

THE USE OF COTTONSEED CAKE IN GROWING LAMBS

K. KANDYLIS* and P. NIKOKYRIS*

The objective of this work was to determine the value of cotton seed cake (CSC) as a dietary ingredient for fattening sheep and to compare CSC as a source of crude protein in sheep diets with soybean meal. In addition, an attempt was made to examine whether dietary gossypol levels could have any effect on animal health and growth for lambs fed the three CSC diets,

The experimental diets were isonitrogenous and isoenergetic, containing approximately 17% crude protein and 18 MJ gross energy. They were formulated to compare a control diet, not containing CSC, with two diets containing 15 or 30% CSC and fed *ad libitum* to growing lambs. Sixteen lambs (8 male and 8 female) were used in each treatment. The mean values for average liveweight gain, dry matter intake and feed conversion ratio for all animals in each treatment group are given in Table 1. Lamb performance for all three diets was not different throughout the 62-day feeding period. At the end of the experiment five representative male lambs from each plot were slaughtered and carcass data were obtained.

Table 1 Lamb performance for all three diets throughout the 62-day feeding period

Variable	D i e t		
	Control	15% CSC	30% CSC
Initial live weight (kg)	13.8±0.48	13.2±0.53	13.9±0.43
Final live weight (kg)	26.6±0.89	26.8±0.91	26.7±0.95
Live daily gain (kg)	0.21±0.012	0.22±0.017	0.21±0.015
Feed intake (kg dry matter/lamb.day)	0.8280	0.8463	0.8373
Feed conversion (kg feed / kg gain)	4.01	3.86	4.06

Values are means \pm standard errors

It was concluded that CSC, which is rich in protein, can substitute for soybean meal as a protein source for growing lambs having beneficial effects on growth rate, conversion ratio and carcass characteristics. It is suggested that up to a level of about 30% of CSC can safely be incorporated into the diets of fattening sheep that contain excess protein with a subsequent reduction in cost of supplementary feeds. There was no evidence that gossypol poisoning may be induced in sheep fed cotton seed cake. However, because of its gossypol content, this product should be fed with care to pregnant ewes at the level above 30% of the diet until gossypol occurrence in sheep milk has been fully examined.

* Agricultural University of Athens, Department of Animal Nutrition, Athens GR-118 55, Greece.