

NUTRITIONAL VALUE OF *CLITORIA TERNATEA* FOR SHEEP IN THE DRY TROPICS

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*Clitoria ternatea* is widely distributed throughout the humid, lowland tropics of Africa, Asia and Central America. A composite line has been released for Australian conditions as a pasture species, cover or hay crop (Hall 1992). This experiment evaluated *Clitoria* (CPI 47187) as either a sole diet or as a supplement to mature speargrass (*Heteropogon contortus*) for effects on intake, digestibility, liveweight change and wool growth. For comparison *Stylothantes hamata* cv. Verano was also fed as a supplement to speargrass.

Thirty-six Merino wethers were fed Verano and grass chaff for a six-week pre-treatment period, then offered one of six chaffed diets: (1) 100% speargrass, (2) 10% *Clitoria*:90% speargrass, (3) 20% *Clitoria*:80% speargrass, (4) 40% *Clitoria*: 60% speargrass, (5) 100% *Clitoria*, and (6) 20% Verano:80% speargrass for six weeks. Feed offered was adjusted daily so that residues for each animal were approximately 100 g/day. Liveweights were measured weekly. Wool growth was determined by clipping delineated mid-side patches at three-weekly intervals for the duration of the experiment. During the last eight days of the experiment faeces were collected for the determination of digestibility. The results for weight changes, intake and wool growth are shown in Table 1; wool growth was adjusted for pre-treatment wool growth.

**Table 1. Effects of feeding *Clitoria ternatea* or Verano with or without speargrass on liveweight changes, intake and wool growth in sheep**

	Clitoria					Verano	l.s.d. (P<0.05)
	0%	10%	20%	40%	100%	20%	
Initial wt (kg)	39.8	39.9	39.9	39.9	39.9	39.9	3.7
Wt change (kg)	-0.135	-0.075	-0.052	-0.033	0.024	-0.046	0.058
Intake (gDM/d)	544	664	709	747	958	731	239
(gDDM/d)	218	259	300	297	465	325	112
(gN/d)	3.5	5.2	6.6	9.1	20.4	7.8	2.7
Wool growth (g/21 days/100cm <sup>2</sup> )							
Weeks 1-3	0.688	0.748	0.761	1.001	1.551	0.965	0.160
Weeks 4-6	1.018	1.004	0.975	1.114	1.061	1.204	0.274

Supplementation of a speargrass diet with *Clitoria* or Verano had similar and positive effects on both liveweight gain and wool growth. As the proportion of *Clitoria* in the diet increased, total digestible dry matter (DDM) intake increased and there was a significant linear response in liveweight change ( $r^2=0.71$ ). The intake and liveweight responses from *Clitoria* inclusion into a speargrass diet was similar to that achieved with Verano. Increasing the proportion of *Clitoria* in the diet increased nitrogen (N) intake and this was highly correlated with wool growth in weeks 3 to 6 ( $r^2=0.99$ ). The effect of *Clitoria* supplementation on wool growth was not significantly different to that of Verano on a nitrogen intake basis.

Verano and *Clitoria* hays fed as a supplement to a speargrass diet produced similar liveweight and wool growth responses. These findings suggest that *Clitoria* is a suitable alternative for Verano and that pasture species selection should be on agronomic performance for the area.

This work was partly funded by the International Wool Secretariat.

HALL, T.J. (1992). *Tropical Grasslands* **26**, 70-3.