

# A poultry producer's guide to red mite control

Jeremy Hunt

Saturday 29 October 2016 6:50



© Action Press/Rex/Shutterstock

It may be considered to be a “belt and braces” approach, but effectively tackling the tenacious red mite it requires a stringent three-pronged approach at turnaround.

Every poultry producer knows that red mite can severely affect a flock's health. The stress levels imposed on layers may not severely hit egg production, but will reduce feed conversion. More generally, birds will become depressed and unthrifty.

The first, and possibly most important, point is that red mite can survive for a long time without feeding from their host – even when birds have left the shed the level of infestation will continue.

“The red mite is an ingenious creature,” according to Alison Colville-Hyde, field services manager with St David's Poultry Team in Devon. It has adapted well to infesting wherever poultry is present and proven impossible to fully eradicate.

“Its capabilities for survival are amazing. This is a very resilient poultry ectoparasite and that's what makes it so difficult to get rid of. Red mite can survive for several months without feeding and can continue to exist even though there are no poultry present to provide a food source.



“That’s why a totally effective cleanout of any buildings between batches is absolutely essential,” says Ms. Colville-Hyde.

But no matter how effective, reinfection is highly likely – either by missing a small colony of red mite or on the body of the pullets that make up the next flock. They can even migrate on wild birds into poultry sheds.

Multi-age sites are often tricky to manage, but the mite can crawl from shed to shed – and carry disease with them.

“Unless there is a determined and effective control protocol in place, red mite will continue to infest,” explains Ms. Colville-Hyde.

## **Control**

“Once the date is known for flock depletion, it’s important to get back into the shed that night, or very early the next day, with a strong detergent solution and to spray down the entire house while the litter is still there.

“I can’t stress enough how important it is to get back into the house and apply detergent as soon as you can,” advises Ms. Colville-Hyde.

“Once the birds have gone the temperature in the house drops and the mites can detect that. They don’t have eyes but have feelers; they are highly sensitive and, realizing their food source has gone they will immediately move away to the deep crevices and infrastructure of the building, and that’s where they will stay.

“So it’s critical to apply detergent to the building as soon as possible to try and have an impact on the red mite population before it disappears.”

The mites that avoid any treatment once a house is emptied are capable of living for many months without having to feed again.

Early treatment will hit mites still inhabiting nest boxes and perches with the aim of breaking down the waxy cuticle that covers them. Even those not

killed by the treatment can be maimed, and will be less likely to be able to move back into a place of safety.

## **Insecticide**

“It’s a big mistake just to go into an agricultural suppliers and buy any random insecticide without knowing specifically what your own site or unit requires,” says Ms. Colville-Hyde.

“Spray the shed with the appropriate detergent as soon as possible after the birds have left and then to follow up with the thorough clean-out procedure using products that will give residual protection against further infestation.

## **Red mite facts**

- One bird can carry an astonishing 500,000 mites while they feed, which usually takes about two hours.
- Red mite can suck up to 5% of a hen’s blood in one night.
- They communicate with members of the colony using pheromones that signal when to return to the crevices in the shed.

“The final treatment should be undertaken as close as possible to the time that the new birds come into the shed, so the empty shed needs to be retreated at this stage even though it may have been fully cleaned several weeks previously.

There are products that will disinfect and kill red mite but a discussion with the unit’s vet is essential. Producers need to know specifically what they need to use and what it’s going to achieve.

“The reason why many producers are failing to control red mite is because of a lack of understanding of the products they are using.

“Lack of knowledge on the part of producers on the use of insecticides that is an area where a difference can be made.

“It’s often the case that a producer will bring in a clean-out team and supply the products to be used. But when the same chemical is used time and time again there can be a resistance build-up.

“Rotating insecticides from different chemical groups is a good practice which will make a difference to red mite control.”

## **Monitoring**

Red mite populations should be monitored weekly following the restocking of the shed using mite traps or “check areas” throughout the house. The results of these checks should be written down as they are undertaken and so become part of the flock’s management plan.

They will provide an indication that red mites could be moving back into the building and so can be tackled with spot chemical and insecticidal treatments or using dry powder products.

Spraying equipment being used on many units is often not delivering the detergent correctly.

Sprays may not be fine enough to achieve maximum coverage and so get into cracks and crevices that harbor red mite populations. Sprays often do not have a filter attached and so product is being wasted.

Ineffective spraying fails to control the red mite therefore being expensive for the producer because the spray liquid ends up running down into the pit. Specialized veterinary laboratories should test the efficiency of a product by conducting a resistance test before application.

## **Red mite impact**

A lot of producers do not realise that red mite can be responsible for a host of production issues such as a sudden egg drop or an increase in mortality and yet it is often overlooked as the primary cause.

Red mite causes stress in birds so birds become very noisy and restless, there can be a production drop of up to 25% and then egg downgrades by blood spots, smears on the eggs.

Birds can become depressed, which causes reduced preening activity, dust bathing and loss of feather cover. The knock-on effect is an increase in feed consumption as the birds feed intakes increase just to sustain body warmth.

## **Red mite reproduction**

It is important to fully understand how red mite reproduce in order to apply control measures.

“The speed of the lifecycle will vary – up or down – depending on the environmental temperature, so it’s not simply a case of eggs being laid and adults hatching in due course,” says Allison Colville-Hyde.

Adult red mite lay eggs which turn into larvae; this is followed by two nymph stages before the mites are actually able to reproduce and lay eggs themselves.

Furthermore, red mites have to have a “blood meal” before they are capable of breeding and laying eggs themselves.

In the adult stage the female mite must have a blood meal every time she is going to lay a clutch of eggs.

At 5C° (environmental temperature) a female is capable of laying 150 eggs per clutch; if that temperature rises to 25C° the clutch size can increase to around 300 eggs and the life cycle length will speed up.

“So in the summer months, when the temperature rises by a few degrees in the poultry shed, it will be sufficient to trigger a higher output from the female mites creating a population explosion in a short timeframe,” Ms. Colville-Hyde adds.

---

## **Health implications**

Red mite can transmit salmonella, mycoplasma, pasteurella, erysipelas and E coli – those are the most common diseases, but they can also carry coccidiosis, too. But aside from disease, the consequences of the infestation can be even greater because of the issues they cause to a flock through stress.

Skin irritation, depression, potential dermatitis and cannibalism are all symptoms of birds infected with red mite – ultimately anaemia and death can be the end result.