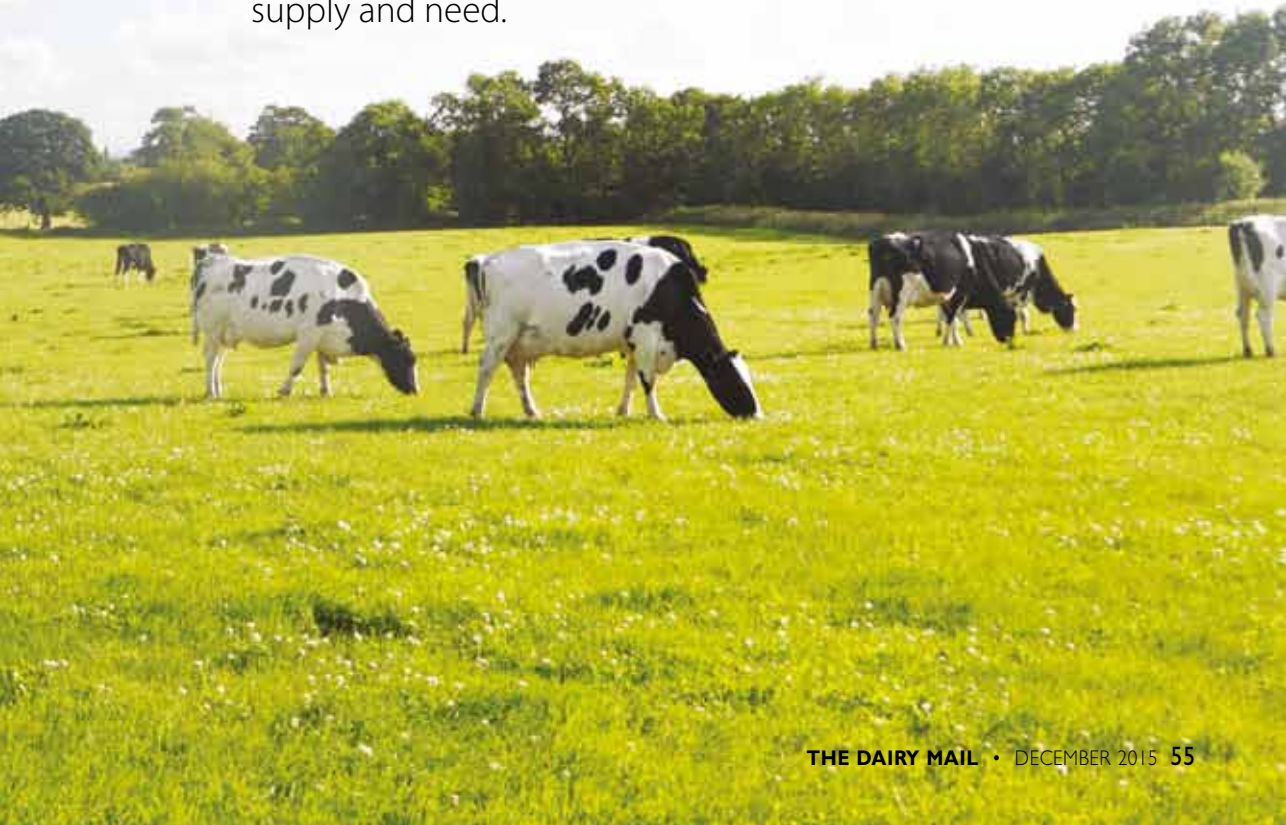




MAXIMISING  
**PASTURE,**  
MAXIMISING  
**PROFIT**

by Brian van der Bank

While the global surplus of milk has forced producer prices down, a weakening rand and increasing raw material costs, coupled with demand, are forcing feed prices up, resulting in an unfavourable milk:feed price ratio of close to 1:1. To combat this, producers have been trying to increase pasture yield, achieve maximum dry matter intake and maintain the balance between pasture supply and need.



