

A future for gamebird disease studies?

Dr Mark Elliott BVSc VetFFHom MRCVS PCH DSH RSHom says research into gamebird diseases is vital for our sector, but it needs funding.

Keen followers of these things will be aware that there has been an ongoing research initiative involving a collaboration between practising gamebird vets, the Game & Wildlife Conservation Trust (GWCT) and the University of Surrey's School of

Veterinary Medicine. This work seeks to examine, understand, and explain – as well as find real world solutions to – the problems we encounter regularly when rearing birds for release.

Most research seen over the last decade and more has focused on wild birds and not those reared for release. Certainly, there have been almost no in-depth investigations regarding diseases and possible treatments of any note for a long time.

In 2016 our sector (along with all other farming sectors) was charged with reducing antibiotic use to well below the then prescribed levels, and to justify use of some of those antibiotics regarded as Critical in Action (and needed for human medicine). We managed to reduce our use to below 50% of 2016/17 within just a couple

of years which was truly astounding (or perhaps meant we were over prescribing?), but since then the reality is that use has levelled out somewhat relative to number of birds reared. We find ourselves now being set targets by the Game Farmers Association (GFA) led group that (while well-intended) are overly optimistic at the current time without substantially more research to seek and establish solutions.

To be fair, there have been some small gains since 2018, but these can mostly be put down to improvements in management and to education. Projects such as Trusted Game, the British Game Alliance (BGA) and the British Veterinary Poultry Association (BVPA) training programmes provided by the sector's vets will all help as overall standards rise. However, because we do not currently have the necessary knowledge and consequent answers to the combatting diseases that we see day to day, we have no choice other than to do what we have always done when faced with disease and prescribe what we therefore must. I have reported on this before in *KtB* (Summer 2020) to explain why we need real-world research so badly.

My purpose in writing this today is that our project has stalled due to a lack of funding. The early work was funded by the GWCT, GFA, Eco Animal Health



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and a few private donations, as well as funding through the SME Innovation Voucher Scheme specifically designed to develop working relationships between the University of Surrey and industry. All the fieldwork and project development was done for free by the vets and the research team involved.

Pilot studies are not so expensive, but are vital to prove that the work at the next stage is worth doing, and it clearly is. This is what we have achieved so far:

To take this research to next level we need to raise around £250K to fund a full-time research fellow and the lab work involved over a two-year period. This will enable an extended investigation of gamebird health, microbiomes and environmental sources of infection, which could improve our ability to raise healthy birds with reduced drug intervention.

It is not an easy time to call for funds and we will be exploring all possible funding avenues. But just in case there is anyone out there who has a few hundred thousand they don't know what to do with, or even a few hundred they could pledge to help out, I thought it worth writing this piece. We vets realise we are doing this for the common good, as

ACHIEVEMENTS TO DATE

- Collected baseline data on pheasant and red-legged partridge bacterial microbiome from hatching to 12 weeks old and demonstrated how it changes with age.
- Identified differences between the microbiome of the two bird species and changes with age that fit with risk periods seen in practice.
- Started investigating the protozoal and helminth microbiomes in birds from hatching to 12 weeks
- Identified that wormers, medications and feed choices significantly impact the microbiota, but yet to ascertain the impact on bird health.
- Found Mycoplasma species in the gut of almost all birds, meriting further investigation.
- Identified an increase in Heterakis worms at age points which could alter worming advice going forward.
- Identified beta-lactam antibiotic resistance genes in gamebirds, but also that changes in the microbiota could reduce any risk in time. More work is needed on this area and investigation of the resistance patterns for other antibiotics we use.
- Published our first peer-reviewed paper in the *Vet Record* on the resistance genes. Find it at <https://doi.org/10.1002/vetr.2540>
- Most exciting, perhaps, is that we found an unexpected genus of protozoa that could turn management advice and thinking on its head – Does hexamita exist or has it always been something else? ●

solutions that will reduce antibiotic use can only reduce our income, but if we want a future for game birds and the sector as a whole we have no choice, but to all contribute to the cause.

If you are interested in supporting our research or would like to find out more, please do contact the research group at gamebirdresearchteam@gmail.com ●

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