Sugar rush!

Feeding molasses may well be an economic alternative this year since forages are likely to be low in sugar. Molasses can improve palatability of other feed ingredients, thus stimulating feed intake. It can act as a source of energy for the rumen bugs allowing them to produce microbial protein from forage. This could prove very important this year as forages are generally low in sugar due to the lack of sunshine the summer has dealt us.

Feed typically 2kg per head per day.

Just a reminder...

...about grass staggers. I’m sure you’re all aware of the dangers of staggers, but even in September we were hearing reports of farmers losing cattle to this problem.

Hypomagnesaemia occurs when the intake of magnesium is exceeded by its output. The clinical signs can occur very quickly because the cow does not store magnesium, and so must have a daily supply. As is often the case, animals showing clinical signs are just the tip of the iceberg, many cows will not show symptoms. Daily supplementation of magnesium should be given to animals at risk. This can be achieved by using Dalesman Tri Mag buckets or blocks.

Terrific Texels!

DR RUTH LAWSON

Jamesons customer, Colin Doney, showing and selling for the first time ever at Skipton, achieved a memorable debut double when exhibiting both the first and second prize Texel pens.

Colin farms with his wife Caroline at Pasture Close, Dacre, Harrogate. Taking on more farm land has given the Donesys, who in the past have only reared and sold prime lambs, the opportunity to provide longer keep and raise shearlings, 30 of which were consigned at Skipton. “They have grown out well,” said a delighted Mr Doney.
Mycotoxins

DR RUTH LAWSON

Mycotoxins are produced by moulds and fungi in feed. Cattle are exposed to mycotoxins from grass, silage, straw or contaminated grain. We think it may be a bad year for mycotoxin problems as they thrive in low temperatures and moisture. Also, when it’s a late harvest or there’s soil contamination, mycotoxins do well. Other situations that cause mycotoxins to be produced are when the silage clamp is poorly consolidated or finished feeds are poorly stored.

A healthy rumen has an ability to protect against low levels of some mycotoxins; however, some mycotoxins will be detoxified in the rumen but will breakdown into new more toxic metabolites. In dairy animals, production can be affected through reduced milk yield, poor fertility, increased somatic cell count and increased disease susceptibility. In trials, exposure to mycotoxins resulted in losses in milk yield of 1.5 - 2.0 litres per cow per day and an increase in somatic cell count by 100, 000 cells/ml. So what are the symptoms in your dairy herd? Well, symptoms are quite general and will depend on the exact mycotoxins involved. But cows won’t be milking quite as well as they should be. The dung is a little loose and variable and the milk fat is a little low. The cell counts may have gone up and fertility is not as good.

Other effects of mycotoxins may include: - reduced feed intake, acidosis-type symptoms, poor response to disease or infections, bloody dung, lower leg / heel swelling, or unsettled cows. So what can be done to manage mycotoxins? Firstly, try to manage silage to reduce mycotoxin exposure, make sure you purchase seed varieties resistant to foliar, ear rot, and stalk rot diseases. Also, select varieties resistant to ear and stalk boring insects. Harvest forages as quickly as possible and pack tightly and be sure the silo is sealed to exclude oxygen. Patch any holes in plastic covers, bags, or wrapped bales as soon as possible. Also, discard obviously spoiled feed or layers of feed and clean out leftover feed from feeding troughs regularly.

Try to have as small a clamp face exposed as possible. When confronted with a toxicity problem, stop feeding the contaminated feed and add a mycotoxin binder such as Mycosorb available at Jamesons.

Pasture aeration following a soggy summer

PETER HARLAND

Large amounts of rainfall this summer have left most pastures vulnerable to soil compaction. Evidence for this has been very clear, with fields poached up from livestock, and deep ruts prevalent after silage time. So why is soil aeration important, do we need it and what is the most cost effective method of doing it?

The vast majority of soil life requires oxygen to release energy from sources of organic carbon, a bit like a fire needs air to burn and release heat. Plants are the main source of organic carbon in the soil. They take carbon dioxide out of the air during photosynthesis, and use the energy from the sun to turn the carbon, of carbon dioxide it into carbohydrate. These carbohydrates are stored in the plant roots. When this energy is needed by the plant to grow, oxygen is required to release it from the root.

Micro-organisms are the soil’s life. They too require oxygen to breakdown and utilize dead and decaying plant & animal matter. Micro-organisms are responsible for the cycling and release of nutrients (including nitrogen), the breakdown of manure and the maintenance of optimum physical soil conditions. They enable soils to be more robust, better able to cope with droughts, floods, and changes in nutrient availability.

In the top foot of soil, it’s estimated that there are 2 tonnes of soil life per acre. This then tells us that the greatest need for oxygen is near the soil surface where there are the maximum number of roots, micro-organisms, and other animals. Air travels in and out of soil passively, through holes and cracks. Compaction reduces the movement of air into the soil and so it limits the nutrient release from the soil. When soil is water logged, as can easily happen on compacted ground, air movement can be reduced by 82%. In soils without enough air, plant and soil life are unable to access energy reserves and the cycle and release of valuable nutrients is slowed. Substances are produced in the soils that inhibit root growth, and nitrogen is lost from the soil as gas. This is easily seen by poor grass growth in compacted areas.

As mentioned in previous newsletters, the best way to assess compaction is to dig an 8 inch square hole by a foot deep. Try to remove this in one piece and lay it next to your hole. Ideally the top 2 inches should have a nice crumbly structure, the next 2 inches should be half crumbly, and below this the remaining soil should have around 10% crumb texture. By doing this you can easily see where the soil is compacted, and react accordingly.

