Sheep - Cost & prid.

UNIVERSITY OF NOTTINGHAM

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LOWLAND SHEEP PRODUCTION

A Study of Fat Lamb Production in 1981

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Mr. Stephen Mellors organised and carried out the collection of the data; Mrs. Mavis Smith and Mr. Neil Gemmel analysed the material and the report was typed by Mrs. Irene Roddie.

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1. Introduction

This study is part of a national investigation coordinated by the University of Exeter, but this report refers only to those farms located in the East Midlands. An interim report covering the whole sample has already been published by Exeter [1] and a full report will be produced in due course.

2. The Sample

A random sample stratified according to three flock size groups (50 - 199 ewes, 200 - 499 ewes and 500 ewes and over) was used. As the East Midland sample was only 20 flocks, the first two groups have been amalgamated in this report to give one group of under 200 ewes and one of over 200 ewes.

The geographical distribution of the flocks by County is shown in Table 1.

Table 1 : Geographical Distribution and Size of Flock

County	Flock Size Group		All Flocks
	Under 200 Ewes	200 Ewes and Over	
Northamptonshire	1	7	8
Leicestershire	2	3	5
Lincolnshire	2	2	4
Nottinghamshire	1	-	1
Derbyshire	-	2	2
	6	14	20

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(1) Thomas, W.J.K. "Lowland Sheep - Interim Results of a Survey of the 1981 lamb crop in England and Wales". Agricultural Enterprise Studies in England and Wales. Economic Report No. 84 University of Exeter, October 1982.

The study began when the rams were turned in with the ewes in the autumn of 1980 and ended when the lambs had been sold fat or as stores. All the lambs were sold (except those kept for breeding) by early February 1982.

3. Type of Farm on which the Flocks were carried

The pattern of cropping on the farms in the study is shown in Table 2.

Table 2 : Cropping

Hectares Per Cent

	Flock Size Group		All Flocks
	Under 200 Ewes	200 Ewes and Over	
Cereals	55.6	63.1	61.6
Cash Roots	1.7	0.8	1.0
Other Sale Crops	-	5.1	4.1
Total Sale Crops	57.3	69.0	66.7
Grass	34.4	28.6	29.7
Fodder Roots	2.8	1.0	1.3
Total Forage	37.2	29.6	31.0
Woodland	5.0	-	1.0
Buildings and Roads	0.5	1.4	1.3
Total Farm Area	100.0	100.0	100.0
		Hectares	
Av. Size of Farm	108.5	191.0	166.3
Range	69.4 to 229.0	53.5 to 346.8	53.5 to 346.8

In general the farms could be described as predominantly arable with two-thirds of their area devoted to arable crops. The farms with the larger flocks had, on average, nearly double the farm area compared with those with the smaller flocks. They also had a greater proportion of the farm down to arable crops. Nevertheless the range of farm size in the group with the larger flocks was very wide, actually including the smallest farm in the study. Two of the smaller

farms, one with a flock of 54 ewes and the other with 238 ewes were entirely or almost entirely down to grass. Otherwise, all the farms in both size groups conformed to the general pattern of predominantly arable cropping.

4. The Influence of Weather Conditions on Production

The autumn of 1980 was dry and open and the ewes went to the tup in excellent condition. The winter was generally mild and the weather during the summer favourable to grass growth. The only notable adverse feature was a heavy fall of snow in May which, on thawing, caused sudden flooding and led to some losses on low ground before the animals could be moved.

5. Breeds

In common with earlier studies, the Suffolk was shown to be by far the most popular crossing ram in the Region (Table 3).

Table 3 : Ram Breeds

Breed	Flock Size Group		All Flocks
	Under 200 Ewes	200 Ewes and Over	
	%	%	%
Suffolk	72.2	87.6	85.4
Hampshire	27.8	6.6	9.8
Meatlinc	-	2.9	2.4
Dorset Down	-	2.9	2.4
	100.0	100.0	100.0
Total No. of Rams	18	105	123

The Meatlinc is a relatively new breed produced in Lincolnshire based on an original selection from five different breeds:- Suffolk, Dorset Down, Ile de France, Berrichon du Cher and Charollais.

