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BREED CHOICE FOR HILL AND UPLAND FARMS

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Work at HFRO, Redesdale and other centres shows that it is not possible to significantly increase lamb output in the hills and uplands without land improvement to provide better grazing and increased all-the-year-round nutrition. In the early stages of land improvement, with purebred hill sheep there is usually improved individual ewe performance with more lambs weaned at heavier weights and this may be coupled with a higher stocking rate. There comes a point when further increase in individual ewe performance is limited by the potential of the particular breed of sheep. Further increases are possible by producing crossbred lambs or where grass production and over-wintering facilities permit the introduction of productive purpose-bred ewes.

An example of the effect of breed substitution is the Pasture cut at Redesdale. This is a 83 ha heft which originally carried 128 Scottish Blackface breeding ewes. Table 1 shows that, originally, there was only an output of 2 887 kg weaned lamb per 100 ewes or 45.2 kg weaned lamb per ha.

In the period 1967-1978, 19 ha out of the total area were reseeded and 9 ha used for grass conservation. Scottish Blackface ewes were increased to an average of 196 for the 4-year period, 1975-78. Output per 100 ewes increased to 3 885 kg — equivalent to 103 kg per ha.

Between 1979 and 1982, a further 17 ha were reseeded. The Blackface ewes were replaced with 304 Mule ewes. Output increased to 6 139 kg per 100 ewes — equivalent to 253.7 kg per ha.

These figures show that there has been a large boost in production since 1978 with the introduction of the Mule flock. Output of weaned lamb has risen by 146%. The large part of this increase is due to higher stocking rate (+87%) but the change of ewe breed has produced a 59% increase in lamb output. The higher stocking rate

TABLE 1
Effect of breed substitution at Redesdale on output of weaned lamb

Period	No. of ewes	Weaning %	Weaning wt (kg)	Output of weaned lamb (kg)		
				Total	Per 100 ewes	Per ha
1967/69 (mean of 3 yr)	130 Blackface	105	27.5	3 753	2 887	45.2
1975/78 (mean of 4 yr)	196 Blackface	131	29.7 (8 August)	7 586	3 885	103.2
1983/84 (mean of 2 yr)	304 Mules	181	34.0 (27 July)	18 647	6 139	253.7

TABLE 2
Supplementary feed given to Scottish Blackface and Mule ewe flocks (kg/ewe)

Period		Hay	Baled silage	Concentrates	Feed blocks	Total cost £/ewe
1975/78 (mean of 4 year)	196 Blackface ewes	32	—	23	—	4.76
1983/84 (mean of 2 yr)	306 Mule ewes	—	167	56	4	11.75

Feed costs all based upon 1984 prices.

and energy requirement of the Mule ewe has necessitated greater amounts of supplementary feeding during pregnancy and early lactation (Table 2). Since 1981, the winter forage fed has been big bale silage on an *ad lib* basis.

A financial assessment of the two breeds is shown in Tables 3 and 4.

TABLE 3
Financial assessment — 304 Mule ewes

	Total (£)	£ per ewe
Output		
Finished lamb; 562 @ £35.21	19 785	64.66
Subsidy; 306 @ £11.05	3 381	11.05
Wool; 300 ewes + 107 hoggs @ £3.00	1 221	3.99
Draft ewes (3 crop); 90 @ £50 + 4 @ £20	4 580	14.97
	28 967	94.67
Costs		
Ewe feed; 306 @ £12.09	3 699	12.09
Hogg feed; 111 @ £4.94	548	1.79
Veterinary; 306 @ £2.40	734	2.40
Fertiliser; on 37 ha	1 711	5.59
Flock replacements; 111 @ £50	5 550	18.14
Rams; 2 per year @ £350	700	2.29
Lamb finishing; 562 @ £1.54	865	2.83
	13 807	45.13
GROSS MARGIN:	£15 160	£49.54

TABLE 4
Financial assessment — 196 Scottish Blackface ewes

	Total (£)	£ per ewe
Output		
Total lambs 256		
53 flock replacements		
203 for sale		
203 @ £34.42	6 987	35.60
Subsidy 196 @ £13.05	2 558	13.05
Wool; 196 ewes + 53 hoggs @ £1.75	435	2.20
Draft ewes; 49 @ £20	980	5.00
	10 960	55.85
Costs		
Ewe feed; 196 @ £4.76	933	4.76
Hogg feed; 53 @ £4.94	262	1.30
Veterinary; 196 @ £2.00	392	2.00
Fertiliser; on 10 ha	460	2.30
Rams 2 per year @ £350	700	3.60
Lamb finishing; 203 @ £3.12	633	3.20
	3 380	17.16
GROSS MARGIN:	£7 580	38.7

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