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*Welcome to your Farm Newsletter for January/
February of 2024!*

In this issue we investigate the cost of Leptospirosis on a farm, a nasty bacterial disease that can cause abortion, decreased fertility and a drop in milk production. We look at the symptoms, diagnosis and the ways you can prevent it from taking hold in your herd.

We also look at ewe nutrition and the ways in which you can support your flock on the six-week period leading up to lambing. Ensuring your ewes are kept nourished and energised will increase the likelihood of keeping them healthy and strong throughout this process, and in turn, ensure optimum outcomes.

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 farmandequine@ardenehouse.co.uk
See you next time,*

The team at Ardene House Vets

In this issue:



The Cost of Leptospirosis

As a zoonotic disease, Leptospirosis can be harmful to both animals and humans, so preventing it on your farm is vital. Through a combination of vaccination, quarantining and blood tests, you can limit the spread of any outbreak and put measures in place to ensure the health of your herd.



Ewe Nutrition Guide

Looking after your ewes during the pre-lambing period will have wide-ranging benefits for you in terms of productivity, efficiency and protecting your profit margins. By looking at body condition scoring and blood sampling, you can ensure ewes are eating properly and in the best condition for lambing.

The Cost of Leptospirosis

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Leptospirosis can have a severe effect on a farm, costing an estimated £69-£106 per cow in an infected herd. The best way to avoid an outbreak in your herd is to understand the disease and discover the best ways to prevent it from taking hold on your farm.

What is Leptospirosis?

Causing abortion, decreased fertility and a drop in milk production, Leptospirosis is a nasty bacterial disease.

It is passed around a herd by direct contact with infected and recovered 'carrier' animals through:

- Urine
- Reproductive secretions
- Milk from acutely affected animals
- Contaminated water
- Via other species like sheep

It can also be passed onto humans, making it a zoonotic disease. In humans, it causes flu-like symptoms with headaches and a fever, sometimes progressing to meningitis.

During primary infection, and generally before the disease has even been noticed in the herd, animals shed leptospires in high volume in their urine, milk and foetal fluids. This shedding can continue for several weeks. Animals who have had leptospirosis, but have recovered, can continue to be an issue by becoming renal carriers and shedding leptospires in their urine.

If you are concerned about leptospirosis or whether you may have 'carrier' animals, give us a call.

The Symptoms

After the first phase of *Leptospira* infection in cattle, the bacteria gather in the urogenital tract. Early symptoms are usually mild and short-lived, and this can mean they are often not noticed.

In cows, the first symptom is often a sudden decrease in milk yield. Abortions usually occur 6-12 weeks after the initial infection. If the infection occurs in the late gestation, an infected calf may be born.

Abortion rates range from up to 30% in herds not previously infected to 5% in herds where Leptospirosis is endemic.

The greatest effects of infection on fertility are low pregnancy rates and increased culling due to low fertility.

How these symptoms manifest varies, depending on the infection status of the herd. In a chronic inactive state of infection, there are very few signs of poor fertility. During initial infection of the herd, or an inactive state that becomes active, the symptoms are more visible.

A natural immunity is established in a herd after the initial infection phase. All new animals that enter the herd are susceptible, however, and suffer from an acute infection with the associated symptoms. This is also the case with animals that were not with the infected herd during the initial infection but joined later (e.g. dry cows).

Diagnosis

Diagnosis needs to be confirmed by lab tests. However, diagnosis of leptospiral abortion is difficult and based on maternal and foetal blood tests. There are no outwardly obvious signs associated with the infection.

Isolation of Leptospire from blood, cerebrospinal fluid and milk can be attempted in acute cases. Cultures from urine samples can also be made from clinically infected or suspected carrier animals. The bacteria can also be isolated from organs of animals that died during the acute phase of disease. Samples need to be kept chilled and reach the laboratory within 3 hours.

Other laboratory methods such as fluorescent antibody tests and dark field examination of blood and urine samples to detect live bacteria may also be useful for a definitive disease diagnosis.



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In most farms, due to the level of pathogens, it is not economically feasible to test and cull all the animals. Unfortunately, blood tests are an unreliable indicator of infection status. All aborting animals or acutely infected animals should be isolated. Acutely infected animals can be treated with antibiotics such as dihydrostreptomycin.

Biosecurity and Vaccines

Maintaining biosecurity involves avoiding the introduction of infected animals into the herd

and/or implementing strict isolation/quarantine of introductions until they are proven negative. Restricting access of livestock to external sources of infection e.g. double fencing is in place at all perimeters, prohibiting access to open waterways, etc., is always a good idea.

The best way to make sure your herd is Lepto-free is with vaccination. Give us a call so we can discuss the status of your herd and include this vaccine in your herd health plan.



Ewe Nutrition Guide

The six-week period leading up to lambing are some of the most critical for the ewe. This is when the lambs are undergoing their main period of growth, with up to 70% of lamb development happening.

