

## Supplementing native pastures with *leucaliva Ilucoclpiala* cv. Peru (leucaena) in an extensive beef cattle production system

D.C. Cooksley and C.J. Paton

Queensland Department of Primary Industries, "Brian Pastures" Pasture Research Station, Gayndah. 4625.

Cattle grazing native pasture in the southern spear grass zone (1) usually lose weight during the winter dry season. At a stocking rate of 3.7 ha steer, turnoff age is approximately 3 1/2 years at a liveweight of about 500 kg (1, 2). This paper reports early results from a demonstration of an extensive grazing system at "Brian Pastures", designed to arrest winter weight losses using *Leucaena Zeucocephala* cv. Peru (leucaena) (3) to supplement native pasture. The objective is to achieve a final liveweight of between 460 and 480 kg hd at 2 1/2 years of age.

### Methods

Each year after weaning in June, 52 crossbred cattle enter the system. In the first year stocking rates are 1 ha hd native pasture plus 0.2 ha hd of leucaena. In the second year animals utilize double the area of both forages. Plots of leucaena are grazed in addition to native pasture during winter and spring, using a rotational grazing system of 3 weeks on and 12 weeks off. Pasture yield and composition are measured regularly and cattle weights recorded every 3 weeks. Liveweight gains of 6 - 18 months old cattle grazing in a concurrent stocking rate trial are used to predict gains of unsupplemented animals at the same stocking rates as those used in the system.

### Results and Discussion

Access to leucaena prevented the usual winter/spring poor weight gains or weight losses and resulted in gains that exceeded, and were less variable than, those predicted for similar cattle grazing only native pasture during winter and spring from 1979-81 (Table 1). In this system dry matter yields of native pasture were always adequate (> 3 000 kg ha) for animal production and yields of edible leucaena before grazing in June 1979 and 1980 averaged 930 and 740 kg ha respectively.

**Table 1. Seasonal liveweight change (kg) of cattle grazing native pastures "with" and "without" a leucaena supplement during winter and spring**

	Animal Age Group					
	6 - 18 months				18 - 30 months	
	1979/80		1980/81		1979/80	1980/81
	With	Without	With	Without	With	Without
Initial liveweight	182	142	181	178	324	289
Winter/Spring	35	10	38	17	13	34
Summer/Autumn	72	29	102	89	91	108
Total Change	107	39	140	106	104	142
Final liveweight	289	181	321	284	428	431

More time is required fully to evaluate this system. These results were obtained in two dry years and yields of leucaena can be expected to increase in higher rainfall years, thereby increasing the nitrogen supply to the system.

1. Rickert, K.G., and Winter, W.H. 1980. Trop. Grassl. 14: 239-245.
2. Mannetje, L. 't 1979. A.Rep. Div. Trop. Crops and Past. CSIRO (Aust.) Brisbane 1978/79 p. 8.

3. Wildin, J.H. 1981. Sum. Paps XIV Inter. Grassl. Congr. p. 448