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Welcome to the March/April newsletter of 2023!

In this issue we look at various eye infections and diseases that can be found in cattle, early warning signs, methods of treatment and of course, prevention.

We also investigate Clostridial diseases in sheep, highlighting the main causes and how to effectively control these diseases through good hygiene practices, an appropriate diet and minimisation of stress.

Please let us know what you think of these topics and any others you would like us to cover in upcoming newsletters.

Get in touch at info@kernowfarmandequine.com.

See you next time,

The team at Kernow Vets

In this issue:



Pink Eye, Silage Eye and Cancer Eye in Cattle

As much as it can be avoided, cattle can suffer with an array of eye infections and diseases, which can lead to ongoing health issues if not treated correctly. Find out the causes of each affliction, as well as the most effective treatment if you notice it in your herd.



Clostridial Diseases in Sheep

Clostridial diseases are a significant problem for the UK sheep industry, causing huge economic losses each year. Find out the names of each bacterium, as well the best ways to control and prevent the diseases from affecting your sheep.

Pink Eye, Silage Eye and Cancer Eye in Cattle



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As much as it can be avoided, cattle can still suffer with an array of eye infections and diseases including Pink Eye, Silage Eye and Cancer Eye, which can lead to ongoing health issues if not treated correctly.

Rapid identification of the issue, along with the correct treatment plan, is vital to averting more serious consequences in the health of your herd.

Below, we outline the ailments referenced and provide an outline of the signs to look out for and the best way to prevent these eye issues in the first place.

Pink Eye

Causes

Pink eye is a highly infectious eye disease caused by a bacteria called *Moraxella Bovis*, seen most commonly in the summer due to the spread by flies which feed on the mucous of infected cattle. Mild abrasion to the eye from dust and low grazing stalky pastures can increase the risk of infection.

Infection spreads rapidly within a group, so prompt and correct treatment is crucial to control.

Signs

The disease can range from mild conjunctivitis (inflammation of the soft tissue around the eye) to severe corneal ulceration and eye rupture.

Signs can progress depending on duration and severity of disease:

- Weepy eyes
- Corneal ulcer
- Eye cloudiness
- Pus in eye
- Rupture of eye

The infection can spread rapidly through a group, so often where one animal is seen with severe disease, there will usually be other animals in the early stages of infection. Latter stages of the disease can cause temporary and even permanent blindness.

Impact

Pink eye is a very painful condition and a serious welfare issue if untreated. Affected animals will have reduced feed intakes and growth rates, and severely affected animals face permanent blindness.



Treatment

Affected animals should be removed from the unaffected as soon as possible to reduce spread in the group and ensure quick treatment. You may need to go back through the unaffected group for a few days to pull out animals that were not showing initial signs.

Treatment options include topical antibiotic creams, intramuscular antibiotic injection or sub-conjunctival antibiotic injection. Severely affected animals should be housed with easy access to food and water as they are very sensitive to sunlight and may struggle to find food if they are blind. Treatment in the early stages is usually effective, but cases with more severe eye damage may not be recoverable.

Silage Eye

Causes

Silage eye is an infection of internal eye structures by *Listeria monocytogenes* (compared to Pink Eye which affects the surfaces of the eye). This bacterium can also cause abortion, neurological signs, and sepsis depending on the site of infection.

L. monocytogenes grows well in poorly stored baled silage and haylage that has exposure to oxygen as it ferments and gains access to the eye in small abrasions when feeding. It can also proliferate in bales that have been made and stored well but opened for a few days prior to being fed. Mouldy straw bedding also presents a risk.

Poor quality bale silage presents a problem for a few reasons. It contains *L. monocytogenes* in high numbers, cows will pick at it for a few days allowing the bacteria to grow more and cows bury their heads into it to find better sections and expose their eyes to contact with the silage.

Signs

This disease starts with an infection of the front compartment of the eyeball, and signs begin with tear staining and increased blinking, progressing to cloudiness and pus in the eyeball. There is generally no injury to the cornea or front of the eye. It doesn't spread from one animal to another, but several in a group can become infected at once.

Treatment

Removing the offending bale will avoid more animals becoming affected. The recommended treatment is a sub-conjunctival injection of an antibiotic and anti-inflammatory. Alternatively, an injection of long-acting antibiotic can also be administered, which is recommended if both eyes have become affected.

In the majority of cases, treatment when the infection is caught early has a good success rate. Like with all eye diseases, rapid identification and treatment increases the likelihood of success.

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Prevention

Care when making, handling and storing wrapped bales to prevent exposure to air during fermentation is crucial. Unwrapping bales for several hours prior to feeding provides an opportunity for evaporation of acidic material, which reduces the incidence of eye infection with *L. monocytogenes*.

Avoid feeding spoiled silage where possible, but if there are no other options spread out the feed rather than in bale feeders and avoid feeding to pregnant cattle (due to risk of abortion).

Eye Cancer

Causes

Ocular cancer is not a problem we see routinely here in the UK but can occur in sunnier corners of the country.

The most common type of cancer affecting the eye is Squamous Cell Carcinoma, which is caused by UV radiation (hence not a common issue here) and affects cattle with pink eyelids and white hair around the eyes, as pigment provides protection from UV rays.

Signs

Cancerous lesions appear as wart-like lumps or smooth white plaques and most often affect the third eyelid or lower eyelid, especially towards the inner corner. Lesions can also occur on the eyeball.

