Farm Vet News

Bi-Monthly Newsletter of Endell Farm Vets

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Bovine Respiratory Disease

As we head into winter and start housing cattle, we start to see increased cases of Bovine Respiratory Disease (BRD). BRD can be a significant threat to calf health and welfare on both beef and dairy units.

BRD is complex disease process usually caused by a combination of viruses and bacteria. There are also a range of environmental and management risk factors which can increase the prevalence of disease seen on farm. Poor ventilation and high humidity, along with stressful events like moving, housing or changing groups can compromise a calf's immune system and can lead to outbreaks of disease.

Clinical Signs:

- Fever
- Lethargy
- Coughing
- Ocular and Nasal Discharge
- Increased respiratory rate and effort
- Death if animals are left untreated.

There are a number of viruses which can contribute to the disease complex including Bovine Herpes Virus 1 (BHV-1) which causes Infectious Bovine Rhinotracheitis (IBR), Bovine Respiratory Syncytial Virus (BRSV), Parainfluenza 3 virus (PI-3) and Bovine Viral Diarrhoea virus (BVD). Viruses are usually among the inciting agents; they can cause lung tissue damage and impair the immune system allowing bacteria to colonise and develop into a severe secondary bacterial pneumonia. Some of the more common bacteria isolated in BRD outbreaks include Mannheimia Haemolytica and Pasteurella Multocida.

Clinical cases of pneumonia in calves can have a significant economic impact on growth rates and profitability on both beef and dairy farms by prolonging days to slaughter, or first calving. Recent studies show that calves who suffer from BRD as youngstock are less productive adults; on dairy farms this is often due to a delay in first calving which can result in lower lifetime milk yields.

Prevention Is Better Than Cure

1. **Calf Health Status**
   This is particularly important for those who regularly buy in stock. Ideally, stock should be bought from known farms with a known disease status. Mixing animals from different farms with unknown disease status can put all your stock at risk.
2. **Vaccination**
   Vaccination can be a very cost efficient and effective way to prevent outbreaks of BRD in calves and there are many different vaccines available on the market. Selecting a vaccine that has the right cover for your farm is most important. It is important to determine the pathogens on your farm before tailoring the vaccine protocol to help to achieve the best protection. Your vet may be able to help you with identifying the pathogens contributing to BRD on your farm by discussing previous history, disease and vaccination status, testing the herd can also provide answers.
3. **Environment**
   Housing with poor ventilation and high humidity can significantly increase disease prevalence. Housing should allow clean air to come into the building without creating a draught at calf height. Smoke bombs can help to assess the air flow by looking at direction and speed in the shed but can only be done when the house is full of animals as ventilation is primarily driven by the 'stack effect'.
4. **Quick diagnosis and treatment**
   Calves should be monitored closely, any calves which have reduced appetite or show signs of ocular or nasal discharge should be examined and temperature taken. Quick diagnosis and treatment can prevent significant lung damage and reduce the impact of disease on calf growth rates and future productivity.

Figure 2: Smoke bomb testing calf shed to look at ventilation. Once the smoke bomb has finished releasing smoke, the smoke should exit the building within one minute. Ideally, fresh air will come in from the sides of the shed and push the stale air (and smoke) to the apex of the roof.

Clostridial Disease in Sheep

Across the practice, we have seen a number of sudden deaths in sheep recently, post mortems have revealed that these sudden deaths have been as a result of clostridial disease. The disease and associated losses are easily prevented but can be a serious threat to unvaccinated sheep.

The more common clostridial diseases in sheep are lamb dysentery, tetanus, pulpy kidney, black disease, and blackleg. It is caused by a group of bacteria which are often present in the environment. They can be found in soil, pasture and buildings and are usually found in the form of highly resistant spores which can survive for many years. Clostridial disease is an important cause of sudden death in sheep in the UK and can result in severe losses in unvaccinated animals. The infections develop rapidly and sheep are often found dead or dying, treatment is often unsuccessful. Many risk factors contribute to the development of the disease, including stress from changes in management, parasitic disease and traumatic injury.

