

Our Team



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Living And Working In Your Community

March 2019

Hello and welcome to March. Hope you have all enjoyed the unexpected sunshine in February – bit different to this time last year.

We have been very busy with sheep – we have been doing lots of lambings and unfortunately we have had more than the normal number of abortions. For some abortions, there is not a lot that you can do at the time – there's an article later in the newsletter all about it.

Also, Russell continues his series on rearing dairy replacements.

By the end of the month you will all be thinking about turnout. Just a few things to think about now.....

- Lungworm
- Hypomag/staggers
- Blackleg
- Planning your worming and fluking strategies
- Determining stock mineral status

Let's hope the dry weather continues and turn out can happen sooner rather than later.

Mary

Milk fed calves

Nutrition of young calves is vital for their health and the profitability of dairy farms. Although there are various different approaches, whichever is chosen must deal with the calf becoming a functioning ruminant, being fed primarily on forage. Key aspects from birth, irrespective of the system chosen, are: milk allowance, availability of water, calf starter feed and forage provision.

The digestive system of a new-born calf is functionally the same as a human baby, meaning the calf is almost entirely reliant on milk or milk replacer for nutrients for the first 2 to 3 weeks of life. After this, the calf will begin to eat starter feeds and forage, beginning its transition to a functioning ruminant. Once weaned, the calf becomes a true ruminant, which is how it stays for the rest of its life.

This article covers the milk-dependent phase, with weaning and the transition to a fully functional ruminant being covered next month.

As the calf is reliant entirely on milk for its feed, the quantity and quality of the milk fed are paramount. Firstly, the calf needs sufficient energy for maintenance – all the body processes involved in simply staying alive. This is around 8 megajoules (MJ) of energy each day, and 30g of protein. For reference, a standard size Mars bar contains around 1 MJ of energy. This is equivalent to 380g of milk replacer (about 3 litres as fed).

Any energy and protein fed above this amount is available to the calf for growth. However, energy and protein need to stay in balance. Lack of dietary protein will cause the calf to become fat, whilst a lack of energy will mean the calf is unable to turn the dietary protein into body tissue.

Table 1 shows the energy and protein requirements for different growth rates. It is important to note that these requirements are for a calf in ideal environmental temperature (i.e. 15°C to 22°C). When the environmental temperature falls to 0°C, the energy requirement increases by 50%.

Cont. PTO



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This means that the calf will need 510g milk powder (just over 4 litres as fed) simply to stay alive and keep warm.

Growth rate (kg/day)	Energy per day (MJ)	Protein per day (g)	Crude protein % in diet	Kg weight gain per kg milk solids fed
0.2	9.8	94	18.0	0.38
0.4	12.1	150	22.4	0.63
0.6	14.7	207	26.6	0.77
0.8	18.5	253	27.4	0.86

Table 1. Energy and protein requirements for different calf growth rates, along with feed conversion efficiency.

It is important to note the final column of Table 1, which shows the feed conversion efficiency – feeding more milk not only increases growth rate, but also makes the growth more efficient, as a lower proportion of milk solids are needed for maintenance. In cold weather, feeding more milk of a higher energy (i.e. higher fat) milk replacer and keeping calves warm (e.g. calf coats) will allow them to continue growing.

Milk replacers vary considerably in ingredients, and more importantly price. For young (i.e. under 3 weeks old) calves, milk replacers need to be made using skimmed milk powder or whey. Where vegetable proteins e.g. soya are included, these have reduced digestibility, meaning that the calf will not perform as well as expected. Choosing a milk powder should be done using the following thought process:

- How fast do I want the calf to grow?
- How much energy will she need?
- How much protein will she need?
- How much milk replacer will I need, and which one should I choose?

Thankfully, the maths has already been done. After deciding on a target growth rate, it is simply a case of looking up requirements, and finding a suitable milk powder, which we are happy to help with. Alternatively, bring, or show us a milk replacer bag, and we can help work out the growth potential for calves on your farm.

Some general considerations for milk feeding calves

- When mixing milk replacer, weigh the powder, then add water to the correct volume, to ensure the concentration is right
 - Many higher growth programmes feed milk replacer at 150g / litre, making measuring even more important
- Calves should always have access to calf starter – use 18% crude protein, as there is no growth benefit when more protein is fed
- Make sure forage is always available – straw (ideally chopped) or hay seem to be the best
 - Failure to do this will mean calves eating bedding, risking Cryptosporidiosis or coccidiosis
- Finally, and probably most importantly, make sure clean, fresh water is always available

Abortion in ewes

There are various different causes of abortion in sheep, but by far the two most common are Enzootic Abortion and Toxoplasmosis, which cause 47% and 29% of diagnosed infectious abortions in sheep, respectively. Many of the agents that cause abortion in sheep have the potential to cause disease in people, so care should be taken especially in the case of pregnant women.

