DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

Newsletter 2021, Q4 Nov 2021

Feeding brassica crops this winter

There has been renewed interest in feeding brassicas (for example stubble turnips, kale or forage rape) to all classes of stock (growing and adult) during the winter. Not only will brassicas help to reduce feed costs, but they can reduce pressure on forage stocks if the amount of silage in the clamp is tight, and they can also be a useful break crop during arable rotations.

As a general rule of thumb, brassicas and forage crops should be considered a "wet" high energy foodstuff on a par with good quality silage. Leafy brassicas are high in ERDP but root crops (swedes, turnips and fodder beet) are low in protein, and may require some additional ERDP.

When grazing *in situ* during the winter, fields need to have good drainage, and sandy soils work best to limit the amount of soil damage and environmental contamination. Fields need a dry run-back area (either pasture or arable stubble) for shelter during winter weather. Crop utilization is highest when the crops are strip grazed, using an electric fence that is moved each day, to minimize wastage.

Out-wintered animals will require approximately 15% more energy than housed stock. Animals that are in poor body condition should therefore be managed as a separate group with additional feed allocations, or ideally housed. Monitor performance regularly to check that intakes and performance are as expected.

There are some specific health issues associated with feeding brassica crops that need to be considered in conjunction with your vet:

- Iodine deficiency. Most brassica crops are low in iodine, and in addition some varieties produce glucosinolates which block the uptake of iodine from the diet. Brassicas should therefore not be fed to pregnant animals in the last trimester of pregnancy.
- Redwater. Kale can contain high levels of the amino acid compound S-methyl cysteine sulphoxide (SMCO), which results in haemolysis and red urine. Animals will often have reduced appetite and performance, and kale intakes should be reduced by feeding supplementary silage or hay.
- Bloat and rumen acidosis. Due to their lack of fibre and high levels of rapidly degraded carbohydrates, animals may be at risk of rumen acidosis. Introduce stock to brassicas gradually over a 1-2 week period, starting with only allowing a couple of hours access each day. Always provide supplementary silage or straw, which can be left as wrapped big bales *in situ* in the field to reduce machinery damage to the crop.
- Nitrate poisoning. Nitrate levels in the crop can accumulate after a period of rainfall following drought. They are then converted into toxic nitrites in the rumen, which interfere with oxygen transport in the blood. Affected animals will gasp for air, with a rapid breathing rate and brown membranes.
- Photosensitization. Some brassicas may produce photosensitive agents, than cause damage in white areas of skin exposed to sunlight.

Although many farms feed brassica crops with no issues, problems may occur on specific farms and even fields, due to factors including plant growth and soil mineral content. Ensure that brassicas make up no more than 50 – 60% of the DM intake, and investigate any issues rapidly.

Dairy Herd Health and Productivity Service, Division of Veterinary Clinical Sciences, Royal (Dick) School of Veterinary Studies, University of Edinburgh, EBVC, Easter Bush, Roslin, Midlothian EH25 9RG

Tel: 0131 651 7474 Fax: 0131 651 7473 DHHPS@ed.ac.uk www.ed.ac.uk/vet/dhhps

Zoetis udder health farmer survey

Zoetis are conducting an online survey to better understand farmer approaches to udder health. For every survey submitted, a donation will be made to the Farming Community Network.
https://www.surveymonkey.com/r/99Y9PQB

Subclinical hypocalcaemia in dairy cows – should we be concerned?

The signs of clinical hypocalcaemia (milk fever) are well recognized by all: the downer cow at calving with cold ears, head tucked to the side. After a bottle of calcium in the vein, most cases get up quickly, and all is well again……

However, such cases represent the proverbial "tip of the iceberg" as far as problems are concerned. A number of surveys have suggested that over 50% of lactation 2+ cows suffer from subclinical hypocalcaemia, which is defined as a drop in blood calcium levels around calving, but without any clinical signs that something is wrong with the cow.

Given that there are no obvious clinical signs associated with subclinical hypocalcaemia, should we be worried? There are now a number of research studies (for example Neves at al. 2018. JDS 101:9321) which have shown that cows with low blood calcium levels at calving (the threshold used varies from 2.0 – 2.15 mmol/L depending on the study used) have an increased risk of transition cow diseases such as metritis and LDAs, as well as reduced fertility in some studies. So rather than accepting that most cows appear to have low blood calcium levels at calving with no clinical signs, should we be doing more to monitor and prevent this happening?

Recent research (Barraclough et al., 2020. JDS 103:10604) has also shown that older cows with subclinical milk fever lay down for longer and had lower step counts after calving, compared to cows with normal blood calcium levels at calving. This study showed that blood calcium status affects cows' activity levels - and that even when clinical cases of milk fever are treated successfully, the cows' behaviour remains altered for the first three weeks of lactation.

Monitoring for subclinical hypocalcaemia around calving is not straightforward! It should be noted that there is still quite a bit of debate about the best time to blood sample cows, whether repeat blood sampling is required to assess the duration and degree of any low blood calcium levels at calving, and what threshold should be used to assess blood calcium levels at calving. For example, it may be that how long the cows' blood calcium levels remain low is the critical factor, as opposed to cows that recover their blood calcium levels quickly after calving.

As always, there is a balance to be struck, as daily sampling of cows is unlikely to be practical. Current recommendations are that blood samples should be taken from cows within 48 hours of calving to check for blood calcium levels. Do not sample 1st lactation heifers, as they will be at reduced risk. Calcium analysis on blood samples can be performed by your vet, and can help monitor for more widespread concerns in the herd around calving.

There are a number of strategies available for controlling both clinical and subclinical hypocalcaemia in dairy cows around calving, involving alterations to the "close up" transition cow diet fed in the last 3 weeks of pregnancy:

A) Calcium restriction in late pregnancy using calcium binding agents such as Zeolite A

B) Decreasing the Dietary Cation Anion Balance (DCAB) of the diet by reducing the use of high potassium (potash) forages like grass silage, and supplementing with magnesium chloride

C) Drenching or bolusing with calcium products can work well in smaller herds, where feeding a separate "close up" transition diet in the last three weeks of pregnancy is impractical.

Further details are available in our "Milk Fever Handout" available from the DHHPS website.

DHHPS services during COVID-19

We continue to operate as close to normal a service as possible during the current coronavirus situation, including blood sample analysis and reporting. DHHPS@ed.ac.uk is the best way to contact us, and this email address is looked at daily.

Dairy Herd Health and Productivity Service, Division of Veterinary Clinical Sciences, Royal (Dick) School of Veterinary Studies, University of Edinburgh, EBVC, Easter Bush, Roslin, Midlothian EH25 9RG
The University of Edinburgh is a charitable body, registered in Scotland, with registration number SC005336
Tel: 0131 651 7474 Fax: 0131 651 7473 DHHPS@ed.ac.uk www.ed.ac.uk/vet/dhhps