INFO SHEET

Organic Management of Frothy Bloat (*ruminal tympany*) in Dairy Cows

Summary

- Bloat is caused by a build up of gases in the rumen from fermented grass
- Occurs on lush, damp pasture with high legume content and specific crops
- A tendency to bloat is inherited
- Prevention focuses on pasture management and drenching

Causes

Bacteria in the rumen produce methane and CO_2 gases as they break down feed. Proteins from clover combine with the gas to form a stable foam which results in the build up of pressure in the rumen. As bloat develops, the animal's breathing becomes laboured and they grunt and groan. The cow's abdomen becomes enlarged and the animal may try to lick its flanks. If serious enough the cow will go down and can die rapidly.

A cow gorging on damp pasture that is lush, has grown quickly, and is clover dominant may develop bloat. This type of pasture tends to have low levels of fibre, which is needed to stimulate the production of saliva that helps prevent foam formation.

Bloat often occurs when overnight temperatures drop, after the morning milking, when the cows go on fresh pasture. Heifers are most susceptible to bloat as they haven't learnt when to stop eating.

The tendency to bloat is inherited – a breeding programme is an option to help reduce the problem. Anti-foaming agents are present at higher levels in saliva from cattle with low susceptibility to bloat (Wheeler et al., 1997).

Pasture Management for Bloat Prevention

''… The biggest thing is keeping those cows fully fed, rather than making them clean the paddocks out too hard and the next morning they go in, light frost in Tokoroa and they are going to expand. …'' *George Moss*

The main problem areas appear to be associated with new grass paddocks where clover may be dominant. A well run organic farm should not have clover dominant pastures. Ideally pastures should be a mix of 80% grasses and herbs with 20% clovers on average over the year.

Crops such as lucerne and other legumes may also cause bloat if cattle gorge themselves or the crop has grown rapidly. Grazing management to prevent excessive gorging focuses on not allowing hungry cows free access to bloat-prone pasture. Strategies such as break feeding or pre-mowing the paddock can minimise the bloat problem. Feeding quality hay will stimulate saliva production.

"We shifted cows into the night paddock half way through the afternoon say 2.30 pm. When they had eaten the top out of it, then they come into the shed full. [We] also topped half the paddock the first time round then the second half." *David Wilson, farm manager Tokoroa*

Earlier research (Carruthers and Henderson, 1994) has shown that bloat free farms are those with:
Lower proportion of rye grass
Higher proposition of other grasses
Higher herbage mass after grazing

Continues on reverse

Pasture Management for Bloat Prevention

It has been suggested that high pasture potassium (K) levels are associated with poor uptake of dietary sodium and an increase in the incidence of bloat. The effect appears inconsistent but it may be an important factor on some farms.

The K:Na ratio (or Bloat Index) may explain some of the geographical and seasonal variations found with bloat, along with the relationship with particular soil types (Turner, 1981). A narrow K:Na ratio (less than 20:1) corresponds with a reduced incidence of bloat, while a K:Na ratio of below 10:1 is recommended.

- Supplying a salt lick or seaweed meal assists with the dietary intake of Sodium

Biodynamics: Spray with Preparation 500 (or the homoeopathic version Etherics 1000) just before the bloat season starts then use Prep 501 or Silicamax two days to a week in front of the cows. It is important to spray on the morning of a fine day with as fine spray as possible so the spray remains on the grass and does not run down to the soil where it will have a different effect.

Treatment Options for Bloat Prevention

"… K levels are high and we do see bloat. We can smell it with a lot of clover but we might have only lost 2 cows in 5 years. Yeah, we use homeopathics for bloat. It's one of those things, as soon as you think you've got it solved, it'll bite you in the backside. I do spend a bit of time in the spring, once I know its coming." *Phil Bax*

"Our farm has historically been really bad for bloat. John's grandfather used to get up at 3am and move cows …. in particular during September and October we have noticed that the cows are more prone to bloat around full moon and that's the time when we will be more proactive…" *Liz MacKay*

- Drench with fish oil (15ml/cow) and consider adding bicarbonate of soda (baking soda) if potassium levels are high
- Homeopathics: Colchicum and Carbo Veg to assist with digestion

Emergency Bloat treatments

- Drench with 100-150ml fish oil (plus bicarbonate of soda if there is time) shaken up in warm water
- Homeopathics: Colchicum and Carbo veg

"…If a cow's blown up you just feed it with Colchicum and Carbo veg every 15 minutes and a squirt of fish oil as a drench, usually diluted 50/50 with water. After 20 minutes they're OK…" *Nick Collins and Kathy Benthem*

Additional information

- www.organicpastoral.co.nz
- Organic pastoral resource guide

Grow Organic Dairy is a project by ODPG and Massey University and aims to grow the organic sector by supporting existing and potential organic farming businesses. The project is funded through Sustainable Farming Fund and DairyNZ.