



Silage Quality and Summer Milk Production

Last month's column focussed on achieving quality silage, with particular emphasis on the impact of silage inoculant. Silage inoculant is not just for minimising losses in silage making. Inoculant is a valuable tool increasing your opportunities for making high quality silage by virtue of decreasing time lags between the various operations in silage making and allowing more opportunities for cutting.

Dry Matter Intake is by far the most limiting factor in Australian milk production. The factors affecting dry matter intake are as follows. 1) Availability of feed. 2) Fibre levels in feed. 3) Palatability. 4) A healthy cow and rumen.

Feed availability. July/August and from Christmas to dry off are the two regular periods of low feed availability. Simply, cows are not fully fed during these two periods, and both have very significant impacts on total lactation performance and more particularly, on farm profits. As pasture declines from Christmas onward we are generally too slow to meet this decline in feed available resulting in cows being underfed by as much as 5 kgs of dry matter. Cows should only drop in milk by 1 litre per month from genetic causes yet regularly we see drops of 5 litres/cow in January. This problem is overcome by daily challenging cows to eat more silage. A small amount of silage residue is far cheaper than cows dropping 5 litres in one month.

Fibre Levels in Feed. NDF (neutral detergent fibre) determines how much a cow can eat in a day. Gut fill. A summer ration of 4 kgs dry matter pasture, 5.5 kgs of grain and 10 kgs dry matter silage at 40% NDF would produce around 28 litres of milk in a balanced ration. If the NDF of the silage was 60% the dry matter intake would reduce by 5 kgs. This would in turn drop milk production by 10 litres/cow/day. At a summer milk price of 35c/litre times 10 litres, your late cut silage has cost you \$3.50/cow/day. Multiply this by 300 cows and you are losing around \$1000/day in milk. A very considerable cost for cutting silage a couple of weeks late.

Palatability. If you have cut your silage for a goal of 40% NDF, you are already well on the way to good palatability. Fermentation will determine whether your silage retains this palatability. Through inoculating your silage you will ensure a rapid fermentation with lactic

acid. Without inoculant your silage may have a butyric acid fermentation to varying degrees which renders silage very unpalatable, and hence reduces the amount cows will eat. A lactic acid fermentation will produce sweet silage which is very palatable resulting in higher intakes and higher milk production. The only way to guarantee a lactic acid fermentation is to inoculate your silage.

A healthy cow and rumen. These two usually go hand in hand. An unhappy rumen will rapidly manifest itself in an unhealthy and un-productive cow. Two things are essential to maintain a healthy and happy rumen. 'Effective fibre', simply long hay will produce a good 'rumen mat' and facilitate the slowing down of feed passage through the digestive tract. This enables maximum digestion and maximum nutrient absorption by the cow. 1 kg of hay/cow/day is adequate for good rumen mat. The second is buffering. Summer production also suffers frequently as a result of insufficient or total lack of buffering to manage rumen pH. This is magnified especially when turnip/rape crops are part of the summer ration. A typical feed sequence can be grain in the dairy at morning milking, rumen pH drops due to rapidly fermented grain, following this, silage with a pH of 4.5, down goes rumen pH further. If this is not enough then we graze the fodder crop which is as rapidly fermented as grain causing still further or another pH drop. Every decrease in rumen pH has a corresponding decrease in fibre digestion and at around 5.8 pH we are on the threshold of acidosis and the cessation of fibre digestion and rumen bacteria numbers begin decreasing rapidly, so to does feed intake.

In summary, early cut silage and the use of a good inoculant will have substantial impacts on your summer milk production and your profit. An added benefit will be cows finishing their lactation in good BCS (body condition score) which is the first limitation to next lactation's performance. Rumen pH must be addressed with an adequate buffer such as Tylan.