KERNOW
FARM VETS

January/February NEWSLETTER!

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Welcome to the January/February newsletter of 2023, we hope you had a good Christmas and New Year!

In this issue we look at Watery Mouth in Lambs, which is an infectious disease that still has an 83% mortality rate. Find out ways to prevent Watery Mouth and other factors that could affect your decision-making during the lambing period.

We also investigate how to monitor calf growth rates, including the benefits, methods and targets you can use to implement this process on your farm, which may or may not include Thoracic Ultrasound (TUS).

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:

Watery Mouth Lambs:

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Watery Mouth is an infectious disease of the small intestine of new-born lambs caused by the bacteria E. coli. Lambs aged 6-48 hours old are at the highest risk of contracting this disease.

E. coli lives within the environment and once the lamb picks this up it multiplies rapidly, commonly killing affected lambs within hours. The costs of treating watery mouth are high, not including the time involved in treating these cases, but there are still an estimated 83% mortality rates within affected lambs and so prevention is always better than cure.

Historically, Spectam has been used as a preventative measure for watery mouth in lambs. However, research has now shown high levels of resistance to Spectam across the UK, with some studies reporting 70% of farms reporting resistance.

Antimicrobial Resistance

This is where bacteria (and other pathogens) can mutate over time and produce the ability to survive exposure to antimicrobial agents that previously would have been effective. These mutated bacteria can be passed between animals and humans, so we need to be careful with the unnecessary use of these drugs, so that when we truly need them, they do the job we want.

The cost of antimicrobial resistance can end up costing your farm much more than the initial cost of the antibiotics themselves. This reiterates the importance of preventing disease but also understanding the importance of when to use antibiotics and using them correctly.

Prevention

There are a number of controls that you can employ to prevent infection of lambs with E. coli. These include:

- Colostrum - remembering the 5 Qs:
  - Quantity
    - 50ml/kg in the first 2 hours
    - 200ml/kg in the first 24 hours
  - Quality
    - Ensure your ewes have adequate nutrition for their needs before lambing (Body Condition Score if needed)
    - Vaccination of ewes 2-4 weeks prior to lambing
  - Quickly
    - Lambs' ability to absorb the goodness of colostrum reduces within the first few hours of birth, so speed is vital
  - sQueaky clean
    - Ensure they are getting all the goodness from the colostrum and not added burden
  - Quantify
    - Review your management of colostrum regularly
    - Evaluate lamb immunity through blood tests
    - Blood test to analyse the nutrition of ewes in late pregnancy
- Give more attention to your high-risk lambs
  - Low BCS ewes
  - Multiples
  - Difficult lambing's
- Clean Environment
  - Shear/Dag ewes before winter housing
  - Clean and disinfect pens between uses
  - Lots of clean and dry straw
- Clean Equipment
  - Keep different stomach tubes for treatment Vs prevention
- Reduce further stress to the lambs
  - Don't castrate or tail dock lambs within the first 24-48 hours (risk period).
  - Dip the navels with strong iodine

Why is colostrum so important?

Colostrum contains proteins called Immunoglobulin G, which is a type of antibody. These are the body's natural defence to bacteria and viruses, which lambs are born without. Therefore, ensuring you have a set management plan is advantageous for your farm.

Having colostrum from the mother is the best supply, but if colostrum from the ewe isn't possible then you can try other sources in the following order:

- Colostrum from another ewe in the same flock - should've been exposed to the same diseases
- Pooled cow colostrum - consult vet before doing this

Artificial colostrum - this has much lower level of IgG, with 4g or lower/litre (ewes have on average 10g/l)

Symptoms

Even with all these precautions lambs can still contract watery mouth and so prompt treatment is necessary to prevent fatalities. Therefore, recognising the symptoms is key:

- Lethargy
- Failure to suckle
- Drooling
- Bloating
- Retained meconium/constipation
- High temperatures

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Treatment

Before reaching for antibiotics to treat these cases there are other options to try first as antimicrobial usage could make some cases worse due to a wave of toxin release following the bacterial death.

Contacting your vet when you have cases of watery mouth is beneficial as it allows you to come up with the best possible management methods for individual cases. Treatment options include:

- Stomach tube glucose/electrolytes (50ml/kg 4 times daily)
  - Not milk in these animals, as they are unable to digest and utilise this in their current state.
- Put 20ml soapy water into the rectum
  - This helps to stimulate gut movement
- Warm hypothermic lambs and inject with glucose if appropriate
- Parenteral antibiotics
  - These should only be used for some cases.

Summary

In summary, Watery Mouth can cause a high level of mortality around lambing time but can be prevented. Colostrum is key to the prevention of this disease along with many others. Good management is imperative when working with colostrum, else it won't work to its full effect.

