

THE INFLUENCE OF SIZE, SEX, STRAIN AND FOOD TYPE ON THE FINISHING OF SCOTTISH BLACKFACE STORE LAMBS

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The value of hogget carcasses in February and March has renewed interest in the finishing of store lambs of hill breeds. The Scottish Blackface is numerically important and is well suited to this enterprise but there is little quantitative information on interactions among genotype, lamb initial weight and finishing system.

During the winter of 1983-4 (Experiment I), three samples of lambs of differing live weight and sex (see table) were retained for all-concentrate finishing from the Kirkton farm flock (West of Scotland Agricultural College) of Blackface sheep of Newton Stewart strain (B). During the winter of 1984-5 (Experiment II),

representative samples of strain B and of the Angus/Perth strain (A) were finished either on swedes in the East of Scotland or on an all-concentrate diet in the West. The concentrate-fed lambs were housed on 7 November and those on swede feeding were introduced to the crop on 21 November. The concentrate employed in both years consisted of 967.5 kg whole barley, 12.5 kg of proprietary urca-molasses solution (1200 CP/kg fresh material) and 20 kg minerals (13.1 MJ of ME, 131 g CP, 3.9 g Ca, 2.1 g P and 1.9 g Mg per kg of dry matter) and was fed *ad lib.* from 24 days after housing. Up to 250 g barley per head per day was offered to the lambs on

Food	Experiment I (1983-4)			Experiment II (1984-5)			
	Concentrates			Swedes		Concentrates	
	B	B	B	A	B	A	B
Strain							
Type	Large ♂♂	Small ♂♂	Small ♀♀	Medium ♂♂			
No. at start	56	56	56	100	100	100	100
No. sold	54	50	55	100	99	100	97
Initial live weight, kg	32.3	25.3	24.9	34.2	30.1	33.8	30.8
Initial body condition score	1.8	1.5	1.4	2.4	2.6	2.3	2.3
Last live weight, kg	42.0	39.9	35.3	39.2	33.6	41.7	35.0
Live-weight gain, g/day	93	118	84	58	39	94	50
Days on feed	107	128	127	89	92	81	80
Barley DM, kg per lamb	80	87	77	—	—	48	40
Carcass weight, kg	19.6	17.9	16.0	17.1	14.9	18.2	15.8
Killing percentage	46.7	45.0	45.4	43.6	44.2	43.8	45.4
MLC fat classification (coded ¹)	3.0	2.9	3.0	2.7	2.5	3.0	3.0
MLC conformation class (coded ²)	2.6	2.6	2.6	2.1	2.5	2.1	2.5

¹ Coded class 4 = 4; 3H = 3.33; 3L = 2.67; 2 = 2; C, Z = 1.

² Coded class E = 4; U = 3; A = 2; C = 1; Z = 0.

swedes from mid-January but 500 g on days when the swedes were frozen. Lambs were weighed at 21-day intervals and any which were judged to have reached a live body condition likely to provide a carcass of MLC fat class 3L or over were slaughtered.

Results of these experiments are presented in the table, the 1984-5 figures being preliminary.

The conclusions drawn are —

1. Husbandry standards during transition to *ad lib* concentrates were higher in 1984-5 as shown by reduced mortality, shorter feeding period and lower dry matter consumption.
2. Initial weight, initial condition score and sex appear to have influenced total gain, food consumption and food conversion efficiency.
3. Both strains of lamb performed less well on swedes than on barley, with 9% not having reached the killing standard on 2 April although slaughtered then to end the trial.
4. The difference in live weight at which the two strains attained MLC fat class 3 indicates that there is a difference in their mature size, A being around 15% heavier than B.
5. The differences between strains in gain, food consumption and carcass characteristics are consistent with an initial difference in relative maturity between them.