



Diets will need more supplemental fermentable metabolisable energy this year.

Early indicators are that dairy diets will need careful balancing this winter if grass silages are to be effectively utilised. **Farmers Guardian** reports.

Sugars will help rumen make most of high fibre silages

This year's first cut silages have higher fibre and lignin contents than usual, making the forage more difficult to digest.

That was according to Georgina Chapman, technical support manager with E.D. and F. Man, commenting on results from Trouw Nutrition GB.

She says: "At the same time, the silages are lower in the rapidly fermentable carbohydrates needed to feed the fibre digesting bacteria, which will reduce the contribution from forages and could also have a negative impact on dry matter intakes by slowing rumen passage rates with the diet sitting in the rumen for longer."

She says diets will need more supplemental fermentable metabolisable

energy in order to make the most of these forages. With silages having a high acid load and a low fibre index, the choice of energy sources will be important to reduce the risk of sub-acute ruminal acidosis.

Molasses

Ms Chapman says one option would be use of molasses and molasses blends containing regulated release proteins, which are an efficient feed ingredient to improve rumen health and forage utilisation.

She says molasses contains sugars and numerous organic acids.

The sugar fraction is a blend of different sugars, including sucrose and glucose, which are the important six-carbon sugars.

She says: "Six-carbon sugars are proven to be more beneficial to dairy cows than the five-carbon sugars found in fermentation co-products, wheat syrup, processed feeds and silages.

"They are more highly rumen fermentable and more effective at improving fibre digestion, increasing microbial protein production and stimulating rumen fungi. Stimulating fibre digestion will be important this year with the high neutral detergent fibre [NDF] and lignin levels."

Impact

She says cane molasses blends also has a significant impact on the rate of rumen fermentation. Sugars are rapidly fermented and most will have been fermented within two to three hours of feeding. But trials show the rumen fermentation remains more active long after the sugar is gone.

She says: "By promoting faster and more active fermentation, this will increase rumen throughput and so stimulate dry matter intakes. By raising the sugar levels in the diet to 6-8 per cent while holding overall starch plus sugar at about 28-32 per cent, we can create a more efficient fermentation without increasing the acidosis risk."

Ms Chapman says this is due to the effect of sugars on volatile fatty acid (VFA) production. VFAs are the

fuel for the animal, so higher VFA levels will mean the cow has access to more energy.

She says: "Not only do sugars improve rumen fermentation, but they also help maintain optimal rumen pH by increasing the rate at which VFAs leave the rumen by stimulating absorption across the rumen wall.

"Unlike starch fermentation, which produces lactic acid, sugars favour butyric acid production, which is a less powerful acid, thereby reducing the total acid load in the rumen helping maintain a more stable rumen pH."

Ms Chapman says new trials at the University of Reading supported by E.D. and F. Man show the benefits of feeding molasses, not only on fibre digestion, but also on nitrogen utilisation.

In the trial, cows were fed on diets which contained the same energy and protein content but with differing sources of carbohydrate and protein provided as a molasses blend ranging from no blend to 2.1kg.

She says: "As the proportion of molasses blend was increased, NDF digestibility increased significantly, meaning cows were making better use of forages. Additionally, good rumen health was maintained, confirming that adding molasses does not increase acidosis risk, particularly important with high acid load forages."

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