

## Feature

# Mycoplasma: ever more difficult?

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Veterinary Consultancy argues that straightforward openness may help tackle the problem of Mycoplasma.

MYCOPLASMA, ALSO KNOWN IN THE INDUSTRY as 'Bulgy Eye' due to the symptoms seen, is rightly a disease to be feared, and over the last few years we have seen the emergence of seemingly ever more difficult outbreaks to treat, with the consequential losses mounting – or have we?

As a quick bit of background, it is important to realise Mycoplasma is a genus of bacteria that lacks a cell wall around the membrane of the cell. Most antibiotics are therefore ineffective in treatment as they are designed to target receptors in a cell wall. When they may work, the bacteria is even more clever in that it has variable surface proteins (which some antibiotics can attack) making evasion of the drug effect more than likely. Those antibiotics that do have a noted effect mostly only claim to reduce/control the disease, with only

one (the licensed one, Tylvalosin) that can really claim to kill the bacteria, but you've got to get it to the infected site effectively (of which more later).

Avian species that have been affected by this disease are pigeons, partridges, quail, ducks, geese, pheasants, psittacine birds (parrot family), and peafowl. Most songbirds are resistant. Worldwide Mycoplasma costs the poultry industry over \$780million

So back to the issue: various reasons have been put forward for the perceived increase in difficult to resolve cases. These range from the view that we never talked about it much until we had a treatment (a concept common to all medical fields – just look at cholesterol and statins), possible new strains coming in from contact with wild birds, to linking it to the use of live vaccines

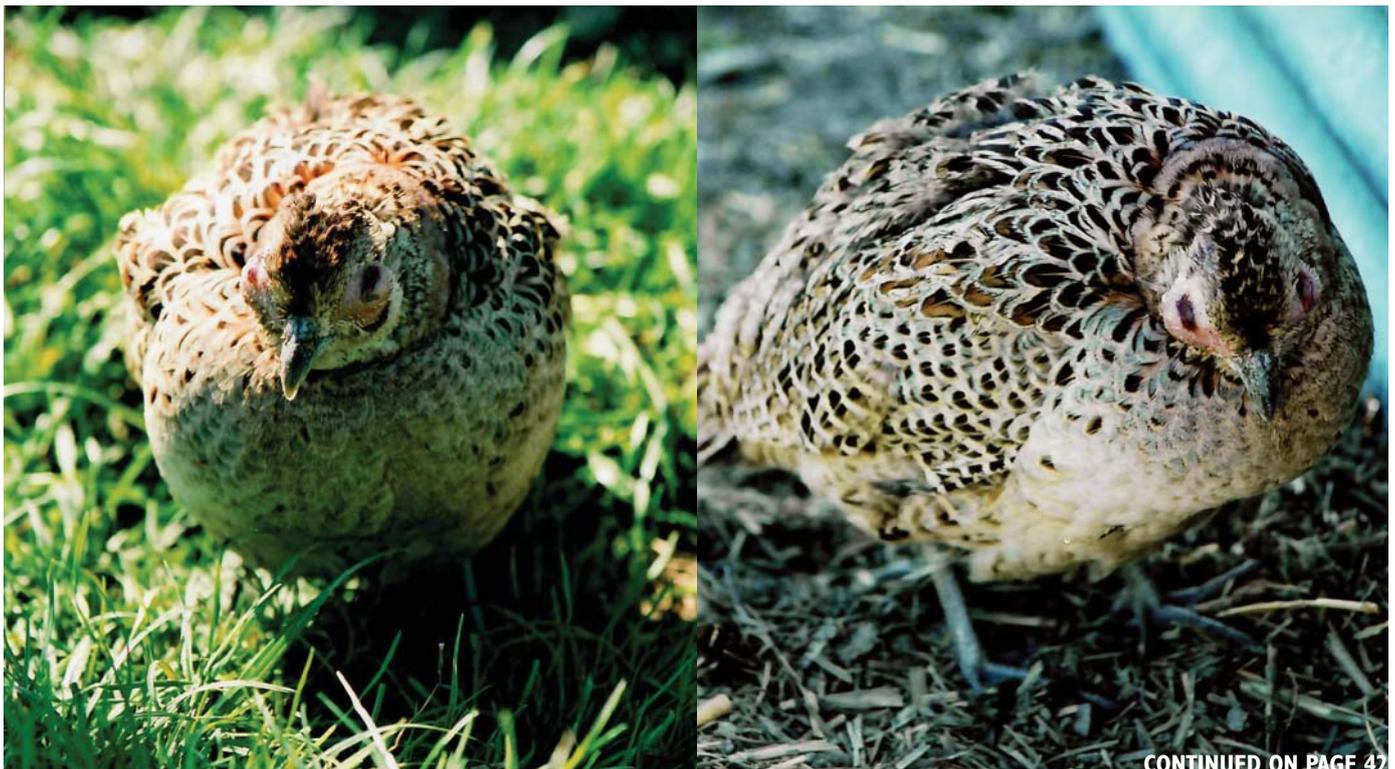
designed for chickens. However, I don't think anyone really can say for sure.

