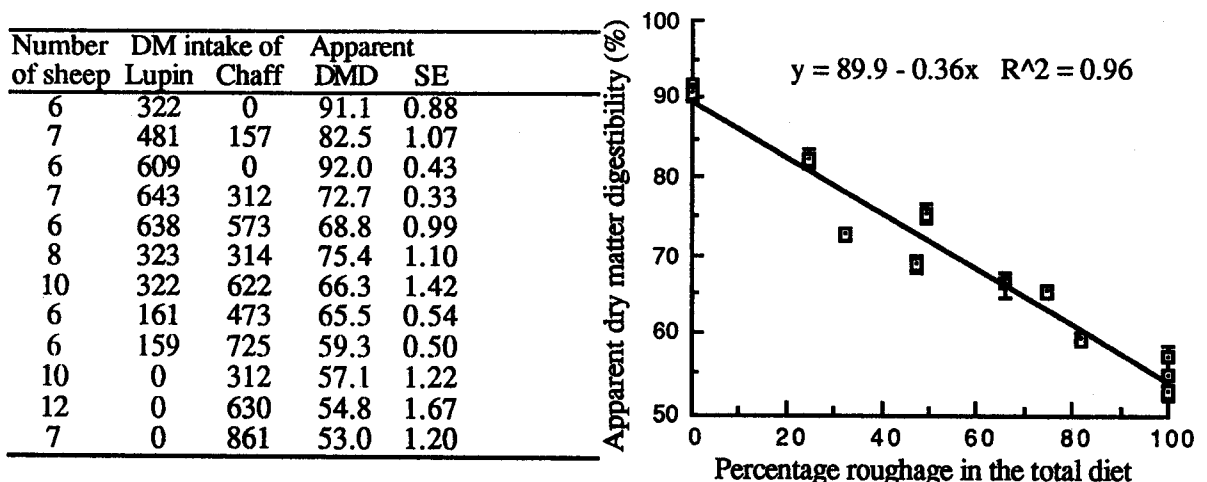


## THE DRY MATTER DIGESTIBILITY OF LUPIN GRAIN FED WITH WHEAT CHAFF

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Although numerous papers describe experiments where lupin grain has been fed (eg. Foot et al. 1983; Rowe et al. 1989), there has been little research into the apparent dry matter digestibility (DMD) of lupin grain fed to sheep in combination with roughage diets. Foot et al. (1983) calculated a value for the apparent DMD of  $87.8 \pm 2.12\%$  for lupin grain fed with senscent harvested ryegrass - sub-clover pasture, but no measure of the roughage diet is given due to 'inappetance and loss of liveweight'. Similarly Roberts et al. (1979) examined supplements of lupin grain (253, 506 and 759 g/d) on ad libitum intake of mature weathered herbage and found that the lupin grain had a DMD of 88% and that intake of herbage above 200 g/d decreased by 50 g DM for each 100 g DM increase in lupin consumed. The aim of this experiment is to determine the change in digestibility of lupin grain (*Lupinus angustifolius gungurru*) with different proportions of wheaten chaff in the diet.

Merino ewe sheep weighing approximately  $42.2 \pm 1.99$  kg (mean  $\pm$  s.e.) were used in the experiment. For each diet sheep were offered one twelfth of their daily ration every hour for twelve hours each day to simulate "daylight feeding" behaviour. The sheep were fed each diet for at least two weeks prior to a faecal collection of seven days.



Four sheep fed lupin grain alone experienced severe diarrhoea by the end of three weeks feeding. This research confirms that the DMD of lupin grain in sheep is approximately 90%, considerably higher than that reported in vitro (72-90%) (Norton et al. 1991) and that feeding lupin grain as a supplement does not increase the digestibility of wheat chaff.

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