WHAT’S NEW IN BOVINE RESPIRATORY DISEASE?

“This vaccine has done a tremendous job”

Bovine Respiratory Disease (BRD) vaccination has been commonly associated with viral protection providing cover against RSV, PI3, IBR and BVD. These pathogens remain a real threat and there are some excellent vaccines available to help prevent them causing devastation.

Since PCR diagnosis was developed, Histophilus somni is being increasingly recognized as an important pathogen as well. This bacterium not only produces bacterial pneumonia but also septicemia, resulting in myocarditis, otitis, polysinovitis and thromboembolic meningoencephalitis, most commonly named as “the sleeper syndrome”. Pasteurellas also play an important role as they are commensals in the upper respiratory tract of bovines. When a stress factor or viral infection occurs, the replication rate of these bacterial pathogens increases rapidly and they colonize the lung, producing severe lung lesions (necrosis, thrombosis and massive fibrin) sometimes ending in the death of the calves. Mannheimia haemolytica produces the well-known “shipping fever”. Serotype 1 is the bacterium most frequently isolated from the lungs of cattle with BRD1. Leukotoxin is the most destructive virulence factor producing the previously mentioned lung lesions. Modern vaccines include leukotoxoids and have 50-70% efficacy in prevention of M. haemolytica pneumonia. The guidelines of the EU Commission for the reduction of antimicrobial use and improvement of the health status of farms currently require improvements in diagnosis and prevention.

HIPRA has recently developed HIPRABOVIS® SOMNI/Lkt, the first and only vaccine in the EU against Mannheimia haemolytica leukotoxin and Histophilus somni.

Dr. Colin Lindsay is a senior clinician from Capontree vets, founder member of a Veterinary Vaccinology working group and with a special interest in preventative medicine of BRD. He was one of the first customers of this vaccine in the UK and at our recent BRD meeting he shared with us one of his great experiences with HIPRABOVIS® SOMNI/Lkt.

“This experience happened in one of my traditional Cumbrian suckler units. It is a mixed farm with beef and sheep. The enterprise has 150 suckler cows and, at the same time, buys in 100 stored cattle. The farmer sells fat cattle on a contract, direct to slaughter. The unique situation with this farmer, was that he knew exactly his carcass conformation and finishing weights. This was a big advantage.

The owner has essentially two units, a suckler unit and a fattening unit. The suckler unit historically has always had pneumonia problems and tried different vaccination strategies for the suckler calves (viral or combined vaccination protocols), usually at housing. However, his fattened cattle weren’t really presenting with much pneumonia. The farmer did not recognize pneumonia as a major problem although he did recognize that it was taking too long and too much feed to reach the target weight, despite consultation with nutritionists and utilizing the best quality feeds. He was not thinking of BRD as a cause of his problem. In the Spring of 2015 he had a severe pneumonia outbreak in his autumn born suckler calves. Despite
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aggressive therapies, the success rate was poor. On post-mortem assessment, some of those calves had the classic consolidated lungs, fibrin tags. This was confirmed on PCR as positive for Histophilus somni and Mannheimia haemolytica. We had always been suspicious of H. somni and Mannheimia haemolytica but we had never managed to confirm the diagnosis. In light of this diagnosis, and the experiences from the North American publications with somni/Lkt vaccines, we decided to vaccinate the fattening cattle to see if we could improve live weight gains.

The suckled calves were vaccinated against RS and IBR and the fattening cattle against IBR only. So we decided to vaccinate all of the suckling calves, weaned calves and finishing cattle with HIPRABOVIS® SOMNI/Lkt vaccine, without any change in the protocol.

At the time of vaccination, the fattening cattle were finishing at 22-24 months of age, average dead weights were 390-420 kg and the carcass classification was U – 3. When we vaccinated the remaining fattening cattle, what we have to remember is that these cattle were in the same sheds, on the same ration, on the same concentrate and on the same silage as the previous batches. When the next batch went to slaughter; in July 2015, the average weight was 458 kg (with a maximum of 493 kg) and 8 carcasses out of 20 animals that were slaughtered were U + 4. The carcasses were heavier and had a better classification. The only difference between the two batches was the use of HIPRABOVIS® SOMNI/Lkt vaccine.

It was such a significant improvement that I could not believe it. In fact, the farmer wanted me to go and take a photograph of these animals before going to slaughter because he was so impressed.

This year, the 2015-2016 update is that he just treated one batch of 30 calves for BRD from a total of 150 calves. So morbidity was around 20% and mortality was zero (in previous years prior to vaccination he was having between 5 and 10% mortality) and the calves finished a lot better. The comment from the farmer is “this vaccine has done a tremendous job.”

Bovine respiratory disease is one of the most significant health problems in the feedlot industry. Although substantial advances in antimicrobials against bacterial pathogens have been developed, it still remains an important cause of morbidity, mortality and economic losses, speak to your vet to see how we can help reduce the impact of disease in your animals.

Ischaemic Teat Necrosis

AHDB dairy are funding a PhD by vet Hayley Crosby to research a new and emerging disease in dairy cattle, Ischaemic Teat Necrosis (ITN). The cause of the disease, how much disease is present in Great Britain and the risk factors associated with the disease are all unknown. Worryingly, there are anecdotal reports of herds with up to 20% of heifers affected and there are no known effective treatments for this disease.

ITN presents as a dry, dark red to black area on the skin at the base of the teat that may extend down the teat towards the teat end and/or up on to the skin of the udder. These lesions are highly irritable to the cow and can cause her to constantly lick her teats until she has removed them. Once the teats have been lost the cow is often culled on welfare grounds. The lesion appears to be mostly confined to the skin and does not directly cause mastitis. Mastitis may however occur due to an inability to milk the quarter and secondary infection.

As the cause of bovine ITN is currently unknown, research into this disease is essential. AHDB Dairy are funding work at the University of Liverpool to find some answers. To do this we need your help.

We are keen to hear from anyone with experience of the disease no matter how small the information. For updates and further information please go to www.liverpool.ac.uk/BovineITN or contact Hayley on +44(0)7765456529 or via email hcr0sby@liverpool.ac.uk

The Princes Resilience Programme

The programme is aimed at small /medium family farms and is being delivered by Reaseheath College. It involves a series of 5 free business and skills workshops for improving their farm business management and making efficiencies. Workshops will run from 1st November through to 14th March. Each farm will also receive one-to one session plus two further free business workshops.

For more information visit http://www.princescountrysidefund.org.uk/how-we-help/the-princes-farm-resilience-programme or contact Lesley Innes at Reaseheath college.

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