

# Grazing for improved results

**Ross Warren**

Senior Dairy Extension Officer  
Department of Agriculture and Fisheries, Queensland



Good management of crops and pastures is extremely challenging and requires a great deal of skill and dedication. The extremes of weather that we experience in the subtropics are nearly unrivalled anywhere else in the world. The last few years have been very tough and this year has not been a great improvement. Low forage reserves and limited home-grown forage opportunities has added another element of risk and cost to an already difficult trading environment. Being ready to harness any forage opportunities as they present this summer is important.

Tropical pastures form much of the forage base for many subtropical farms during the warmer months. Achieving satisfactory intake is often compromised by heat and humidity but also pasture quality. We have always encouraged consumption of leaf to improve the quality of the forage diet. Marcelo Benvenuti's recent kikuyu experiment at the Gatton Research Dairy, supports the grazing of leaf but also presents some new data for consideration. Residual pasture height is proving to be a key factor in realising improved quality pasture intake and increased yields. The results showed that there is increased leaf with increasing pasture residual height, with the greatest response from 5 to 10 cm. At the three-leaf stage seasonal utilisation of leaf increased from 7,457 kg dry matter (DM)/ha to 10,514 kg DM/ha when residual height increased from 5 to 10 cm. Increasing residual height above 20 cm created issues around lodging and trampling. Over time this would have a negative effect on the sward. Avoiding grazing the stem increases overall forage intake quality with leaf being distinctly superior to stem; protein and energy are higher in the leaf and neutral detergent fibre (NDF) is lower.

Another prevalent pasture in the subtropics is setaria. A Subtropical Dairy Department of Agriculture and Fisheries (DAF) joint project during 2019/20, led by Marcelo Benvenuti, investigated setaria quality at various pasture heights. The work highlighted leaf quality is higher when pasture height is between 20-50 cm. Once setaria pasture exceeds 50 cm the plant quickly transitions into a reproductive state, increasing stem and decreasing quality,

	Metabolisable energy MJ/kg DM	Crude Protein (%)	Neutral detergent fibre (%)
20 cm	9.6	22	49.9
55 cm	8.9	17	59.1

**Table 1** *Setaria* leaf quality (dry matter basis) at two pasture heights

reducing intake and milk production. Leaf crude protein, energy and fibre all shifted negatively as pasture height increased. Table 1 shows the variation in these attributes per kg DM for the leaf component at 20 cm and 55 cm pasture height. Good quality feed is achievable when setaria pasture is grazed at around 40 cm.

Increasing residual height above 5 cm for a range of pastures is showing improvements in yield and quality. Increasing residual is maintaining plant energy reserves which benefits the response after grazing and reduces the soil surface heat load and evaporation. The experiments at the Gatton Research Dairy have strongly supported an increased pasture residual height for tropical and temperate species. More work will continue in coming years to provide data to validate the recent experiments.

Growing conditions have been extremely challenging the last few years and purchased forage costs have increased dramatically, however, when there is a positive turnaround, refocussing on pasture management will have a distinct influence on margin over feed costs. Summer pasture costs are generally less than \$100/t DM, even with slightly reduced hay prices this season at around \$400/t DM, well managed pasture is still an economically viable option in the appropriate regions. ■■