FINISHING CATTLE ON LEUCAENA

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One way to use the shrub legume leucaena *(Leucaena leucocephala)* is to grow it in rows in small paddocks within larger native pasture paddocks, and to allow grazing of the leucaena and inter-row grass as a supplement in the dry season (Addison *et al.* 1984). Recent work (Quirk *et al.* 1990) showed that increasing the amount of leucaena available to cattle increased their weight gains. That result, and various commercial experiences, led to our testing the value of leucaena for finishing cattle to a suitable condition for the Japanese market. The purpose of this paper is to record the success of leucaena in doing this, based on 6 years of data collected from cattle grazing 2 paddocks of leucaena at Brian Pastures Research Station in subcoastal south east Queensland.

One paddock (Middle) includes 12 ha of leucaena growing on a clay loam while the other (Brown 4) includes 8 ha of leucaena on a deep clay. Both areas of leucaena were sown in 1976 and regularly grazed since then for at least part of each year. Since 1986 the areas of leucaena have been used for strategic finishing of cattle, by constraining forward-store steers to the areas of leucaena when there was apparently sufficient leucaena for at least 80 days of grazing. The yields of edible leucaena forage available at the start of each finishing period are estimated to have been >1000 kg/ha for Middle and >2000 kg/ha for Brown 4. Almost all of this forage was eaten during the finishing periods. Average annual rainfall since 1986 has been 650 mm, compared with the long-term average of 720 mm. Up to 7 drafts of cattle have grazed each paddock, with details given in Table 1.

Table 1. Initial liveweight, duration of finishing period, and average daily gain (ADG) for cattle finished on leucaena in Middle (M) or Brown 4 (B) paddocks

Year and season when grazing began	Number of cattle		Average initial liveweight (kg)		Duration of grazing (days)		ADG (kg/head)	
	M	B	M	B	M	B	M	B
1986 (Spring)	27	—	447	—	64	—	1.10	—
1987 (Autumn)	—	15	—	428	—	146	—	0.73
1987 (Spring)	9	—	499	—	81	—	1.30	—
1988 (Autumn)	8	11	424	434	79	78	1.20	1.30
1988 (Spring)	8	7	527	525	82	82	0.95	0.74
1989 (Summer)	—	12	—	513	—	74	—	0.82
1989 (Spring)	12	—	476	—	82	—	0.95	—
1990 (Autumn)	12	15	520	541	70	57	0.81	0.82
1991 (Summer)	12	11	554	535	96	105	0.79	0.66

These well-established areas of leucaena offer an easy and cheap way to finish steers for market. Average daily gains of 1.0 kg/head have been achieved (with standard errors ranging between 0.04 and 0.08 for group ADGs), at a stocking rate of about 1.5 steers/ha. Most cattle finished while grazing leucaena; those not finished had gained enough weight and condition to be finished soon afterwards. The success of finishing cattle on leucaena has depended on initial condition of the cattle and seasonal conditions; even better performance might occur in years with more rain and thus more growth of leucaena.

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