**Table 1** The relative nutrient costs of roughage, based on average prices in KwaZulu-Natal during October 2015.

Fodder	Rand per kilogram crude protein	Cents per megajoule metabolisable energy
Ryegrass	7,5	14,3
Maize silage	18,0	12,7
Lucerne	13,1	26,7
Kikuyu pasture	15,3	28,4

**Relative nutrient costs of roughage**

As illustrated in Table 1, pasture is one of the most economical sources of nutrients and should be a priority.

**The aim**

The aim with planted pastures should be to supply sufficient, quality dry matter (DM) throughout the year so that cows can harvest it.

**Balance**

Maintaining a balance between supply and demand of pasture is essential to driving efficiency and profitability. A surplus occurs when pasture production exceeds demand from the cows, while a deficit occurs when demand exceeds production. One can harvest a surplus as silage and supplement a deficit with other feed sources, such as silage.



**MIXED PASTURES**

As cultivars have improved, mixed pastures have become the norm. This is in an attempt to level out the production of pasture DM throughout the year by using the varying seasonal production traits of each species. It is not advisable to mix species with similar production profiles, as competition will reduce their potential. One will dominate the other, resulting in a reduction in DM yield.

The advent of hybrid cultivars has enhanced the popularity of mixed pastures. Hybrids are crosses between ryegrass species, usually annual and perennial. The advantage of using hybrids is an increase in DM production throughout the season and the fact that they lend themselves to the establishment of clover.

Further attempts to increase production and quality have led to an increase in the use of pasture mixes, including other species such as chicory, a crop of high nutritive value, high protein and low neutral detergent fibre or NDF. Plant characteristics differ significantly between ryegrass and chicory, which must be taken into account in their management. Ryegrass should ideally be grazed to about 1 500 kg DM/ha residual to maintain plant reserves. Chicory can be grazed to lower residuals, as plant reserves are accumulated below ground in the roots. Owing to differences in cows' species preference, it may be advisable to grow them separately as pure stands.

A mixture of ryegrass and chicory.

In an attempt to have a more even fodder flow throughout the year and avoid machinery costs, annual ryegrass cultivars, which grow later into winter and start growing early in spring, are mixed with perennial cultivars. This provides the bulk of DM when the annual cultivar seeds and dies off. The balance between the two is crucial in maintaining an even fodder flow.

### Pasture management

Heading into spring, one of two things occurs: either winter has slowed down production dramatically or pasture production has sped up dramatically. Either way, we are playing a game of catch-up. Ideally, we would like to play catch-up to pasture that has increased production to the surplus status.

If pasture is not managed well in the growth stage, there will be an overall loss in DM production. Cows may have to move through camps too fast in an effort to catch up with new growth in camps ahead. This will leave high levels of residual material that even followers cannot utilise. Conversely, overgrazed pasture left with too little residual material will hamper tiller development.

High herbage mass pasture usually has a lower digestibility than low herbage mass pasture. Some studies have even found a depression in milk yield when pasture herbage mass was too high. One solution is to increase grazing pressure. During

early summer, high herbage mass pasture decreases organic matter content faster than low herbage mass pasture, coinciding with the reproductive phase of ryegrass when new tillers form. Grazing pasture hard during tiller formation will decrease pasture herbage mass and increase quality. The production of daughter tillers is necessary for a good pasture stand in the following season. Tillers need sunlight and nutrients for survival and growth. Pasture at high herbage mass does not allow enough light to reach the tillers, thereby prohibiting growth. The predicament is that on the one hand, pasture must be grazed hard to allow sunlight to reach the daughters, thereby improving quality, but grazing pasture too hard will inhibit tiller development. The key is balance. This requires good planning and just the right grazing intensity. Focus on optimum grazing rather than intensity.

## IN CONCLUSION

Choice and management of pasture can make a huge difference in the nutrient supply to the grazing cow. This should be optimised to obtain an even production of pasture throughout the year that is of high quality and quantity. Choose cultivar and cultivar mix well and maintain a simple yet effective management system.

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