There may be no sign of pain or tear staining unless the lumps become infected or cause trauma to the eyeball, when the eye may be held closed, have local swelling, or have pus discharging. Progression of the disease involves spread to the eyeball, local bone, and lymph nodes.

Impact

The outcomes of ocular cancers include:

- Local pain and infection
- Trauma to the eye
- Blindness
- Spread to local tissues and partial carcass rejection
- Spread to distant organs and rejection of the whole carcass

Treatment

Surgical removal of affected tissues is required to stop progression of the disease, which may involve removal of the third eyelid or the whole eye. Recurrence happens in 40-50% of these cases, so culling is advised after surgery. Occasionally the cancer can spread to other tissues and if this is the case, euthanasia is the only option.

Prevention

The most effective prevention method is breeding and keeping cattle with pigmented eyelids. In regions that are affected by this condition, a system of rapid identification of cows with lesions is required to catch cases at the early stage where intervention may have some success.

Clostridial Diseases in Sheep and their Control



Clostridial diseases are a significant problem for the UK sheep industry, causing huge economic losses each year.

These diseases are caused by bacteria belonging to the genus *Clostridium*, and have rapid onset, severe symptoms, and high mortality rates in common, but with some important differences as well. In this article, we will discuss the causes, spread, symptoms, and (most importantly) control of clostridial diseases in sheep in the UK.

Causes and Spread

The different clostridial diseases in sheep are caused by several different species of *Clostridium* bacteria. These include:

- *C. perfringens* (subtypes causing pulpy kidney and lamb dysentery)
- *C. septicum* (braxy)
- *C. novyi* (black disease)
- *C. chauvoei* (blackleg)
- *C. tetani* (tetanus or "lockjaw")
- *C. botulinum* (botulism)

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These bacteria are commonly found in soil and even in the intestinal tract of unaffected animals but can only cause disease when they enter the bloodstream through wounds or other routes.

The spread of clostridial diseases in sheep is facilitated by several factors, including poor hygiene, overcrowding, parasitism, and stress. The worst outbreaks will be seen where stocking density is high, as this increases the risk of the spread of disease.

Other causes of stress, like being in lamb, being weaned, and rough handling can also weaken the immune system, making sheep more susceptible to disease.

Clostridial diseases have been recognised for over 200 years. The prevalence of clostridial diseases in sheep in the UK has remained relatively stable in recent years, with occasional outbreaks reported.

However, the cost of clostridial diseases to the UK sheep industry is estimated to be in the millions of pounds each year, due to the high mortality rates (and massively decreased productivity) of affected animals where outbreaks do occur.

Symptoms

Symptoms of clostridial diseases in sheep can vary by species, but include sudden death, fever, abdominal pain, and scour. As most species can cause sudden death, signalment (the animal's age, feeding, the time of year etc.) is an important part of diagnosis.

For example, lambs under one week are often infected with lamb dysentery (*C. perfringens*), whereas black disease (*C. novyi*) is associated with migration of liver fluke in late summer/autumn, and braxy (*C. septicum*) with ingestion of frozen root crops in the winter by the previous spring's weaned lambs. However, when the disease strikes, all three of these will often cause sudden death with no obvious other signs.



Control

To control and prevent clostridial diseases in sheep, farmers should implement good hygiene practices, ensure an appropriate diet is being fed, and seek to minimise stress wherever possible.

Some stressors (such as being in lamb, and being weaned) are unavoidable, but others (like parasite burden, overstocking and rough handling) can be minimised or avoided entirely.

Vaccination is also an important tool in controlling clostridial diseases in sheep. Combined products are available, which cover many different clostridial diseases in an initial two-injection course followed by annual pre-lambing boosters. It is important to get organised in advance of lambing, as these may require as long as 6 weeks between doses to ensure maximum protection.

Ensuring good immunity in lambs is vital, as young animals are particularly susceptible to certain clostridial diseases, like lamb dysentery.

Unlike adult animals, lambs can benefit from two types of immunity - 'active' and 'passive'. Active immunity is that obtained from vaccination (or previous infection, but this is not likely with clostridial diseases as mortality is so high), while passive immunity is that which the lamb obtains from a vaccinated mother's colostrum (first milk).

As lambs cannot be vaccinated until 3 weeks of age, this 'passive immunity' is a particularly important part of clostridial disease control.

Ensuring good passive immunity has two steps:

- Firstly, ewes must be vaccinated with the right dose of an appropriate product at the correct time
- Secondly, it is vital to ensure good colostrum intake, as without this the lamb will not receive any passive immunity

It is known as FPT (failure of passive transfer) when lambs are left vulnerable to infection due to inadequate colostrum intake. To ensure good transfer of maternal immunity, lambs should receive 20% of their bodyweight in colostrum in the first 24 hours of life, i.e. one litre for a 5kg lamb. FPT is not just an issue for clostridial diseases – affected lambs will be more vulnerable to other infectious disease as well.

Summary

In conclusion, clostridial diseases in sheep in the UK are a significant problem for the sheep industry, causing significant economic losses each year. By implementing good hygiene practices, minimising stress, and vaccinating at-risk animals, farmers can help to control and prevent these diseases, and reduce the associated losses.

Additionally, it is important to be vigilant for symptoms of clostridial disease in your flock and seek veterinary assistance if you suspect that any animals are affected.