Colostrum is also being manufactured and the ewe is most at risk of a serious energy deficit if not fed and managed carefully. Forage analysis can be used to help gauge exactly what you might be feeding and what you may need to supplement with.

When deciding how to supplement the silage or forages, remember cereals (wheat in particular) are an excellent source of energy but, at high levels (over 0.5kg/head/day) they will depress forage intakes and reduce its digestibility (ruminal acidosis). When cereals are fed as straights, they can be fed whole with hay but, should be lightly processed if fed with silage.

By having the ewes scanned and undertaking body condition scoring (BCS) you have the chance to group them according to their likely energy demands, both in terms of how many foetuses they are carrying and current BCS. This gives you the opportunity to make sure you are feeding the flock efficiently and for optimum productivity.

It is worth remembering that cases of pregnancy toxemia (twin lamb disease) are not the only price to pay for underfeeding ewes, as it can result in higher lamb mortality. This is due to a number of factors:

1. Lambs from undernourished ewes have less brown fat, leaving them more susceptible to hypothermia (low body temperature) and hypoglycaemia (low blood sugar) following birth.
2. Colostrum is also likely to be poorer, both in terms of quantity and quality, so lambs do not receive enough protective immunity.
3. Udder development also takes place during late pregnancy, so there is a knock-on effect on milk yield following lambing, which could have detrimental effects on lamb growth rates.

Anything affecting these areas will be seriously eating into profit margins. It is worth remembering that getting ewe condition and feeding right will have far reaching benefits.

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We can help investigate how well ewes are doing on their pre lambing rations by taking some blood samples from 5 ewes from each different management group (triplet, twins, and single carriers) 3-4 weeks pre-lambing. This is the optimum time to see how she is coping on the diet and allows enough time to make some changes if necessary.

Sheep in negative energy balance may develop pregnancy toxaemia (also known as twin lamb disease) due to the combination of low blood glucose and the toxic effects of the ketone bodies produced by fat breakdown. Sadly, the treatment of pregnancy toxaemia is often unsuccessful (only 33% survival in one study) so prevention is preferable to cure. Measuring the BHB levels 3-4 weeks before lambing allows adjustment of the diet, if necessary, to minimise the risk of pregnancy toxaemia and avoid the other problems associated with negative energy balance, such as poor colostrum production.

It is not just the energy levels that are important; correct protein feeding in late pregnancy is also crucial and blood testing monitors both long term protein status and the more immediate question of rumen degradable protein (RDP) which can be deficient in housed sheep due to straw or poor-quality hay-based diets. RDP has a significant effect on colostrum and milk production and, therefore, lamb health and growth rate. Bypass protein is also important and, in some trials, increasing protein supplementation by 20% resulted in heavier lambs at birth, around 30% increase in milk production and almost 90% reduction in worm egg output.



Body condition scoring of sheep is a quick and easy management tool to assess the body reserves of sheep throughout the year. By physical, rather than visual, examination the variables of fleece cover, genetics and frame size is removed. A unit of body condition score equates to about 12% of an adult sheep's liveweight. Therefore, a 70kg ewe would need to lose or gain 8.4kg to move one condition score. The targets for sheep BCS vary throughout the management calendar (Figure 1)

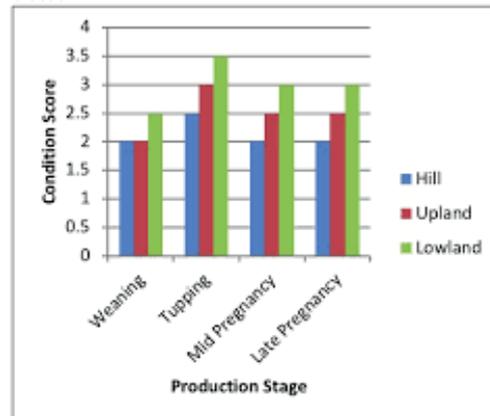


Figure 1 – Target BCS for Mature Sheep

What changes could be made to maximise feed and energy intakes?

If ewes are receiving compound feed and forage supplementation whilst still at pasture allowing ewes access to the same feeds and feeding style before moving will create a smoother transition. Doing this in combination with moving ewes no later than 3 weeks pre-lambing means ewes should not experience an intake slump or excess stress whilst adapting to indoor feeding during the last few critical weeks of pregnancy.

Ensuring the stocking density of the shed is adequate, and the availability of forage feed, will also minimise stress and increase intakes. There should be a minimum of 15cm trough space per ewe. Consider if there is enough accessible feed space for all ewes to feed at the same time. Lying space is also important – a 70kg heavy in lamb ewe requires 1.3m². This space allowance will dictate the stocking density of a shed and therefore feed space requirements.

If you have any questions about ewe nutrition or want us to check how your ewes are doing on their pre-lambing rations, give us a call.