is nocturnal and sucks the blood of the hens at night, making it comparatively easy to control, if you are looking for it. A whitish powder is sometimes the only betraying factor around the perch sockets and around cracks in the woodwork and eggs may have tiny blood spots on the shell. Red mites live in the hut during daylight and suck the blood of the birds at night causing anaemia, debility and sometimes death. Red mite can live for 6 months without feeding and are then grey and very hungry. Felt on the roof of the henhouse creates a sanctuary for red mite as they can crawl under there in the hated daylight and prove almost impossible to destroy, short of removing the felt. If it needs removing, either replace it with Onduline, which is a corrugated bitumen sheet and does not condensate as it is warm, or put corrugated clear perspex on instead, on top of the boarding. The light then prevents any red mite from breeding there. You can never be sure of being free of them as starlings and other wild birds can bring them in at any time. Vigilance is the only answer. The life cycle of the red mite is horrifyingly short - ten days from hatch to breeding, especially in warm weather, so you can see how a small infestation can quickly get out of hand. They can also survive without a meal for months, and if you enter a hen house which has been empty for some time and you get covered from head to toe in tiny grey specks, these are very hungry red mite.

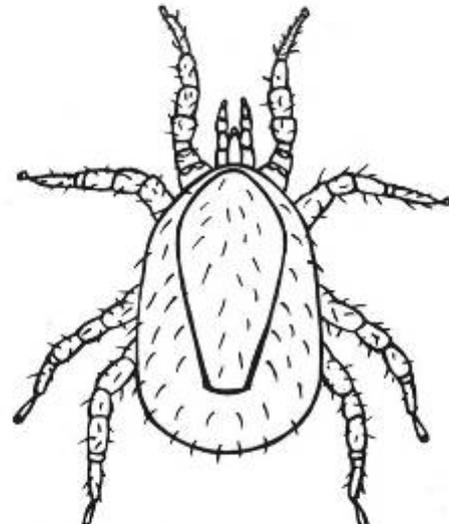


Fig 1: Red Mite - *Dermanyssus gallinae* (Northern Fowl Mite looks similar). Actual size about 1mm long

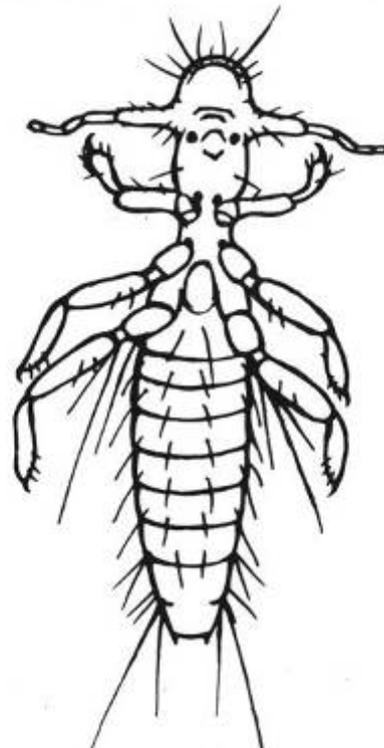


Fig 2: Common Louse - *Menopon gallinae* – about 2 mm long

They will take a meal off you, lacking any other source, and then turn their characteristic red again.

Treatment

Synthetic permethrin products which are licensed for red mite and to be sprayed on the birds: really useful when the red mite doesn't actually live on the bird! Herbal products for control do not seem to be consistently effective. Some breeders add flea powder to dust baths but this dilutes the chemical and is probably ineffective. To treat the house, blowlamp carefully into crevices, spray with licensed permethrin or dust with pyrethrum-based flea powder and remove roof felt.

Painting the ends of the perches with cresosote delays the mites getting to the hens.

Northern Fowl Mite (*Ornithonyssus sylvarum*)

Northern Fowl mite is similar in size and colour to red mite but spends its entire life cycle on the bird causing anaemia and death. Crested breeds are particularly prone to infestation and if controlling the mites with pyrethrum-based powder make sure to sprinkle some down the ear canal as this is where they hide. Infested birds have dirty looking patches on them and are depressed.

