



Fiji DAIRYNOTE 3.1 – Pasture and Water: Pasture Grazing Management

Good Practice Guide for Fiji Dairy Farmers

Pasture types

- Pasture is a crop that needs to be looked after like other crops, with fertiliser, weed control and pest control.
- Pastures can be native grasses, improved grasses and legumes. Improved pastures include Seteria, Para, Mulato and Signal. Batiki Blue and Koronivia can also be considered improved for hilly land.
- Each of these species have different growth seasons. Understanding these differences allows you to maximise the growth and quality.
- For instance, Seteria flowers during the wet season and Para flowers during the dry season so these can be planted together on flatter paddocks.
- Batiki Blue flowers in the dry and Koronivia flowers in the wet. These can be planted together on the hills.
- When pastures are flowering, they are lower in energy and protein because the nutrients are all being used to develop seeds and strengthen the stem. Ideally, we want to graze pastures that are not flowering.



Improved



Un-improved



Planted forages

Why grow improved pastures?

- Improved pastures have been bred to produce more total feed, and feed with higher energy and protein levels than native pastures. This results in more milk or liveweight.
- Higher energy and protein levels usually mean more leaf material and softer stems, as with Seteria, Mulato and even Para. Cows like these softer stems and leaves and, if given the chance, will graze them very hard which will reduce future growth rates and potentially kill some types of pasture.
- This means stock need to be moved to other paddocks once the pasture gets to a minimum height, so they do not overgraze. Ideally this is done by having several paddocks so that stock can be rotationally grazed around the farm, paddock by paddock.
- Fences must be stockproof to prevent accidental overgrazing.
- Alternatively, pastures can be cut by hand and fed to stock elsewhere.



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Legumes

- All tropical grasses lack enough protein for maximising milk production.
- Legumes such as Gliricidia, Leucaena, Calliandra and Centrosema can add vital protein to the diet. Finding ways to include these in pastures or adding these to feed is essential if the full potential of pasture feed and therefore milk production is to be realised.

Grazing heights

- The leaf to stem ratio is very important and needs to be targeted at around 50% for dairy cows. This would provide approximately 12.5% protein from the pasture. Many farmers are grazing or cutting with much higher leaf to stem ratios – that is, the plant is too high, and too mature and therefore protein will be lower.
- A simple measuring stick can be made and used to assess heights.

HEIGHT MEASUREMENT

Take a stick and, using a measuring tape, mark heights in centimetres. To measure paddock height, take height in at least 10 points across the paddock and average these. Avoid bias by taking the heights every 10 or 20 steps while walking diagonally across the whole paddock.



A pasture stick with heights in centimetres.

Paddock Heights

50
45
45
55
60
50
55
50
45
45
<hr/>
total 500
Average divide by 10 readings
=50 cm average height

Example of average height calculation.

Fertiliser

- All grasses require nitrogen to keep growing well, along with other nutrients like phosphate and potassium. The key nutrient for legumes is phosphate, but they can take nitrogen out of the air through rhizobia attached to their roots.
- Feeding your pastures is as important as feeding any other crops.