

Hello and welcome to the November newsletter. We are enjoying a rare period of settled weather at the moment, helpful for the maize harvest and getting the last of the crops planted. Hope you are all getting on well. The weather is certainly better than the budget – bit of a kicking all round.

November is traditionally the month that we see the most pneumonia, especially for those of you that purchase store cattle. The still damp days are the worst. Consider vaccination – prevention is always better than cure, lung damage is done before any symptoms show with long lasting economic consequences. Any problems, give us a shout in the office.

Fluke forecasts are anticipating problems – a warm wet summer, with continued warmish weather at the moment will favour the fluke. We can do a faecal sample to give you a yes/no answer if there is any uncertainty.

This month, Russell is giving us the low down on choline for cattle – aimed at our dairy farmers. It is a really useful product, well worth a read.

Mary

Fat dairy cows

In the last week of pregnancy, and the first 3-4 weeks of transition, all dairy cows mobilise body fat reserves to support lactation. The fats are transported to the liver, which acts as the central processor. Here, the fats have one of three fates; completely burnt for energy (good), partially burnt for energy ending up as ketones (bad), or stored in the liver as fat (fatty liver, very bad). We know that up to one half of all dairy cows will develop some degree of fatty liver when they calve.

As fat accumulates in the liver, it causes damage and triggers inflammation. The inflammatory response depresses appetite, depresses liver function, increases fat mobilisation from body stores and causes the liver to accumulate yet more fat. In most cases, this cycle is self-limiting: the cow's feed intake naturally increases until she is eating enough food to meet her requirements for milk.

Although fatty liver self-limits in most cases, it does come at a cost. As the amount of fat stored in the liver increases, the cow's production falls and she is more likely to suffer from other disease in early lactation. In extreme cases, the cycle runs away, and the cow will die. One focus of transition management must be to limit the extent and severity of fatty liver.

This brings us to fat cows, which are those calving at or above body condition score (BCS) 3.5. For reference, target BCS at calving is between 2.75 and 3.0. The problem lies that cows are the opposite to humans – fat cows eat less than thin cows.

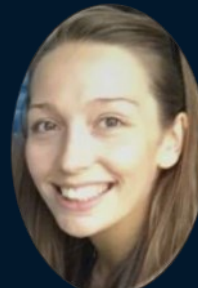


Directors:

Mary Walters

Rhian Matthew-Davies

Morgan Hanks



South Wales Farm Vets

Ty Newydd

Groes Faen

CF72 8NE

Tel: 01443 223751

This is driven by hormones released from the cow's fat stores, telling her that she has enough body reserves to produce milk for her calf, so she doesn't need to eat that much. It seems like cows have a BCS 'target' they will reach after calving, even if this means excessive weight loss.

Therefore, we have a sub-group of cows, with large fat stores, which are also prone to mobilising these stores, putting the liver under metabolic pressure. Ideally, we limit the number of fat cows entering the dry period, although this relies on them getting back in calf quickly, and producing the amount of milk they are being fed for.

Cows will gain weight in late lactation, as their yield falls below what they are being fed for. Some weight gain is normal, to replace body reserves. Drying off using a combination of BCS, DIM and yield is a good way to ensure cows dry off at target BCS (2.75 to 3.0) giving them the best chance of calving in at target BCS.

Whilst condition scoring is very useful, it is not the only way to monitor cows' metabolism during early lactation. Ketone testing identifies cows that are mobilising excessive amounts of body reserves. Whilst milk testing can be used to identify herds at risk, blood tests are needed to identify which cows are at risk. If you allow for one test per cow, this is best used between 5 and 7 DIM, with ketones above 1.2 mmol/l indicating ketosis.

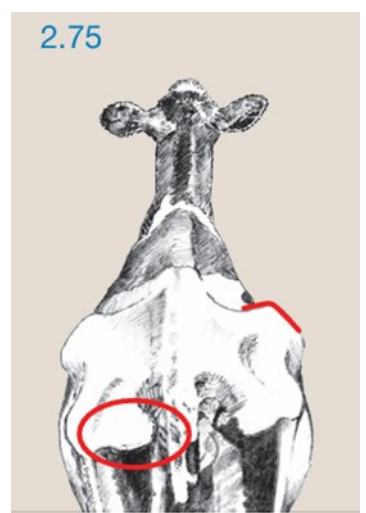
We can also look for excessive body condition loss on milk recordings. As the fat mobilised from stores enters the bloodstream, some of it will inevitably end up in the milk. This is seen as either excessively high butterfats (above 5%) or high fat:protein ratios (above 1.4) on the first recording in the lactation. Where a large number of cows are affected, a review of the transition period is indicated.

Despite our best efforts, it is inevitable that some fat cows will enter the transition yard. Rumen protected choline (RPC) can be fed to these cows to limit the effects of fat mobilisation on health and performance. Typically choline is fed at 15g/day from 3 weeks before calving until 60-80 DIM, although this requires feeding a TMR, along with a separate fresh cow group. Overall effects are an increase in feed intake, milk yield, milk fat yield and milk protein yield. Notably, DA rate and ketosis rate are unaffected by feeding RPC. Nobody is certain how choline works but it is thought to improve the liver's ability to burn fats, and also helps with pushing stored fats out into the bloodstream, to prevent accumulation in the liver.

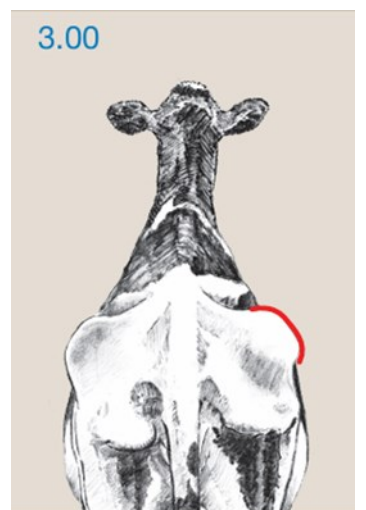
New to the market are choline boluses, to be given to cows at calving. These provide a choline supply for the first week of lactation, through the critical post calving period, and

can be used where choline is not, or cannot be fed in the ration. Benefits can be seen at the first milk recording, as bolused cows have improved milk yield and solids. And going full circle to our fat cows (BCS 3.5 and above), these girls showed the greatest response to the bolus in terms of milk yield and post calving performance.

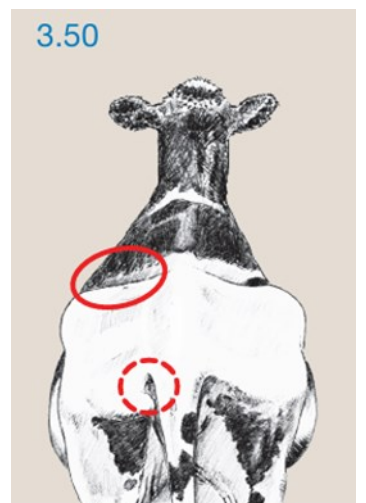
This month's author is Russell Fuller. Russell has a keen interest in nutrition and feeding of ruminants, and himself. If you would like to discuss anything mentioned in the article or feeding related please, as always, contact us at the practice.



2.75
Hooks angular
More prominent padding on pins



3.00
Hooks rounded



3.50
Sacral ligament visible
Tailhead ligament barely visible

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