There is work being done to look into the matter in detail, typing strains from outbreaks and looking more closely at antibiotic response. All good stuff, but possibly missing a key point. I believe a change in thinking is needed.

I have long lobbied for openness and closer links between the laying flocks, chick suppliers, game farms and their gamekeeper clients. I see no problem with birds moving at each stage with a clinical record of treatments given and why. Gamekeepers should be reassured if their birds have had some diseases, and been properly treated, as they will be less likely to go down with that illness once released.

However, in the case of Bulgy Eye, the story is somewhat different and more complex: a percentage of recovered

Pheasants with Mycoplasmosis, showing the classic 'bulgy eye' symptoms.



MARK ELLIOTT

CONTINUED ON PAGE 47

## CONTINUED FROM PAGE 41

MARK ELLIOTT



A chick showing Mycoplasmosis symptoms at post-mortem.

treated birds will remain carriers of the disease, will therefore hold over disease from one year to the next if caught up, and will potentially infect other poults from different suppliers that are bought to the same estate that have not been exposed to the disease.

So cases can be spread throughout the country very quickly by an industry that is happy to buy poults from far, far away, with no real knowledge of their provenance, to save a few pence per bird. And if there is a culture of silence, in which no-one wants to admit a problem in case they get blamed later in the annual rearing cycle, matters only can get worse. In this industry potential financial losses increase rapidly within a year because at each rearing stage there is an escalation of risk due to numbers and increasing biomass. A culture of understanding and openness is therefore essential.

#### A POSSIBLE SOLUTION

- Medical records for each batch of birds should become the norm for all poults delivered to shoots.
- Only catch up birds from estates where the poults were supplied from Mycoplasma-free game farms.
- Better still, establish and over-winter clean flocks and maintain rigorous biosecurity to prevent ingress of the disease.
- If you must vaccinate, use only killed vaccines.
- Game farms should ensure they purchase chicks from tested (as far as is

possible) clean laying flocks.

- Smaller outbreaks in very young birds confined to an age group should be culled to protect the rest of the birds on a rearing field.
- Reared recovered poults (RRPs) that had Bulgy Eye must only go to single supply estates where they can be monitored and treated if needed for at least three weeks after delivery.
- RRP's must also not be delivered to mixed species shoots, unless all birds are from the same game farm.
- All the above should be the norm, irrespective of the more recent concern of apparently untreatable outbreaks.

To solve the problem needs an industry-wide effort to work together, with understanding of the issues, remembering that although the problem might not have originated in gamebirds, we have to do our bit.

Earlier, I alluded to the fact that I might not entirely believe that the problem of Bulgy Eye has increased. I don't know, but anything that is seen to be a problem merits taking seriously, together with thought and investigation to find a solution.

Perhaps the most interesting thing that has come out of the industry's concerns, is that the testing of affected birds has found other organisms commonly involved in some major outbreaks of Mycoplasma. Diseases such as *Ornithobacterium rhinotracheale*, a bacteria first identified as a Turkey infection in the 1990s, Avian Rhinotracheitis 'Swollen Head Syndrome' which is a virus, and more recently *Haemophilus*, a bacteria from the Pasteurella family, have all been found.

Not so long ago Turkey Rhinotracheitis virus was also thought to be an issue and vaccination was widely used but only a third of birds dosed properly took up the vaccine and other problems possibly resulted. Any vaccination programme that is inadequate in efficacy can potentially bring other problems to the surface, including different strains of the same disease (see *Vaccination of Pheasants: Panacea or Problem*, KtB Summer 2011, page 53). With no specific pheasant vaccines, vaccination is unlikely to be a solution, even if we know exactly what is in each and every outbreak.

With no truly effective vaccination programme, these findings have led to

rethinking the strategic use of antibiotics in an outbreak of Mycoplasma. It has been said that Tylvalosin is not always effective. This is not my experience: I believe it is very effective, and that when failures are seen there are other diseases co-incidentally present. In my opinion we have to tackle the pus in the sinus and the other diseases first, and then the medication for the Mycoplasma works well. There are combinations of common antibiotics which are proving very useful given first in an outbreak, and some recent essential-oil formulas containing eucalyptus may also help clear the sinuses to allow effective treatment of the Mycoplasma. I have found that a second treatment with Tylvalosin 10 to 14 days after the first appears to prevent symptoms recurring.

The industry is blessed by having a small niche group of vets specialising in gamebirds who meet annually and exchange ideas and solutions to problems. I came to gamebird work in the middle of my career and have not encountered a group that works together so well for the common good in any other part of the Veterinary Industry, nor one that is so welcoming. So, I hope we will know more soon and the disease will again fade to an occasional nuisance.

#### NOTE IT!

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