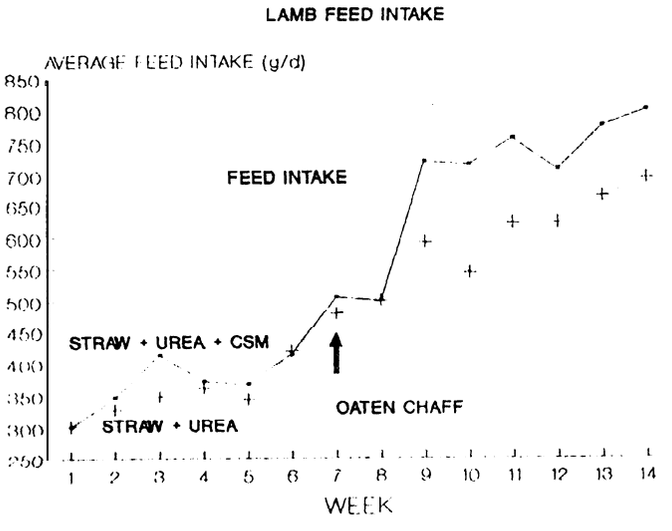
CARRY-OVER EFFECTS OF PROTEIN SUPPLEMENTATION IN GROWING LAMBS

E . ELUNG'ATTA* AND R .A . LENG*

Animals recuperate and grow rapidly following periods of nutritional limitations, for a number of reasons (see Thomson et *al.* 1982). Carry-over effects were manifested as increases in growth and feed efficiency when cattle were given a maize-based diet in the feed-lot (see Leng, 1989). This occurred despite apparent compensatory gains in the intervening wet season, and have important implications for feed-lot management.

We have commenced studies to investigate these carry-over effects. Groups of lambs (20/group) were fed a wheat straw based diet containing urea and minerals or the same basal diet with 100 g/d cottonseed meal (CSM) for 8 weeks. They were then put onto an oaten chaff diet which was adequately supplemented with urea and minerals. The results are shown in Figs 1 & 2.



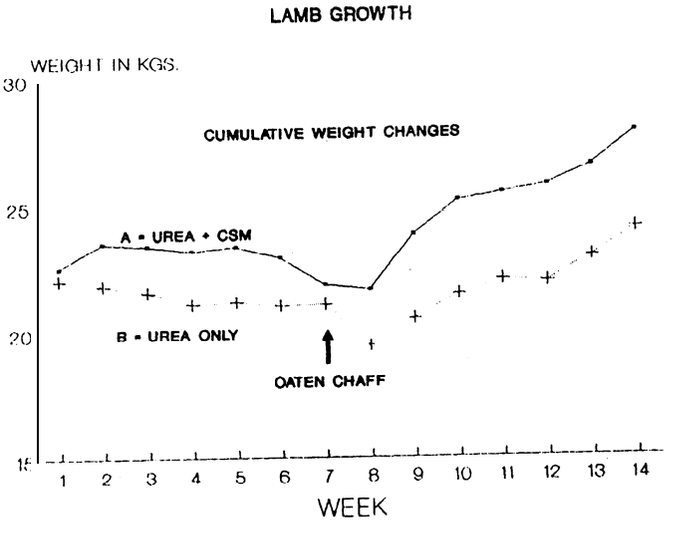


Fig.1 Average daily feed intake. Fig.2 Cumulative weight changes

	PHASE 1		PHASE 2	
	Feed intake ($gw_k^{3/4}$/d)	Weight change (g/d)	Feed intake ($gw_k^{3/4}$/d)	Weight change (g/d)
A	24.5	-29	38.6	112
B	23.8	112	39.7	148

There was no significant difference in the intake of straw between the two groups in phase 1. When the two groups were placed on the same diet, the group that had received CSM supplement previously grew much faster than the unsupplemented group but did not have a higher feed intake on a metabolic body weight basis.

These preliminary results indicate that balancing the nutrients in animals on low protein feeds is beneficial, as can improve subsequent performance. These studies are continuing with the same group of animals fed a concentrate based diet with or without bypass protein supplements.

THOMSON,E.F, BICKEL,H and SCHURCH,A (1982). J.Agric Sci Camb 98:183
LENG,R.A (1989) . See these proceedings.

---

*Department of Biochemistry, Microbiology and Nutrition,
University of New England, Armidale, N. S. W. 2351, Australia.