Suffolk and Suffolk cross ewes were still numerous, but there was a greater interest in mules and greyface whereas the Scotch half-bred had all but disappeared (Table 4).

Table 4 : Ewe Breeds

Breed or Cross	Flock Size Group		All Flocks
	Under 200 Ewes	200 Ewes and Over	
	%	%	%
Mule	22.8	37.7	36.0
Greyface	-	27.7	24.4
Suffolk	27.6	1.3	4.4
Suffolk Crosses	47.0	20.5	23.5
Masham	-	9.3	8.2
Scotch Half Bred	-	0.8	0.7
Cheviot	2.6	-	0.3
Other Crosses	-	2.7	2.5
	100.0	100.0	100.0
Total No. of Ewes	652	4843	5495

6. The Management of the Flock

The periods during which the rams were turned in are shown in Table 5.

Table 5 : Distribution within Turning-in periods by Flock Size

Period	Flock Size Group		All Flocks
	Under 200 Ewes	200 Ewes and Over	
August	2	1	3
September 1-15	1	-	1
16-30	-	1	1
October 1-15	2	6	8
16-31	1	6	7
Total	6	14	20

This shows a range for the larger flocks from August to the latter part of October. However, the smaller flocks were split equally between the earlier and the latter part of the period.

The pattern of disposal of the lambs and the average price received including subsidy is given in Table 6.

Table 6 : Disposal of Lambs

	Flock Size Group		All Flocks	Average Price £	Average Weight kg
	Under 200 Ewes	200 Ewes and Over			
Fat Lambs Sold:					
April	37	-	37	46.29	22.76
May	148	24	172	42.37	20.30
June	141	162	303	37.66	18.56
July	102	1074	1176	34.52	19.14
August	82	923	1005	33.19	18.75
September	55	1045	1100	32.71	18.59
October	41	698	739	32.34	18.11
November	58	592	650	34.45	19.74
December	63	575	638	38.50	21.19
January	43	196	239	41.08	19.52
February	8	11	19	36.37	19.50
All Fat Lambs	778	5300	6078	34.83	19.14
Store Lambs:Sold	63	442	505		
Ewe Lambs :Kept	30	26	56		
Total Lambs	871	5768	6639		

3 Farms were excluded due to lack of monthly information

Only 7½% of the total crop was sold as stores and only a very small number of ewe lambs were retained. This was common to both size groups. However, a much higher proportion of fat lambs were sold early (42% in April, May, June) from the smaller flocks, whereas the bulk of the crop (71%) was sold in July, August, September and October from the larger flocks. A roughly similar proportion (approx. 25%) was sold later in both size groups. This does suggest that those in the small size group attempting to get lambs off earlier by putting their rams in earlier were in fact doing so.

7. Financial Results

The output, variable costs and gross margin, together with relevant physical data is given for the two flock size groups in Table 7. Similar data is shown in Table 8 for the whole sample and for the top - third (7 flocks) selected by the level of gross margin per forage hectare achieved. Only one of the flocks in the smaller size group was in this premium group.

Table 7 : Output, Variable Costs and Gross Margins

Group Averages

	Under 200 Ewes	200 Ewes and Over
Physical Data		
Lambs:		
Nos. reared per 100 Ewes	134	150
Weight of Fat Lambs, kg./d.c.w.	19.95	18.88
Receipt per Fat Lamb	39.08	34.21
Ewes:		
Wool per Ewe, kg.	3.70	2.89
Av. man hours per Ewe	6.19	3.41
Stocking Rate, Ewes/Hectare	8.53	9.12
	£ Per Ewe	
Output		
Lambs	55.46	53.79
Wool	3.76	2.56
A.C.P. Grant	2.08	1.97
TOTAL	61.30	58.32
Cost of Flock Replacement	- 3.69	- 2.97
TOTAL OUTPUT	57.61	55.35
Variable Costs		
Feed	10.14	8.05
Veterinary & Medicine	2.38	2.04
Miscellaneous	3.60	1.44
Forage Costs	6.04	7.22
TOTAL VARIABLE COSTS	22.16	18.75
GROSS MARGIN	35.45	36.60