Often compaction is indicated at the depth that it is hardest to push the spade into the soil. A subsoil type aerator is most useful for compaction caused by heavy machinery, deeper in the soil profile. The subsoiler lifts the soil slightly and drops it, producing cracks that run vertically down the soil profile. It is an expensive operation in terms of time and diesel and runs the risk of disturbing old drains; therefore it should only be used for deeper compaction.

Pasture spiker type aerators are becoming popular, these act in the top 4 inches of the soil allowing air to enter the soil more freely so stimulating the soil life (and plant growth). Wider aerators, 5m plus, offer a far better return on investment, make sure you purchase seed varieties resistant to foliar, ear rot, and stalk rot diseases. Also, discard obviously spoiled feed or layers of feed and clean out leftover feed from feeding troughs regularly.

USEFUL NUMBERS
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Which ingredients should be in a good calf milk powder

DR RUTH LAWSON

Deciding which milk replacer to use can be very challenging. Here are a few key things you should be aware of when making this decision, as not all milk replacers are created equal.

A cheaper powder could end up costing you more in reduced growth rate, scour and increased risk of diseases such as pneumonia.

Firstly, think about nutrients. Milk replacers should contain around 22% protein & 17/18% oil. Generally, the higher the level of milk products in the powder the better. Milk proteins are typically more highly digestible than non-milk proteins and provide better calf growth. Vegetable protein products are generally lower in energy and are digested less well. Also, skim is more digestible than whey, therefore will produce better growth. Soya, wheat and pea products (any vegetable ingredients) have reduced protein digestibility, leading to gut upsets and scour. However, some coconut oil is OK as the calf can digest it. Hydrolysed wheat protein is an excellent source of protein if the amino acid levels are corrected, so check if additional lysine and methionine have been added.

There are variations in the digestibility of the whey protein, depending on the type of cheese it has come from, for example some French cheeses result in acid whey which can cause colic which is manifested by calves kicking at their bellies.

The energy in powders is principally in the form of oils, which do not mix readily with water so require emulsifiers to achieve an effective and stable mix. Many cheaper products contain lower levels of emulsifier to help reduce the price; the end result is a poorer mixing powder and less palatable feed. In addition, replacers with poor emulsification properties need to be mixed with hot water, destroying vitamins and damaging proteins.

Furthermore, the size of fat droplets in cow’s milk is very small, making them easy to absorb. Cheap powders tend to rely on oils being sprayed onto the powder surface, which results in large areas of fat which are difficult for the calf to absorb. The consequence of reducing fat and oil quality is slower growth. Butter oil, although cheap, tastes awful and does not form a firm curd in the abomasum. It then flows into the hind gut where it feeds any lurking pathogens, leading to scour.

The other principal energy source is lactose which is highly digestible. In good quality replacers, lactose is supplied in whey powder but poorer grade replacers use whey permeate, which as well as containing lactose has a severe mineral imbalance that can cause scour.

Fibre content should be zero as this indicates the use of plant ingredients which calves can’t digest. Vitamin E content should be at least 250 IU. If the ash level is too high, there are some fillers such as calcium going in, baby calves haven’t got room for ingredients that don’t do a job. Also look out for beneficial ingredients such as probiotics and immunoglobulins for specific scourcs, such as E coli, salmonella etc.

So, remember calves don’t do well on vegetables! Also, there are some ingredients that are actually irritable to the calf’s gut. It’s a hard enough job keeping calves alive and thriving, why make your job even harder! Ask us about our new skim and whey based powders and our IMMU-gain paste to prevent calf scour.
**Cracking calf show at Otley**

**DR RUTH LAWSON**

Wharfedale Farmers’ Auction Mart at Otley held their monthly calf show & sale with an entry of 115 calves forward. Last month’s prize was awarded for the highest priced continental bull or heifer. The price was won by Richard Sutcliffe of Queensbury at £450 (twice) for British blue calves. The successful bidder was W.A. Thompson from Clayton, Doncaster. The photograph opposite shows Mr Thompson and family with one of the top calves.

**Dear Dr Ruth...**

I’m writing to complain about our living arrangements. Mook999 has knocked her hocks and is in a poor way, as you know she can moan anyway, but now she’s constantly squawking. Our beds are just not comfy anymore, the mattresses are lumpy, bedding is sparse not to mention our backends are hanging over the back.

Young Mook9467 got knocked around so much yesterday she fell and hurt herself. Being one of the more senior members of the group I get my own way when it comes to beds, but the youngsters are on their feet all day long.

Yours Mook210 @

Dear Mook210,

I share your pain; you girls need to be as comfy as possible. Ladies like you need to put your feet up from time to time, have a nice lie down and watch the world go by, even if that’s watching your husband, William chase the latest young heifer or three-papped wonder (no I’m not bitter). When you can be bothered to get up, this should be easy and elegantly done.

Your friends with hock and knee injuries are likely due to the impact on your joints from lying on insufficiently bedded or cushioned cubicles. Are the rubber mats too hard and is His Lordship skimping on bedding?

You mentioned that Young Mook9467 got hurt, I think tensions are running high, you’re all stressed and getting a bit waspy. You cows need your personal space! Also, if you have to share beds, you’ll suffer with your feet and inflamed boobs!

Also, when you’re on your winter holidays, stocking rates should be a cow length and a head square. This should be increased to a cow and calf length square when the yard design isn’t so good, such as when the access is narrow or the water isn’t in a good place.

As you know when you’re not standing eating or chewing the cud, you should be laid down chilling. I’ll put in your wish list with His Lordship, not sure what he’ll say as I’ve heard Her Indoors complaining about their sleeping arrangements too. At least I think that’s what she said under her breath... something about His Lordship being more 50 shades of red than grey.

Good luck and hope you’re soon able to take the weight off your feet.

All the best, Dr Ruth

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