DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

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Bulk tank inhibitory substance (antibiotic) failures in milk

There have been a couple of incidents so far this year which the DHHPS has been involved with concerning bulk tank inhibitory substance (antibiotic) failures that highlight areas for concern, and harsh lessons learnt.

Both incidents involved farmers that had orally drenched adult milking cows with Intradine™ for the treatment of diarrhoea, and mistakenly believed that they did not have to withhold the milk from cows under treatment. However a close look at the label shows that Intradine™ is a sulphonamide antibiotic, and is only licenced for administration by intravenous or subcutaneous injection. Both farms failed bulk tank inhibitory substance tests, with substantial costs incurred by the farms concerned (who had not notified their milk purchaser prior to collection) and the milk purchaser (who had to dispose of the milk from the affected tankers at considerable expense).

Similar to drug testing of athletes, farmers are responsible for the use of all drugs that are used in their animals, and obeying the correct and meat withhold times.

- The Intradine™ label clearly states milk and meat withhold periods when used by the licenced injection routes, and these should have been obeyed when given by injection.
- However the Intradine™ was given "off label", as it was not licensed to be given orally by drenching. It is probable that the antibiotic would have stayed in the rumen contents much longer than normal, compared to if it had been given by intravenous injection. The law states that any drug given "off label" must have a minimum 7 day milk withhold period.
- If you are in any doubt about the necessary withhold periods for any drugs, you should consult with your veterinary surgeon.
- If you are in any doubt about the milk from any treated cow, then you can check it for inhibitory substances using a DelvotestSP kit before it goes in the tank.
- If in doubt, keep it out of the tank……

Both agriculture and the veterinary profession are coming under increasing pressure regarding drug use in farm animals (especially antibiotics) due to the development of antimicrobial resistance. Experience from the Netherlands and elsewhere in Europe has shown that governments are willing to enforce strict measures on farm antibiotic use.

Almost all milk purchasers in the UK randomly test bulk tank samples at least weekly for the presence of inhibitory substances, and most will also do additional screening tests daily prior to tankers getting unloaded in the depot.

The current inhibitory substance failure rate for UK farms is around 0.15%. It is in all of our interests to keep this figure for bulk tank failures as low as we can, and use all medicines responsibly. Speak to your vet if you have any queries.

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Neospora in cattle

Recently at the Livestock Event, we had a number of farmers ask us about Neospora. This is a very brief outline of a highly complicated disease, about which there are still a lot of unknowns. For more information, please see our factsheet on the website.

Neospora caninum is a protozoal parasite (a single celled organism), found worldwide and is the most commonly diagnosed cause of cattle abortion in the UK (25% of abortions where a diagnosis was reached). Cattle infected with the parasite are 3-7 times more likely to abort than uninfected cattle.

A number of animals can be infected by Neopsora, but in the UK dogs are the only known "definitive host"- the animal in which the parasite multiplies and produces oocysts (eggs). Cattle are "intermediate hosts" – the parasite multiplies but does not produce oocysts. Dogs become infected with Neospora by eating tissue containing the parasite (dead calves, placenta, raw meat/offal, other infected animals such as deer). The organism causes infection of cattle by one of two routes:

- Vertical infection: Neospora passes across the placenta from an infected cow to her calf.
- Horizontal infection: the cow ingests oocysts from an infected dog's faeces which have contaminated the environment, for example in the feed or pasture grass.

The vertical route is the most important, with up to 90% of calves born to Neospora positive mothers becoming infected in the womb. Once a cow is infected, she remains so for the rest of her life. Abortions can occur when a cow becomes infected during pregnancy, or in a cow already infected when the infection becomes "reactivated" during pregnancy.

Diagnosis of Neospora in cattle abortions is difficult. If it occurs early, then the foetus is often reabsorbed and the cow just returns to service. With later abortions, submission of the foetus and placenta to the laboratory for post mortem provides the best chance of diagnosis. Antibody blood tests of the dam and/or calf are hard to interpret as both can be infected without it being the cause of the abortion, and antibody levels can fluctuate. A high positive antibody test however is often suggestive of Neospora being the causative agent.

There is no appropriate treatment for Neospora in cattle. Currently there is no UK licensed vaccine either, thus **control** strategies mainly focus on biosecurity:

- Prevent contamination of cattle feed and water by dogs (public footpaths, farm dogs)
- Hygiene at calving: Responsible, rapid and appropriate disposal of placentas and any dead or aborted calves.
- Screening for infected animals by selected blood testing, and breeding from negative cows only.
- Screening of bought-in cattle to prevent buying in Neospora positive stock.

Many congratulations to Julie Forrest on the birth of her baby girl in May.

Jenny Heap will filling in for Julie in the DHHPS office whilst she is on maternity leave. Jenny qualified as a vet from the Royal Vet College, and has been working in both the UK and Australia since.