Enzootic Abortion

Enzootic abortion is caused by Chlamydia abortus. It causes abortion in late pregnancy and the birth of weak lambs. The organism is shed in abortion products and in vaginal secretions for several weeks after lambing/aborting. Other ewes are then infected by contact with this material. The organism cannot invade the placenta before day 60-90 of pregnancy, thus newly infected ewes often carry the dormant infection until next lambing period when they can then abort. These infected ewes cannot be detected.

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Upcoming events

Calf rearing meeting

In conjunction with Russell's series of articles we intend to hold a meeting on calf rearing this month.

Please keep an eye for further information as we confirm the details.

Scab warning!

We have seen a large number of cases of sheep scab this winter. Many of these cases have failed to respond to treatment with the injection meaning it has been necessary to plunge dip these animals with Organophosphate. In some cases this has included pregnant ewes. It is important to note that sheep sprays or showers are not effective in the treatment of scab even if they contain organophosphate.

Prevention: Any ewes which abort should be isolated, and abortion material and contaminated bedding removed as quickly as possible to reduce spread of infection. Highly effective vaccines are available: Enzovax or Cevac Chlamydomphila are given at least 4 weeks prior to tupping (although it can be given earlier) and immunity lasts around 3-4 years, so only one dose per ewe per lifetime is usually needed. Vaccination reduces the shedding in flocks which are already infected. It is possible to exclude enzootic abortion from the flock, but this requires strict biosecurity.

Toxoplasmosis

Toxoplasmosis is caused by *Toxoplasma gondii*, a parasite which reproduces in the intestine of cats. Sheep are infected when they ingest *T.gondii* oocysts (eggs) shed in the faeces of cats. If infection takes place early in pregnancy early embryonic loss occurs, this may only be seen as a high barren rate at scanning time. If infected in mid-late pregnancy, ewes may abort, or give birth to small weak lambs. Aborted foetuses are often mummified.

Prevention - *T.gondii* oocysts are mainly shed by kittens, late pregnant and lactating cats or old sick cats. As cats wander large distances excluding them from the farm is virtually impossible but a stable population of healthy, neutered adult cats pose the lowest risk of shedding and will help keep other cats away. Hard feed and hay should be stored in such a way as to minimise cat access. Hay or straw contaminated with cat faeces (often the top bales from the stack) should not be fed to pregnant sheep. Ideally mains water should be used as stream water may contain oocysts. The most practicable control method is vaccination with Toxovax. This needs to be done at least 3 weeks prior to tupping, it can be administered at the same time as enzootic abortion vaccine if needed, and immunity lasts at least 2 years, so a single shot per lifetime is usually sufficient.

There are many possible causes of abortion, this article only provides a brief overview of the two most common causes. Abortion rates >2% indicate a problem and the cause cannot be determined without testing. Analysis of freshly aborted foetuses and placenta is the best place to start so don't get rid of them, put them in a clean bag and contact the surgery for investigation.



Grass Staggers

Hypomagnesaemia, commonly known as grass staggers, is caused by a lack of magnesium in the diet. It is commonly associated with lush spring or autumn grass. The problem can be associated with high levels of potassium, which can disrupt magnesium absorption, and a fast gut transit time causing reduced nutrient absorption. Application of fertiliser or slurry within the previous 6-8 weeks compounds the problem. It can also occur in stormy weather when stock are stressed and grazing less.

Cattle and sheep are not able to store magnesium in their body so need to consume their requirement each day. Animals suffering from staggers are often found dead. Early signs may include excitability, muscle twitching, increased awareness and stiff gait, they may appear aggressive with bellowing and staggering - hence the name.

As we approach the spring risk period and with the current weather likely to cause a flush of lush grass early this spring you should be prepared to supplement grazing stock to prevent the disease.

Supplement options:

1. Magnesium boluses
2. Magnesium licks
3. Magnesium salts added to water troughs
4. Provide extra forage at grass (hay, straw)
5. Feed high magnesium nuts

6. Calcium-magnesium molasses solution in buckets



Time is crucial in successful treatment of cases. Contact the surgery for advice if you are concerned.