

LAMB GROWTH ON N-FERTILIZED PANGOLA GRASS AND LEGUME BASED
PASTURES IN SOUTH EAST QUEENSLAND

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Initial studies of fat lamb production from tropical legume-grass pastures in south eastern Queensland recorded poor lamb growth and legume persistence under grazing (Fleming 1974). Since then lamb growth studies on N-fertilized Pangola grass have identified correct control measures for intestinal parasites, the occurrence of cobalt deficiency (Norton and Hales 1976) and other management techniques which have improved lamb growth from these pastures. This experiment reinvestigates the potential value of tropical legumes for lamb production in summer and autumn in this subtropical environment.

Two groups of 36 lambs ([Border Leicester x Merino] x Dorset Horn) were weaned at 14 weeks onto Pangola grass in November (Mean Liveweight, 24.2 kg) and February (Mean Liveweight 23.1 kg). After 2 weeks, 12 lambs from the first (summer) group were allocated to each of the following pastures, Pangola grass (*Digitaria decumbens*) fertilized with 115 kg N/ha (30 lamb/ha), *Lotononis bainesii* (24 lamb/ha), and *Stylosanthes guianensis* cv. Schofield (24 lamb/ha), and 6 lambs on each pasture given a cobalt bullet and grinder. This experiment lasted 12 weeks (31/11/76 to 23/2/77) after which the second (autumn) group of weaners were allocated to these paddocks and treated with cobalt bullets as was the first group. This experiment lasted 8 weeks. No irrigation was applied during either trial.

TABLE 1 The effects of pasture type, season of grazing and cobalt supplementation on liveweight change (g/d) of lambs

PASTURES	TREATMENT MEANS				MAIN EFFECT MEANS				
	Summer (S)		Autumn (A)		Cobalt		Season		Pasture Type
	-Co	+Co	-Co	+Co	-Co	+Co	S	A	
LOTONONIS	120	111	121	120	126	116	116	126	121
STYLO	128	85	113	107	120	96	106	110	108
PANGOLA	-6	92	10	142	2	117	44	76	56
LSD (P < 0.05)			24			17		17	13

Treatment effects (cobalt supplementation, season and pasture type) are shown in Table 1. Lambs grew significantly ($P < 0.05$) better on Lotononis than on Stylo, both these pastures being better than Pangola grass. There was no significant effect of either cobalt supplementation or season on lamb growth from the legume pastures. There was a significant response in lamb growth on Pangola grass to cobalt supplementation in both seasons, with cobalt supplemented lambs growing significantly ($P < 0.05$) better in autumn than summer.

These studies demonstrate that given appropriate management, good lamb growth can be obtained on tropical pastures. Further studies are being conducted to determine optimum management strategies for year round lamb production in this environment.

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