Treatment

There are no licensed products to control Northern Fowl mite. Eprinectin (Eprinex:Meril) appears safe at a dose of 5 drops (laboratory pipette) on the shoulder skin for adult large fowl and 3 drops on shoulder skin for bantams. Re-infestation can occur at any time, but eprinectin is protective for about 4 weeks (withdrawal time for eggs is 7 days).

Northern Fowl Mite is passed from hen to hen, not as often carried by wild birds as red mite, and the most frequently exhibited birds are at the greatest risk. Nearly all judges pass over birds with Northern Fowl Mite but there are some who don't even look for it. There is no excuse for exhibiting birds with this parasite, so anyone showing birds should be treating them both before and after a show as a matter of course. It is seen most easily on white birds as the feathers acquire a dirty tinge. It can be found anywhere on the body but under the tail is the most common place infected.

Common chicken louse (*Menopon gallinae*)

This louse (Fig 2) is flat, yellow, fast moving, about 2mm long, usually seen around the vent or under the wings but they move quickly out of the light as feathers are parted. This also has its entire life cycle on the bird and is host specific i.e. it won't bite humans, and feeds on the skin and feather debris. It is not life-threatening, unlike the previous mites, but is an irritant and a heavy infestation can affect the performance of the birds when mating. This is mainly due to the clusters of eggs, looking like granulated sugar, which are laid at the base of the feathers under the tail. These can be a physical barrier to mating. Dusting with louse powder will control the louse and you need to pull out any feathers with eggs on - a quick tug will do it - and then dispose of the feathers and eggs safely, because if you just chuck them on the ground they



Fig 3: Scaly Leg: top: normal leg, bottom: scaly leg showing the raised scales.



Fig 4: Dusting a Welsummer bantam

will hatch and jump onto the next passing chicken. A heavy infestation can affect egg laying and make the hens appear listless. Infestations are worse in autumn and winter.

Treatment

Dust with a pyrethrum-based licensed louse powder.

Scaly leg mite (*Cnemidocoptes mutans*)

Scaly leg mite causes intense irritation by burrowing under the scales of the leg, producing at first a whitish film and then mounds of white or pale yellow debris firmly attached to the leg (Fig 3). In severe cases the crusts can cut off the circulation in the leg and gangrene can set in. On a dark-legged bird, the beginnings of the white crusts can be easily seen. There is a musty smell (like mice) on the legs. Organic control is achieved by dunking the legs once a week for three weeks in a wide mouthed jar of surgical spirit, or putting a thick layer of petroleum jelly on the legs, which cuts off the air supply to the mites, but is rather messy. Old-fashioned remedies of diesel or creosote should not be used as these

are harmful to the hens. Scales, like feathers, are moulted once a year, so after the crusts have fallen off (the flesh is raw beneath so do not pull the crusts off), heavily infested legs may take a year to look normal again. Sometimes the mites will affect the face causing crusting and irritation.

Depluming mite (*Cnemidocoptes gallinae*)

This may occasionally cause feather loss around the head and neck, but feather pulling is also a cause of feather loss in this area. Louse powder is not effective against these mites. Fipronil (Frontline: Merial) can be used if sprayed onto a cloth then applied to the feathers. If fipronil is used as a spray directly onto the bird it could become hypothermic.

Mice may chew feathers when the birds are roosting, leaving a ragged appearance of tails, wings or body feathers.

Applying louse powder

Dusting a bird is easy for one person to do if you hold the legs of the bird between the fingers of your left hand (if right handed), taking the weight on your palm and forearm, its head facing under your arm (Fig 4). Lay the bird on its back on a table or the floor, still holding the legs and press gently with your forearm onto its chest. Your right hand is then free to apply the dusting powder under the tail particularly, under the wings, along the abdomen, then over the back and neck, rubbing well in. Don't forget to wear gloves and/or wash your hands afterwards.

With all these external parasites, vigilance and observation in the henhouse with regular handling of your birds is the key to prevention and healthier, happier poultry.

Internal parasites

Helminths (worms)

Gapeworm

The gapeworm lives in the trachea of a bird and when eggs are laid, they are coughed up and excreted to infect the next chicken. The symptoms are snicking or gasping with throat extended.

