

ILC2018 Poster and Producer paper*

Leucaena production in central Queensland, Australia *Producción de leucaena en Queensland central, Australia*

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Overview

We operate a 100% Wagyu business across 3 central Queensland cattle properties: Falcon Downs, Yaraandoo and Overflow, with an additional block at Glen Innes, New South Wales to grow out cattle prior to entering feedlots. The operation includes breeding, growing and feedlot finishing. Finished cattle are contract-slaughtered and marketed both domestically and overseas. The central Queensland properties are made up of largely cracking-clay Brigalow soils with box flats, which are highly suitable for leucaena. Dryland leucaena was established on Falcon Downs and Yaraandoo beginning in 2009. It took 5 years to plant 3,700 ha and we aim to plant 400–800 ha/year on all suitable land. There is some irrigated leucaena on Overflow (Table 1) which we also aim to expand.

Table 1. Areas of Falcon Downs, Yaraandoo and Overflow properties and areas planted with leucaena.

Property	Total area (ha)	Leucaena (ha)	
		Dryland	Irrigated
Falcon Downs	3,645	3,645	
Yaraandoo	3,645	243	
Overflow	8,100	1,112	182

Establishment

The entire paddock is cross-cultivated before planting. Initially, we used a single-row planter, before moving to a twin-row planter. Now we use a much larger unit to plant 6 rows at a time, 3 sets of twin rows (1 m apart) with 6 m spacing between centers (Figure 1). In the 6 m inter-row space, we leave the center 2 m untreated to allow pasture to re-establish. Spinnaker™ (700 g/L imazethapyr) and Round Up™ (glyphosate) are applied on a 2 m wide strip

straddling the leucaena twin rows at planting as per manufacturer's instructions to control weeds, and Spinnaker™ and Verdict™ (520 g/L haloxyfop) are applied post planting (timing dependent on weed growth).



Figure 1. Six-row leucaena planter used across our operation.

The first grazing occurs about 12 months after planting. The main variety used in our operation has been Wondergraze, with some areas of Cunningham, Tarramba and Redlands. Wondergraze appears to be the most palatable. We harvest about 1–2 tonnes per year of Wondergraze seed for home use, clean the seed and scarify it before planting. Usually, 2-year-old stands of Wondergraze are the best for seed production but sometimes first-year crop is also used. Inter-row pasture is buffel grass (*Pennisetum ciliare*; Figure 2). No fertilizer has been used to date on our leucaena-buffel pasture. While 182 ha of irrigated leucaena is currently established at Overflow, we aim to expand this area to 2,000 ha. Trickle tape irrigation is used, with irrigation lines being fed by an electric bore and a solar bore. We aim to plant

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all of the newly purchased property Yaraandoo to leucaena eventually.



Figure 2. Typical leucaena-buffel grass pasture.

Animal performance

Leucaena has doubled the carrying capacity across our operation to about 1 adult beast to 2–3 ha. The leucaena rumen bug (*Synergistes jonesii*) was introduced to our herd by purchasing cattle from an existing leucaena producer. We run approximately 4,500 cows and progeny under a rotational grazing system. The system we have adopted in Queensland is to grow out weaners to over 300 kg LW, and transport them to Glen Innes, where they gain another 100 kg LW on improved temperate pastures, before entering feedlots at over 400 kg LW for a 400-day finishing period. We aim for a final carcass weight of 420–450 kg with high marbling. In addition we sell 100–200 (depending on demand) Wagyu bulls each year. Leucaena has made a significant contribution to our successful business model and we expect this impact to increase as we expand the area under the legume.

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