

## Unravelling a Solution to Twisted Stomachs

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Twisted stomachs affect around 1% of UK cows, however an increasing number of High Genetic Merit, high yielding herds are suffering from explosive outbreaks at any one time. Independent veterinary nutrition consultant, Richard Vecqueray, working with Dugdale Nutrition, discusses the latest US and UK findings on why they occur in newly calved cows, and urges producers to adopt M<sup>3</sup>, the company's Management for More than Milk programme. M<sup>3</sup> offers an holistic approach to HGM herds and offers solutions to preventing twisted stomachs

I have been guilty in the past for paying insufficient attention to feeding cows immediately after they have been dried off. So far, the sexy side of dry cow nutrition has been looking at the transition group, those three weeks pre-calving, however all that is about to change. Recent research from the University of Illinois has concluded that the most profound influence on a High Genetic Merit cow's health, after she calves is the feeding regime during the 'far off' stage before she enters this transition group.

These researchers found that if you over feed a HGM cow in the 'far off' period, and please note that *ad lib* half decent forage is overfeeding, then she is more likely to have not only raised beta hydroxybutyrate (BHB or ketones), but also nonesterified fatty acids (NEFA or fat) levels in her blood, both before and after she calves. Those high NEFA levels are now being associated with LDAs or twisted stomachs. My UK veterinary nutrition consultant colleague, James Husband, formerly of the University of Bristol, has also investigated NEFA blood levels, and from his own research findings concluded there is an association with pre calving fat mobilisation and twisted stomachs. He argues that cows with high levels of fat in the blood immediately prior to calving are more likely to be in negative energy balance post calving because of poor appetite and subsequently low dry matter intakes, leaving the stomach more vulnerable to twisting.

If your herd has experienced twisted stomach problems, then routine blood testing the dry cows for NEFA levels may pre-empt a potentially expensive problem. It's a straightforward test that can be carried out by your vet.

Both the US and UK findings are particularly relevant now with cows at grass. Grazed grass is very clean and hygienic in the majority of circumstances and can provide a better environment to prevent lameness, downer cows, mastitis and uterine infections. However, grazed grass poses challenges. Grazed grass is high in potassium content, which interferes with active magnesium adsorption; it is very energy dense forage; it is digested quickly with a swift rumen passage and grows quickly in front of dry cows who are supposedly on restricted grazing.

While there are strong arguments to house 'far off' HGM dry cows, they can enjoy the environmental benefits of grazed grass if they are managed aggressively. I suggest producers introduce the following two-point plan to dry cow feeding. Grass restriction is important in both dry cow periods, the 'far off' and 'close to', but for different reasons:

## **1, Restrict energy intakes in the 'far offs'**

- ✍ Feed a minimum 2 kg to 3 kg straw per cow per day. This straw must be taken voluntarily from a ring feeder and will indicate that they aren't eating too much grass and consequently achieve metabolically disastrous weight gain. Monitor closely for weight loss in drought situations or else an equally disastrous situation will arise.
- ✍ Alternatively offer an even barer paddock and feed a high fibre chopped straw based TMR with a very low energy density, 9 ME/kg DM. Make sure the cows consume at least 9 kg DM per day which means grass consumption isn't going to muck things up.

## **2, Restrict potassium in the 'close to calving', transition group**

- ✍ Allow no more than 8 kg DM per cow per day to be derived from grass in this period. This is important in order to limit potassium, calcium and sodium intakes, otherwise these girls will be predisposed to milk fever and its associated syndromes of held cleansing, endometritis and reduced intakes, as well as twisted stomachs. However, on pasture with repeated applications of potash and slurry, grass intakes of even 2 kg DM per cow per day may cause problems because of these mineral levels. Heavier buffer feeding of lower potash forages in this situation is the only option.

In this transition period at grass, concentrate can be introduced or stepped up to provide an effective transition for the rumen flora because energy intake at this time has less influence on post calving energy metabolism. At grass, feeding 2 kg per day of compound nuts is a convenient way of achieving this. For typical grazing herds, I recommend introducing a proprietary concentrate such as Dugdale Nutrition's carefully formulated DC Replenisher, which supplies the following:

- ✍ protected Vitamin Bs for liver health, as incorporated in LiFT
- ✍ additional yeast which may also increase intakes during this short yet critical period. This is certainly the right time to 'invest' in the additional expense as the final three week dry period which has one of the biggest influences on your HGM cows' chances of surviving to another productive lactation
- ✍ supplemental magnesium at a rate of up to 0.4% of the diet. Soluble magnesium sources can be more available and may be useful if they form part of the magnesium supplement.

Producers may also need to introduce to the diet a low to moderate rate of chloride and/or sulphur. Please note that excess supplementation reduces appetite dangerously.

Having adopted Management for More than Milk, M<sup>3</sup> and implemented the above strategy, leave nothing to chance – remember to check the blood NEFA levels pre calving and also the blood ketones post calving. If they are not in equilibrium then start asking why before the problems begin, and implement a solution, immediately.

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