

Leucaena and rotational grazing at Ten Mile

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'Ten Mile', Goondiwindi, Queensland, Australia

The property

Ten Mile, owned by the Fox family, consists of 2 properties, 'Marrett' and 'Balandry', and lies 50 km north-east of Goondiwindi along the Gore Highway.

The 4000 hectares (10 400 acres) of grazing country are mainly brigalow–belah soils with strips of sandy pine country and some red box country. Half the area has been improved with pastures of Bambatsi, green panic and buffel grass, while the rest carries native pastures with species such as Queensland bluegrass, pitted bluegrass, forest bluegrass and all the common native species of southern Queensland.

The grazing country is fenced into 100 paddocks with 25 water points and has been managed as a rotational grazing operation for the last 10 years. The average carrying capacity is 1550 livestock units, with 2000 young cattle carried in the growing season and 750–1000 in the non-growing season. In the 2006/07 drought, the whole property was destocked, but this allowed a very quick recovery after the first good rain.

Using the grazing charts of Resource Consulting Services to help manage grass inventory and stocking rate, we started with a bench-mark of 78 stock days per hectare (SDH) and now average twice this at 150 SDH. The pastures have improved dramatically in both quantity and quality under the rotational grazing regime. Ground cover has increased, and any runoff from the grass country after heavy rain is now clear of sediment.

At 2 sites, we record desirable species, undesirables, ground cover and bare ground using the basal measurement technique. This has shown

that the bluegrasses have really improved with the rotational grazing, and they now occupy what was bare ground between the Bambatsi clumps.

We grow out young cattle on the pastures to target weights for entry to the Moruya feedlot. Finishing through the feedlot gives us the flexibility to vary numbers quickly according to the season and grass growth. We have been supplementing cattle with urea through water medication for 10 years. All our supplement goes through the piped water system, so that every animal gets the correct daily dose and with low labour inputs. Supplementation is costing about 10–15 cents (Australian) per head per day.

Leucaena

We have planted about 200 ha (500 acres) of leucaena over the last 5 years. This is one of the most southerly plantings in inland Queensland at 28°S and with an elevation of some 250 masl. In southern Queensland, leucaena is really only a summer-grazing option; in cooler seasons, growth is very slow, while in winter the plants are frosted and dormant.

Most of the leucaena planted has been the cultivar Tarramba because of its cold tolerance, but about 20 ha of Cunningham was established. Establishment costs are about AUD 250–325 per ha (AUD 100–130 per acre) and we did all the establishment work ourselves. The twin leucaena rows are planted at 8 m centres; some inter-rows have native bluegrass, some Bambatsi and some Silk sorghum, but we can also opportunity sow a winter cereal in a wet winter.

We move the cattle in a rotation through the grass and leucaena paddocks to make the legume go further, as cattle need only 35% leucaena in their diet to get the full effect. When it does rain and we have sufficient moisture, the leucaena system gives twice as many stock days as areas of grass alone. One problem we have as a steer trading operation is that we have to re-drench

(or inoculate) the cattle with the leucaena rumen microflora (*Synergistes jonesii*) every summer.

In an ideal world, we would have at least one-third of the property under leucaena. With our rotational grazing system, all cattle on the property would be exposed to leucaena every couple of days.

Leucaena at Injune

Andrew Richardson is also a leucaena consultant/contractor, currently managing a project to establish irrigated leucaena on a large scale at Injune and Wallumbilla in Queensland for one of the major Australian energy companies using desalinated coal seam gas water. This irrigated leucaena is watered using centre pivot and drip tape systems. It is managed under high-density rotation with forage crops in the inter-row areas and

a fertigation system, which allows us to run 7 - 8 head/hectare.

Summary of the leucaena enterprise at Ten Mile

Some neighbours think we are mad, some look on with interest and others don't comment out loud!

What we do know is that we now run more cattle per hectare than we did before, we have better ground cover and our grass responds faster after dry periods and when we get a major rainfall event. We have healthier looking pastures—and data from monitoring to demonstrate it.

While we probably do not have higher weight gains than our neighbours, the increased carrying capacity is giving a far higher return per hectare than we would achieve with higher weight gains under a set-stocked operation.