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The latest spell of hot summer weather has resulted in a number of challenges on livestock farms which are having a real impact on farm profitability. The main concern is reduced dry matter intake which is visibly affecting milk yield and quality. Hitherto unobserved impacts will include reduced growth rates which will increase time to market or target weights to first service. Despite the indications that the extreme hot weather is coming to an end the following issues are still relevant on farms in order re-establish target performance levels.

Milk from Grazing

Milk from grazing to date has held up well with the average potential production in the week of 15th July recording at M+14 litres from a grass dry matter intake of 13kg. The issue now is that grass growth, rather than achieving the typical July rate of 60kg DM/ha/day, has all but stopped in many areas meaning that buffer feeding is now essential to achieve the dry matter and fibre intakes required to support target levels of milk production and milk fat.

Despite a heavy second cut which helped to make up for the generally lighter first cut, winter forage stocks are still a concern - particularly where regrowth's are slow. In addition, whilst the average first cut had an average NDF of 46.8% DM, it is very 'soft' and digestible with an average lignin of only 36.7 g/kg DM which can be far from ideal in supporting rumen function when balancing low grass intakes. The quality of second cuts and hence its value as a buffer feed is yet to be established. Big bale silage may offer a good solution with careful ration balance as outlined below.

Actions should include:

1. Regular monitoring on all farms of the potential milk from grazing using the FWTNI app available for all laptops, smart phones and tablets as detailed in Urgent News 182.

2. Buffer feeding to balance grazing but minimise the use of winter forage stocks by supplementing more heavily with concentrate feeds formulated to balance nutrient needs of energy and fibre (NDF) intake. This will also help alleviate the problem associated with the second issue, namely heat stress, whereby feed intake, energy density and the heat produced from fibre digestion are all additional factors to be managed in these situations.

Heat Stress

Heat stress can be an issue when temperatures exceed the comfort zone (thermo neutral zone) of 25°C, known as the upper critical temperature (UCT).

At temperatures above the UCT, cows become highly stressed and use two main control strategies to maintain thermal balance:

1. Increasing heat dispersion, in particular through evaporation, by increasing subcutaneous blood flow and exhibiting the classic signs of heat stress of panting and drooling. These activities increase the maintenance energy needs of the animal by an estimated 20% so reducing that available for milk production. Sodium and potassium requirements increase, the latter being the primary osmotic regulator in sweat glands of cows.
2. Limiting heat production - by reducing all activity and changing the feeding pattern. As the majority of heat production in dairy cows is essentially due to rumen fermentation the cow will reduce her DM intake by 10-30% and be selective in what she eats, namely less roughage. Roughages increase rumen activity and therefore heat production.

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Also, rumination, which produces heat, decreases dramatically. Rumen acidosis becomes a concern, further exacerbated by the reduced saliva flow into the rumen associated with slobbering plus the reduced VFA absorption across the rumen wall related to increased competition from chloride ions. Varying manure consistency is the classic sign.

The impacts of heat stress are seen on dairy units as decreased milk production, with lower milk fat and protein content, loss in body condition, fertility issues, higher incidence of mastitis and hoof claw issues leading to more lameness.

The Solutions:

The solutions are both management and nutrition and indeed closely aligned to the actions required under current grazing conditions.

1. Ensure that water is easily and freely available at all times and whenever possible maximise access to shade. Remember that cattle sheds can be more humid and warmer than paddocks unless properly managed.
2. On a nutritional basis it is important to maximise energy density to correct for the reduced appetite, replace salts lost due to sweating and manage rumen health.
3. Buffer feeding is a key solution. Reducing the quantity of silage in the mixture and increase the concentrate portion, typically by an extra 2 to 4kg per head per day of a high energy, high NDF concentrate in buffer feeds will be an important action during the hot weather. A daily intake of around 7kg NDF is needed for rumen health and butter fat production so pay careful attention to this parameter in ration formulation.
4. The feeding of mineral supplements specifically formulated to alleviate heat stress can be helpful. For example Maxcare CelSius is a mixture of salts, including potassium, to replace those lost in temperature control but with the additional

benefit of rumen buffering; live yeast is also included to buffer the rumen whilst reducing rumen heat production and niacin is added to help regulate core body temperature and heat dissipation.

Growing heifers and lambs

Do not forget heifers which need a steady growth rate of 0.8 kg per day to achieve target breeding weights. Check grass availability against stocking rate. For example, a 300kg heifer requires 65 MJ/day which would typically require 6kg DM of average quality grazing per day to achieve target growth rates. Ideally, growing cattle will be grazing in paddocks between 6 and 12cm height, equivalent to approximately 2500 to 3400kg DM/ha. It is probable that supplementary concentrates will now be needed at least until grass growth starts again.

Check grass availability with a sward stick or plate meter, review heifer weights and stocking density to calculate grass requirement and balance the heifer requirements against energy needs by supplementary feeding to achieve the target daily growth rate of 0.8kg.

Finally, do not forget other growing stock, particularly lambs where a target date to market can be important. Concentrate feeding may need to start earlier for these animals to achieve market weights.

Summary

This is a challenging time but attention to detail now will pay dividends through the rest of the summer and prepare for the winter months ahead.

If you require further detail or discussion on the above summer topics, please contact the Frank Wright Trouw technical department on 01335 341102.