Capillaria

These tiny worms (Fig 7), also known as hair worm, live in the intestine. They quickly cause ill thrift and can be fatal if not treated.

Heterakis

This worm (Fig 7) lives entirely in the caeca (two blind-ended parts of the large intestine where some fermentation of plants occurs). It causes ill thrift but is the vector for *histomonas* (see below).

Ascarids

Also known as roundworms (Fig 5 and 7), these live in the small intestine. If there are many of them they can impact, and this is fatal.

Trichostrongyles

These live in the intestine and cause severe weight loss.

Tapeworm

These live in the intestine and cause weight loss and can be fatal.

Gizzard worm

These live in the gizzard and can be fatal in young stock.

Regular use (prophylactic) of a licensed product should avoid the situation where a bird is so infected with helminths that either impaction results, or when a large burden of worms is killed, the toxins they release kill the bird. Most intestinal worms have earthworms or insects as a transport host and wild birds are also carriers so outdoor birds are always at risk, although a certain amount of immunity develops. Stress can alter the delicate balance and allow the intestinal worms to proliferate. Heavily grazed or stocked areas should be rotated to avoid a build up of internal parasites.

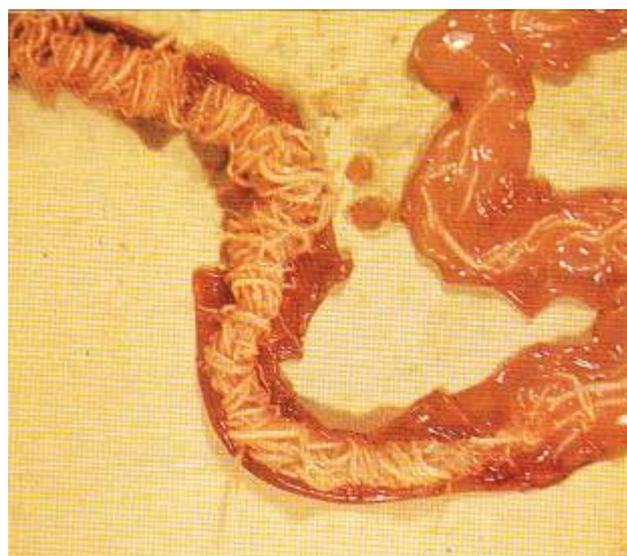


Fig 5: Intestine impacted with ascarids

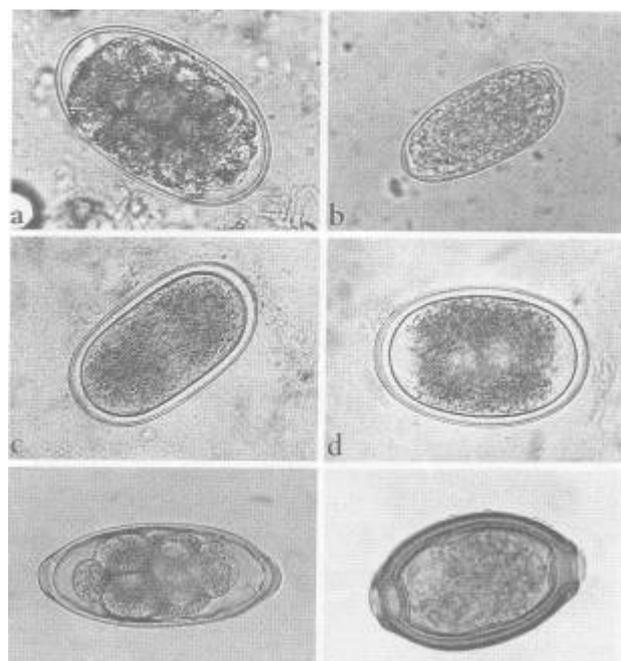


Fig 6: Worm eggs: a) Gizzard worm, b) Trichostrongyle, c) Heterakis, d) Ascarid, e) Gapeworm, f) Capillaria

