Adjust concentrate feeding to pasture quality!

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Effective pasture utilization and optimal pasture digestion should be aimed for on dairy farms. The fibre (NDF) content of ryegrass pasture may vary from 40% in June to 55% in November and that of kikuyu may be as high as 65% in March. Pasture with a higher fibre content takes longer to digest and pass through the digestive tract than pasture with a lower fibre content. This results in a lower pasture intake. Rumen micro-organisms digest fibre in the rumen of the cow. Optimal fibre digestion takes place when the rumen pH is higher than 6. If the rumen pH is below 5.8 the rate of fibre digestion will be reduced. When the pH gets below 5, many of the fibre digesting bacteria will die and fibre digestion comes to a standstill. Cows stop eating and experience acidosis. Research done at Outeniqua Experimental farm has shown that the rumen pH of Jersey cows fed only 4kg of concentrate was below 5.8 from 18:00 to 24:00 when cows grazed high quality ryegrass. When cows grazed kikuyu during March, the rumen pH remained above 6.2 when 4kg of concentrate was fed. When the fibre content of pasture is high, more rumination takes place and the cow's digestive system can tolerate higher levels of concentrate feeding. Under these conditions the rumen of the cow is more buffered and higher levels of concentrate feeding could be considered. Research has shown the poorest milk response to concentrate feeding when cows graze high quality pasture and pasture allocation is high.

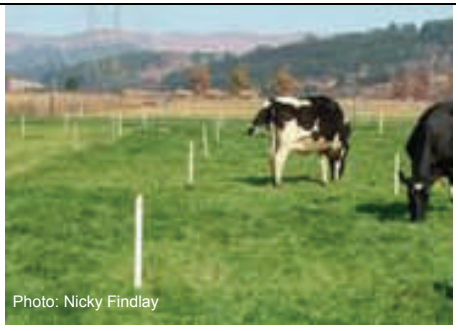
Photo: Nicky Findlay

With the increase in concentrate cost, farmers should ensure a good return on concentrate feeding. Concentrate feeding to Jersey cows grazing high quality ryegrass should not exceed 6kg/cow/day and 4kg/cow/day may be more cost effective. Feeding 6kg concentrate to Jersey cows grazing kikuyu during summer and autumn will not result in sub-optimal rumen pH levels. The effect of concentrate feeding on milk production, depends on pasture quality, pasture allocation, level of concentrate feeding, quality and composition of the concentrate, stage of lactation and the genetic potential of the cow. Farmers should determine the response on concentrate feeding by monitoring milk production when changing concentrate feeding. Pasture quality and availability should be considered when deciding on the level of concentrate feeding.