Monitoring Calf Growth Rates:

Calf rearing, from birth to breeding, is an integrated process involving genetics, environment, husbandry, nutrition and disease prevention strategies, in which all these separative parts need to be correctly implemented to allow the calf to grow at an efficient rate that is cost effective.

Benefits of monitoring growth rates

- Achieving target growth rates for breeding - females that are at target weight at 24 months old produce more milk in a lifetime, and more milk per day, as well as having fewer calving difficulties at the first parturition
- Identifying underperforming calves – allowing for prompt intervention and further investigation into the cause or causes of underperformance e.g., poor nutrition, problems with the environment (stocking density, air movement, ambient temperature etc.) or disease problems

Methods of monitoring growth

- Weighing - this is best done using electronic scales (a set of weigh bars on a strong platform) as this produces the most accurate results. However, a weigh band (a tape that measures the girth directly behind the front leg) can also be used. This is useful up to weaning, but is less accurate in older animals
- Withers height - either a height stick can be used put across the withers, or the animals can be measured against fixed height markers painted on a wall

Whatever method is chosen, ideally the same person should perform the measuring each time to achieve consistency.

Daily live weight gains

This can be easily calculated using two weights and knowing the number of days separating the two figures.

For example, if a calf weighs 40kg at birth 52kg at 2 weeks of age the daily liveweight gain is:

(52-40)/14 which equals 0.86kg/day.

Growth is more efficient in early life, preweaning, so aim for at least 0.9kg/day for the first three months followed by at least 0.7kg/day up to breeding at 14 months.

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Setting targets

It's all very good collecting the raw data, but we need to be able to compare the data collected to targets that have been set for the farm, to know if the animal is performing well.

For example, the following table shows target weights at different ages (in months) when the target mature weight is 685kg (taken from AHDB monitoring dairy calf growth). The important point to note is the percentage of mature weight and percentage of mature height values are targets.

Age	Stage	Body weight (kg)	% Mature weight	% Mature height
0	Birth	41	6	
1		55	8	
3	Post-weaning	116	17	63
6		185	27	74
9	Puberty	274	40	
12		343	50	
14	Pre-breeding	377	55	87
24	Pre-calving	582	85	96
MW	Adulthood	685	100	

The most important one to meet is that heifers need to be at least 55% of their mature weight (or 87% of their mature height) at service when 14 months of age.

To achieve these targets, the calf has to grow at a minimum of 0.8kg/day up to adulthood. The way to determine farm specific targets is to weigh, or measure several third or fourth lactation cows in the herd that are 100-120 days in milk. The average of these figures is then your mature weight (MW) figure.
The target percentages of mature weight or mature height in the above table can be used to calculate target body weights for your own herd.

For example, if the MW is 750kg then the target weight at breeding at 14 months is 55% of 750kg which equals 412kg. Please note that the target values are different for weighing and height measuring.

When to weigh or measure

The minimum number of times would be:

- At birth
- At weaning
- At 6 months
- Pre-breeding at 14 months.

Ideally, the more times it is done the better and preferably calves should be weighed every 2 weeks, pre-weaning. Then 2 weeks post-weaning, at 6 months, pre- breeding and pre-calving at 24 months.

The more that it is done, the quicker any problems can be identified and addressed.

Calf Thoracic Ultrasound (TUS)

Thoracic Ultrasound (TUS) is a technique that your vet can use to monitor the health of the lungs. An ultrasound scanner is used to score the lungs of a calf:

- Score 1 - normal lungs, no pneumonia present.
- Score 2 - pneumonia lesions are present (<1 cm)
- Score 3 - lung consolidation is present (i.e., lesions are now 1-6cm diameter)
- Score 4 - pneumonia lesions >6cm, with or without pleural effusion. This is severe pneumonia with a very poor prognosis

This technique can be used routinely at set times. For example, at weaning alongside weighing, to assess the effectiveness of the prevention protocols (husbandry measures and vaccination programmes). If high scores are found in a batch of calves, then there is a problem that needs further investigation, including possibly implementing or changing a vaccination protocol. Alternatively, TUS can be used at the start of a pneumonia outbreak to evaluate how quickly the clinical signs are being picked up before intervention or treatment is given. If calves are found with scores of 3 or above and no treatment has been given then the early signs of pneumonia may have been missed.

Similarly, TUS can be used after treatment to check the effectiveness of the treatment plans.

TUS performed on young calves (e.g. 6 weeks old) is a quick, non-invasive procedure that requires no specialist equipment (the vet will use the scanner that is used for normal pregnancy diagnosis), that can provide additional information about the health of the calves during the critical early stages of life.