Diagnosis and treatment

A parasitic egg count may be done on the faeces (Fig 6), but treatment for helminths may be instigated immediately with flubendazole (Flubenvet: Janssen) powder (240g tub), 10g to 8kg feed for 7 days (2 teaspoonsful to a 25kg bag divided into 3 black buckets). Recently, a smaller (for 20 hens) size of Flubenvet has been licensed. Some powder sticks to pellets but the rest has a tendency to migrate to the bottom of the feeder, so the mixture needs stirring daily. Prophylactic use of Flubenvet is advised if stock is on the same ground all year, at least before the breeding season and possibly every 2 months or less, depending on stocking density. Toxicity appears very low. If selling eggs for human consumption, Flubenvet may be used without withdrawal provided it is below 30 ppm, but this negates the effect against tapeworm. There is a soluble version (Solubenol: Janssen) but at the time of writing (2009) is only available in industrial sizes.

Other internal parasites

Coccidia – see Coccidia Bulletin

Histomonosis

Histomonas is a protozoa (single-celled, free-living organisms) affecting the liver in turkeys, pheasants, quail, peacocks and guinea fowl manifesting with bright yellow diarrhoea; the disease is also known as blackhead. The intermediate host of these protozoa is the heterakis intestinal worm carried by chickens, hence the old adage never to keep turkeys and chickens together. If hens are wormed regularly, then the incidence of blackhead is reduced. Action needs to be taken speedily when yellow diarrhoea is seen as birds can die in a couple of days. Treatment used to be by dimetridazole (Emtryl) in the water, but since Emtryl was banned in the EU, the welfare of turkeys and pheasants has been compromised as the only drug available (which is a poor substitute) is metronidazole. Pigeon products, as they are developed, may be useful.

Hexamitosis

Hexamita is a protozoa normally found in the gut but it can cause diarrhoea and unthriftiness in chickens, turkey and pheasant poults. The treatment is the same as for histomonosis.

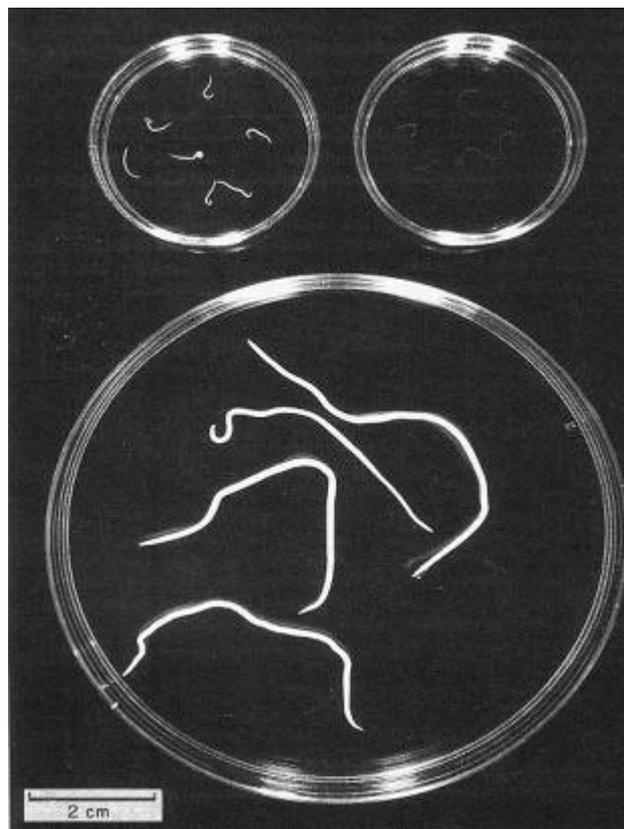


Fig 7: Large dish: Ascarids, top left: Heterakis, top right: Capillaria

Trichomonosis

Trichomonas, another protozoa, causes an oral canker in hens, turkeys and pheasants. A white to pale yellow cheesy substance appears in the mouth and throat. New purchases should always be checked for this condition. The treatment is nystatin but this needs to be put on the lesion, not just given to the bird.

Economic impact

Even a low infestation of external or internal parasites causes economic loss, so it is sensible to treat for mites when found: worms should be treated for on a regular basis to avoid a build-up.

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