

Feature

Tackling Rotavirus

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Consultancy reports on a project that shows positive ways forward.



PERHAPS THE MOST DEPRESSING AND frustrating of conditions to experience on the gamefarm is Rotavirus. Depending on the strain, severe mortality can be seen, sometimes as high as 80%! As infection does not lead to permanent immunity, and reinfection can occur at any age (albeit each time less severe) very uneven batches of poults can result. It may also be a factor in the birds being predisposed to other well known problems such as Hexamita.

With no vaccine available, the usual approach has been to tough things out, supporting the poults with electrolytes

(not vitamins as these can stress the gut) and giving antibiotics to try and mitigate the fatal secondary infections that commonly occur. You have to some degree take the losses that occur – or do you?

Taking ideas from systems used to disinfect hospitals and schools and commercially-produced fruit before sale; I proposed to a few clients with recurring problems a programme of disinfection with a fine vapour/mist of a water based product. The chemical had to be economically viable and an effective biocide. The chemical had to be capable of penetrating

wooden infrastructure deeply as Rotavirus can survive year to year in dirt, faeces, etc that cling to surfaces. It also had to be completely safe to use with chicks present, in the presence of running gas burners and obviously safe for the operators.

We settled on a product based on hypochlorous acid, previously been marketed for addition to drinking water in gamebirds, and which was chemically identical to products being used for wound cleaning in veterinary practice.

This was fogged intensively into fully set-up rearing sheds before chicks arrived, and then daily for a time period based on metric volume of the building for at least 10 days following the chicks being placed.

Concurrently we also started a programme of batch swabbing day old chicks for bacterial infection to ensure correct antibiotic use if required – which by taking away the guess-work, proved much more consistent with quicker responses when used. With Rotavirus, often outbreaks occur in very young poults at three to four days old, resulting in an added complication of anticipated bacterial infection from issues of hatchery hygiene, egg infection at lay and consequent yolk sac infection being expected. As a result fatal secondary bacterial infection is common.

Year one (2014) was very promising with noted reduction in chick mortality in the early rearing period, despite some mild Rotavirus symptoms being shown at the times expected on the sites involved. The sheds smelt noticeably clean after each daily treatment. Exact data was not recorded as planned unfortunately but the clients were convinced which is always the first requirement and hardest to achieve.

In 2015 we got heavy on data recording and noted that sites previously with problems year-on-year did not show notable symptoms in Year 2 suggesting infection reduction is an on-going process. A new site brought in in 2015 reduced chick mortality from a previous reported





25%+ by day 12, down to around 10%, with results improving with each batch until the last two which decline coincided with management pressures reducing staff able to carry out the fogging properly. The two sites from 2014, both with previous high mortality year-on-year, were well down into single figures to release in 2015, very little mortality after starve-out and in some batches we were able to go antibiotic free.

Does this show success of the treatment against Rotavirus? It cannot be said for certainty that it does without further research, but it does indicate the benefits of regular deep disinfection, and also targeted and correct antibiotic use when required.

So far the systems in place are very labour intensive and the machinery unreliable as we were using it way beyond its intended use. However, the clients are all convinced of the project and keen to find ways to take it forward. A mass panic incident of machine failure, with the chicks noticeably going downhill that week, has forced a rethink in the machinery we are using, but also

has further encouraged me to think the results are real.

Maybe, just maybe, this will prove a solution in long-term endemically-infected premises, which is important from both a welfare and economic point of view and that is exciting. Also the aim must be to reduce antibiotic use in rearing so the potential of targeted disinfection with safe, naturally-occurring products needs investigation.

ROTAVIRUS FACTS

- Rotaviruses are shed and spread in high concentration via the stool of infected birds.
- Rotaviruses are very stable and may remain viable in the environment for months or even a year if conditions allow.
- Incubation periods can be as short as 48 hours.
- In gamebirds it is common for this problem to worsen through the hatching season if hygiene in the hatchery becomes compromised.
- Similar illness may be caused by other disease causing organisms.
- Carriers in the laying flock may

- spread the infection from year to year.
- At post-mortem examination a frothy, gassy, bright yellow caeca is obvious in young chicks, but not always.
 - Confirmation of Rotavirus infection requires laboratory testing.
 - As yet there is no cure for any viral condition in modern medicine.
 - Vaccination is not allowed in the UK and is not 100% effective anyway.

AN ARTICLE ABOUT LIVING WITHOUT ANTIBIOTICS APPEARS ON PAGE XX.

NOTE IT!

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