

Attention to detail and early intervention prevents long-term problems

# Balance rations to keep cows on track

It is imperative that producers allow for mediocre silage quality when formulating rations. Poor forage quality will, if unchecked, have a detrimental effect on early lactation cows, and could result in an excessive negative energy balance in some milkers to an increased state of NEB.

text Allison Matthews

**G**ood transition cow management is critical in order to reduce metabolic problems, which can have a direct impact on future performance, according to Pfizer Animal Health's vet William Sherrard. "Prompt intervention is key and will pay dividends in the long term," he says.

To minimise the negative energy balance (NEB) it is essential to optimise the dry matter intake (DMI) of early lactation cows to reduce the energy balance deficit. A wide number of issues need to be addressed when considering feed intake as it can be affected by the interaction of diet characteristics such as dry matter content, the physiological state of the animal and environmental conditions. In light of this, a holistic approach needs to be considered within the

manageable constraints of an individual unit. "Is a fresh-cow group feasible, for example," says Mr Sherrard.

The direct and indirect impact of NEB can be, to name just a few, reduced milk yields, poor milk quality, or a loss in condition. But what reasonable and timely measures can be taken to ensure that the negative remains positive?

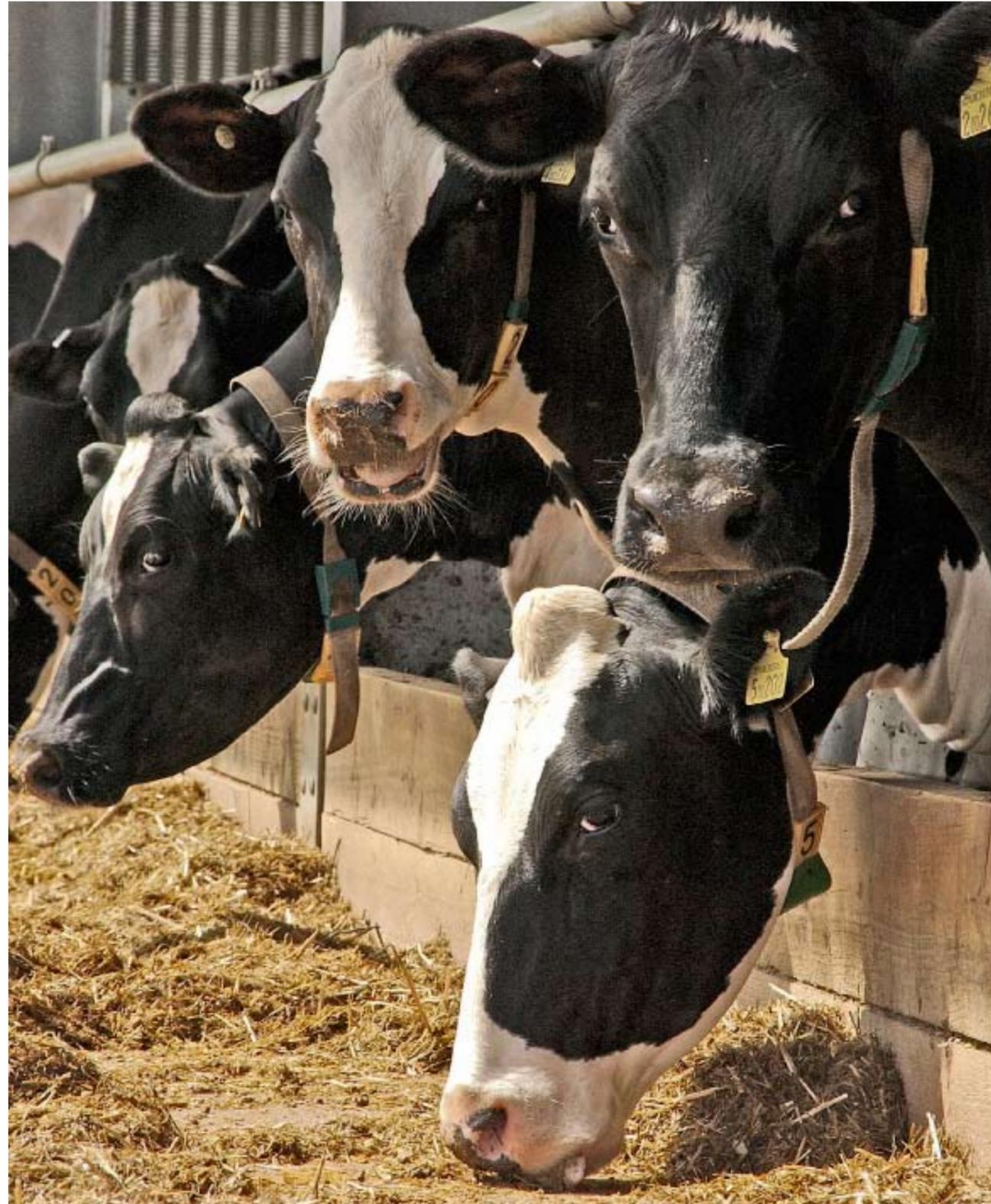


Stephen Agnew: "Increase fermentable energy"

## Rumen health

For units with poor forage quality it is likely that rations will have to be formulated to increase fermentable energy (FME), allowing for increased fibre digestion. "This is important because slow rumen turnover, resulting from low levels of FME, will exacerbate the poor energy status of early lactation cows," adds Thompsons' ruminant specialist Stephen Agnew.

Reduced rumen health (leading to displaced abomasums and acidosis) and oxidative stress, which culminates in poor liver function, are all physiological indicators of a nutritional



upset. "As a result of NEB, the cow will mobilise her own body fat reserves to meet energy requirements. Because fatty acids are readily oxidised in the liver, the supply of non-esterified fatty acids (NEFA) from the mobilisation of body fat reserves is likely to further suppress feed intake in the transition period," says Mr Agnew. "This may deepen the state of NEB, increasing the incidence of metabolic disease such as ketosis."

"Fat dry cows have a depressed DMI during the final two weeks before calving, triggering fat mobilisation and the likelihood of disease issues after calving," says Mr Sherrard. "Aim to calve cows in body condition score 3 by assessing them in late lactation and altering feeding levels at this stage. Maintain a steady body condition score during the dry period and minimise loss of condition in the first 30 days in milk."

"Also beware of feeding close-up dry cows high energy grass silage or keeping them at lush pasture as this upsets their mineral balance and increases the risk of milk fever," adds Mr Sherrard.

In early lactation it is important to supply high levels of 'glucogenic nutrients'. These nutrients are oxidised in the liver from blood glucose, which drives milk yield. If glucogenic requirements are met, then the NEB deficit can be reduced.

## Energy balance

Recent research has demonstrated that a glucogenic diet in early lactation improves energy balance while decreasing body fat mobilisation, leading to reduced liver stress. The digestibility of starch has a significant impact on the availability of glucogenic nutrients. Starch sources with lower ruminal digestibility and increased post ruminal digestibility can yield the greatest glucogenic nutrients," says Mr Agnew.

A glucogenic diet can also help to trigger the onset of oestrus in early lactation, due to increase in dietary starch. So it is essential that fresh cow diets are formulated to maximise the available glucogenic nutrients.

Another study found that dairy cows losing more than one unit of BCS during the first 30 days of lactation ovulated 20 days later than cows losing less than 0.5 units, and that conception rate decreases by 10% per 0.5 unit BCS loss.

"Producers should be monitoring cow performance during the critical first 10 days of lactation. Milk fever, retained foetal membranes, metritis and left displaced abomasums should be an uncommon occurrence." |



William Sherrard: "Glucogenic nutrients are vital"