Lamb Dysentery: *Caused by C. perfringens type B. It affects young lambs from newborn to three weeks of age and is usually associated with poor hygiene at lambing. Lambs suffer from bloody diarrhoea, stomach pain and anorexia, they deteriorate and die within three to four hours.*

Pulpy Kidney: *Caused by C.perfringens type D. This is probably the most common clostridial disease seen in sheep in the UK. It can affect lambs of any age but usually between six weeks and one year old. This usually affects rapidly growing animals and is often seen after a diet change. It develops when bacteria which usually reside in the intestines multiply and proliferate releasing toxins which poison the lamb. The most common clinical sign is sudden death, but if caught early enough lambs show signs of ataxia, collapse and convulsions. The disease can be diagnosed on post mortem. Signs of septicaemia such as haemorrhages seen on the heart and skin and the appearance of rapidly decomposing 'jelly-like' kidneys are common changes found on post mortem examination.*

Blackleg: *Caused by C.chauvoei. It is usually associated with a wound or cut, often a result of shearing, which gets infected by spores from contaminated forage or bedding. The affected muscles become stiff and swollen giving the animal a stilted gait. They will often have accompanying fever, and deteriorate into recumbency quickly. The muscles show a characteristic gelatinous texture if opened on post mortem.*

Vaccination

In all the diseases described above, treatment is usually unsuccessful and losses can occur in great numbers in the face of an outbreak.

Vaccination is a quick, easy and cost effective way of preventing clostridial disease. There are many different vaccines on the market but nearly all cover a variety or all of the above diseases. The initial course of the vaccine requires two injections four to six weeks apart and then an annual booster is required to maintain immunity.

It is recommended to vaccinate breeding ewes in the run up to lambing, when the vaccine booster is administered four to six weeks before lambing the ewes' immunity is boosted and this is passed on in colostrum to provide protection to lambs.

Many of the cases we have seen in the practice vaccinate ewes successfully, but when asking about a further booster vaccination for the lambs, the history is sketchy and unreliable. Lambs gain immunity from colostrum for a number of different diseases, including clostridial disease. This is called passive immunity since it has been acquired from the dam to protect the lamb; passive immunity is designed to protect the lamb until it is able to develop its own antibodies and fight disease. Passive immunity wanes as the lamb develops its own immune system, this means the immunity to clostridial diseases passively passed down decreases.

A vaccination protocol for the lambs themselves should be initiated at an age where they are able to start developing their own immunity and will ensure these lambs are still protected as they grow.

Tetanus: *Caused by C.tetani. This is also associated with the spores infecting a wound, this could be from infection of a docking, castrating or shearing wound. The bacteria release a toxin which affects the nervous system. The clinical signs include ataxia, stiffness (often seen as a raised tail head), and an inability to swallow properly. The disease usually develops over three to four days but even with a slow onset treatment is usually unsuccessful.*

Botulism: *Caused by C.botulinum type C and D. This is a rare disease in the UK. Often associated with sheep grazing on pastures which have used poultry litter fertiliser or being fed rodent contaminated forage. Similar to Tetanus, the bacteria release a toxin which affects the nervous system, but botulism causes a flaccid paralysis. This flaccid paralysis initially causes ataxia (uncoordinated walking) and an unusual head carriage and could look similar to listeria, but the animals usually deteriorate rapidly to lateral recumbency and are not able to use their muscles properly. This includes muscles of the mouth and tongue. Treatment is futile.*

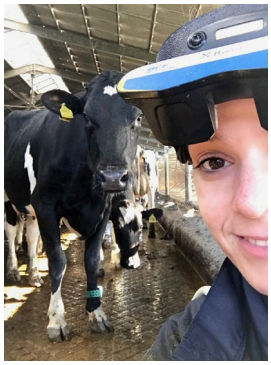
Black Disease

Also known as Infectious Necrotic Hepatitis, caused by C.novyi type B. C.novyi can live within the liver of sheep with no harm. Live fluke appears to trigger the disease. Damage to the liver from migrating fluke infestations reduces oxygenation and triggers growth of the bacteria and release of toxins. Wet and mild weather can predispose as this is when fluke is most active. Animals become lethargic and recumbent and deteriorate to death very quickly. The skin can show darkened areas which develop after death, hence its name. Post mortem inspection can rule this diagnosis in or out and differentiate from other clostridial disease, or fluke infestations alone.

Get to know your vets!

Name: *Sarah Woollatt*
Graduated From:
Royal Veterinary College
in 2017
Tea or Coffee?
**Laughs* 'Depends how late*
I was out on a call the night before'
Wine or Beer? *Wine*
Football or Rugby? *Rugby*
Favourite Animal? *Panda*
Favourite Holiday Destination? *'Italy. Definitely! I've just got back from there!'*

Name: *Lucy Jerram*
Graduated From:
Royal Veterinary College
in 2014
Tea or Coffee? *Tea*
Wine or Beer? *Wine*
Football or Rugby? *Rugby*
Favourite Animal? *'Cows!! I like cows!'*
Favourite Holiday Destination? *'Anywhere I can ski!'*



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