	£ Per Forage Hectare	
GROSS MARGIN PER FORAGE HECTARE	302.22	333.88
RANGE	140.19 to 802.84	217.53 to 705.68

Table 8 : Output, Variable Costs, Gross Margins

All Farms and Top Third

	All Flocks	Top Third
Physical Data		
Lambs:		
Nos. reared per 100 Ewes	148	153
Weight of Fat Lambs, kg./d.c.w.	19.14	19.63
Receipt per Fat Lamb	34.83	37.17
Ewes:		
Wool per Ewe, kg.	2.99	2.88
Av. man hours per Ewe	3.74	5.03
Stocking Rate, Ewes/Hectare	9.05	13.68
	£ Per Ewe	
Output		
Lambs	53.98	55.09
Wool	2.71	2.76
A.C.P. Grant	1.98	1.94
TOTAL	58.67	59.79
Cost of Flock Replacement	- 3.05	- 1.06
TOTAL OUTPUT	55.62	58.73
Variable Costs		
Feed	8.29	9.96
Veterinary & Medicine	2.08	1.97
Miscellaneous	1.70	1.53
Forage Costs	7.09	7.00
TOTAL VARIABLE COSTS	19.16	20.46
GROSS MARGIN	36.46	38.27

	£ Per Forage Hectare	
GROSS MARGIN PER FORAGE HECTARE	329.89	523.53
RANGE	140.19 to 802.84	395.40 to 802.84

There was little difference between the average gross margin per ewe in the two flock size groups. Although the larger flocks had a better percentage of lambs reared they were smaller and returned lower receipts per head than the lambs from the smaller flocks. The average gross margin per forage hectare was a little higher in the larger flock size group because of a higher stocking rate. The advantage of size is clearly shown in the labour required for the larger flocks compared with the smaller.

Although the average gross margin per ewe of the top-third flocks was only a little above that of the whole sample, the gross margin per hectare was much higher. Both the flock with the highest and the lowest gross margin per ewe were in this group indicating, once again, that stocking rate has a more important influence on the level of gross margin per hectare than the individual performance of the ewe. More time was expended on the ewes in the premium group suggesting that, as all but one of the flocks were in the larger flock size group, more attention was given to the ewes in these flocks.

1981 was the first season in which the E.E.C. sheep regime was operating. Some idea of its effect can be gained by comparison with the previous study of the 1976 lamb crop [1] when support was still being provided by the British deficiency payment system. Deflating the 1981 figure by a Retail Price Index [2] shows the average total price per kg. received including support in fact a little lower than in 1976 as shown in Table 9.

Table 9 : Comparison of 1976 results with those of 1981 in real terms (1981 deflated to 1976)

		1976	1981 deflated to 1976
Average Price received per kg. (including support)	p	103	97
Gross Output per ewe	£	32.14	29.60
Gross Margin per ewe	£	21.06	19.40
Gross Margin per forage ha.	£	141.32	175.56
Stocking Rate, ewes per forage ha.	£	6.71	9.05

R.P.I. 1976 100
R.P.I. 1981 188

(1) Macaskill, R.A., Lowland Sheep. A study of Fat Lamb Production in 40 ewe flocks in 1976. University of Nottingham, Dept. of Agriculture & Horticulture, February 1977.

(2) Nix, J., Farm Planning Handbook, 13th Edition (1983). Farm Business Unit, School of Rural Economics, Wye College, September 1982.

Both output and gross margin per ewe were lower in real terms in 1981, but the gross margin per forage hectare was 25% higher. This was entirely due to the superior stocking rate achieved on the farms in the 1981 study and is therefore, due to better technical performance and not to higher real prices received for the product.