

Pastures for prosperity — Dairy forum.

4. Pasture and herd management on the Atherton Tablelands

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Dairying for us at Millaa Millaa has meant developing a pasture-based farming system, with few options for supplementary feeding other than concentrates. As the herd has become larger, we have employed various techniques to maximise pasture utilisation.

Production system

Rainfall and farm topography preclude any major cropping for silage, and the production of hay is virtually impossible. Hay is certainly impossible to store for long periods — even bought-in hay will mould rapidly.

We needed to encompass these conditions to advantage rather than fight against them.

Measures adopted include:

- strategic use of urea as a pasture management technique;
- irrigation and temperate winter pasture;
- concrete laneways;
- splitting of the herd into 2 more manageable groups;
- removal of all surplus stock beyond the perimeter of the milking pasture; and
- herd health.

Farm statistics

Size: 240 ha of cleared country
(40 ha of rainforest)
Topography: hilly (some slopes to 30°)
Annual rainfall: 2500 mm

Herd: 160 Holsteins calving year-round

Rolling average: 7240 l/cow/300 d

Soils: red volcanic — fast draining

Climate: long periods (sometimes months) of wet cloudy weather.

Tropical pastures — feed year-round

The great majority of pasture used by the milkers (80–120 ha) is straight grass, mostly Nandi and Narok setaria — Narok being more productive. The balance of the farm has some areas of good legume-based pasture.

In summer, there is always excess growth and quality is hard to maintain. From the first storms, we begin to slash pastures to 10–15 cm to try to reduce seeding and build up of rank stemmy growth.

We utilise less area of pasture and graze it more often in summer. This means cows do not have to walk so far and we use shady, well-watered paddocks. Any extra walking is done at night. We bring the dry herd back to manage milking cow areas not used over summer by the herd.

This spells dry-herd paddocks, which tends to advantage the legumes in these pastures.

We have found that using the dry herd to remove the bulk and get pastures back into a condition suitable for milking cows in autumn has worked better than mulching rank ungrazed pasture.

As well as annual top dressing with P and K, urea is used extensively as a management tool to control quality and quantity of grass.

Legume-based pastures have been grown successfully to achieve good production per cow, but stocking rate is limited to about 1 cow/ha and constraints exist with grazing frequency. Nitrogen fertiliser gives us the ability to boost pasture growth to meet the requirements of the herd as necessary.

Irrigation and temperate pastures

Sixteen hectares can be irrigated to boost available pasture when necessary.

Our present technique is to mulch ryegrass and clover into our setaria pastures in late autumn.

As growth of the setaria slows down, the ryegrass quickly dominates during the colder winter months. We continue to apply N as necessary and, as the soil temperatures rise again in the spring, the tropical grasses re-establish control of the pasture. Experiments to carry over the ryegrass and clover pasture for 2 years have not been successful, due to the dominance of the tropicals over summer.

Laneways — good access to pastures essential

There is not much point in growing good pasture unless the cows can walk to it and back to the dairy without being forced.

Further, milking a large number of dirty cows is not my idea of a reasonable lifestyle. Concrete lanes mean we handle reasonably clean cows.

We have 100ha of milking cow pasture that can be utilised from 3.6 km of concrete laneways.

Splitting the herd

With concentrate feeding, we believe that more should be fed to cows in early lactation. This is difficult to achieve in a herringbone dairy.

With the desire to feed early lactation cows more, and a need to allow 2 groups of cows access to the whole cottonseed (WCS) bunker (70 cows can feed at once), we decided to split the herd into 2 groups. The A herd is those calved less than 100 d and producing more than 25–27 l/d. The B herd is the remaining cows — they average about 18 l/d.

All cows in the A herd get the same amount of concentrate (7–9 kg), the higher amount when pasture is limited. They have access to WCS in the bunker as a group and have a separate grazing rotation.

Splitting the herd for supplementary feeding has produced some quite valuable spinoffs. They include:

- better pasture management by using the B herd as followers to “clean-up” uneaten

pasture from the A herd. About half of the B herd grazing is “mopping-up”. This gives rise to better quality for the A herd on the next rotation.

- better reproductive control. Almost all cows are pregnant by 100 days. The A herd are a smaller group to assess for breeding, etc.
- monthly veterinary visits utilising the Computer Herd Health program “Dairyman”, as an integral part of our herd reproductive management.
- heifers get a much better go in the A herd. This herd does not need to be mustered for milking, so the heifers are not being forced in the laneways with reduced incidence of lameness. By the time heifers get into the B herd, they have established their place in the herd.

For 160 cows, our existing yards were inadequate. Having 2 smaller herds allowed us to continue to use yards designed to hold 100 cows.

Splitting the herd has worked, because we can run the herds in 4 separate directions. Herd cross-over requires a little bit more skilful management at milking. The herd has been split for 2 years and we are happy to continue this management concept.

More dry stock and heifers away

Close paddocks to the dairy are invaluable for milking pasture, so all surplus stock, including springing cows and calves on grain, are moved well away.

Conclusion

We believe we have developed a system of tropical pasture management that utilises their best attributes, given our climate and farm topography.

A tropical pasture-based system with irrigation and concentrate feeding has allowed us to produce an even milk flow, at better-than-average levels of production per cow. The system is not capital intensive, especially from a machinery viewpoint and can be managed with family labour.