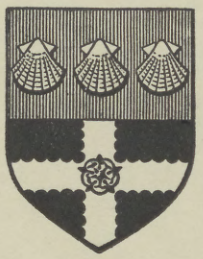
Lambs - Cost of production



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DEPARTMENT OF AGRICULTURAL ECONOMICS

Costs and Returns of Fat Lamb
Production in Southern England in 1960.

by

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I

This report is based on the records of 67 flocks in Southern England in the year ended October 31st 1960. Two main points emerge; first, the large measure of similarity between them with respect to size, breeds, management and general conditions, second, the wide range in results.

Generally, flocks were small and run on flying-flock basis. Of the 67, 41 were less than the average of 154 ewes and 24 had fewer than 100 ewes each. Sheep numbers on most farms were low in relation to the total area of crops and grass, on 50 farms, for example, there was over an acre of grass available per ewe. But grassland was hardly over managed primarily to satisfy the needs of the sheep which formed a subsidiary enterprise aimed at increasing the efficiency of pasture utilisation and at maintaining fertility. In only four cases were large quantities of roots consumed and these were grown cheaply on downland and folded off in large breaks in what was considered a vital preliminary to barley growing. Nine out of every ten flocks relied almost entirely on purchased replacements for flock maintenance.

Most ewes were of a first hill-cross type - Scottish Half-breds predominating. The ewes in 41 flocks were of a light grassland type[1], those in a further 24 were of a similar though somewhat heavier type[2]. Only two flocks were made up of predominantly Down breeds of ewes. No less than 45 flocks used Suffolk rams and a further 14 used Dorset or Hampshire Downs.

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1. Half-bred, Kerry Hill or Hill Cross.

2. Clun, Suffolk and Suffolk Cross or Border Leicester.

In every case the aim was to produce lambs fit for the butcher for sale in the summer and early autumn. Almost two-thirds of the lambs sold went in June, July and August with August by far the most important month. Few flocks lambed early and, indeed, no fewer than 43 lambed down in March. The bulk of the lambs, therefore, required little grass before the end of April and grazing needs were limited in the main to the cheap-grass months of May, June and July.

II.

If the flocks may be said to bear a marked similarity one to another in type and general operating conditions this is certainly not true of their performances. Net margin per ewe varied from a loss of £2.2.11 to a profit of £7.17.2. The best ten flocks had an average net margin of £6.4.11 per ewe while the poorest ten showed a loss of 11s.9d. per ewe.

On average the net margin per ewe was £2.17.9d which represented an annual return of over 21% on total costs. In comparing these results with those of other enterprises it should be borne in mind that the stock depreciation figure of £1.0.9d. is low for, being based on market prices, it reflects the low prices of breeding stock in the autumn of 1959 and the higher prices of the following year. Offsetting this to some extent is the fact that wintering costs tended to be high owing to the poor condition of pastures following the dry summer and autumn of 1959.

The following figures show how the best ten flocks were able to combine high output with average, or lower than average, costs whereas the poorest ten achieved only a low output in spite of the high costs.

	Best ten flocks	Poorest ten flocks
Number of ewes to ram	141	132
Grassland per ewe	2.7 acres	1.4 acres
Lambs born alive as % of ewes to ram	1.6%	1.5%
Lambs died as % of lambs born alive	6.4%	12.6%
Ewes died as % of ewes to ram	4.5%	8.0%
	£: s: d:	£: s: d:
Total sales (adjusted for valuation changes) per ewe	11 9 0	7 0 11
Net margin per ewe	6 4 11	(minus) 11 9
Supplementary feed per ewe	14 8	2 9 2
Labour per ewe	1 8 3	1 4 10

The difference of well over £4 between total sales per ewe for the two groups points to a fundamental weakness in the poorest flocks, namely, low output. Lambs born in these flocks were only slightly fewer but mortality of both ewes and lambs was almost double that of the better flocks. Rather poorer prices were obtained per lamb and a few shillings less received per fleece. On top of this costs were much higher - the cost of supplementary food being over three times as much and labour twice as much - in these low-output flocks.

Disposing of the sheep would not necessarily permit labour costs to be cut nor would reducing the time spent on the sheep necessarily allow labour to be utilised profitably elsewhere on the farms showing these poor results. Nevertheless two points can be made. First, heavy labour costs

did not prevent high mortality or poor quality lambs. Second, economical utilisation of labour would seem very difficult to achieve with small flocks.

Evidence of the heavy demands on labour that the small flock makes is given in the following figures of labour per 100 ewes:

	Flocks under 50 ewes	Flocks over 50 ewes
Routine shepherding	432 man-hours	270 man-hours
Lambing only	288 man-hours	226 man-hours
Total Labour	720 man-hours	496 man-hours

But it is in the overall density of sheep stocking that the most marked difference between the best and the poorest ten lies and it is from overstocking - albeit that by good stockmanship standards it was far from high - that most of the difficulties arose.

In only a few of the 67 flocks was careful attention given to matching available grazing to the varying seasonal requirements of ewes and lambs and to the provision of clean pasture (e.g. free from sheep for at least a year) particularly during the spring and summer months. In most flocks the relatively low density of sheep stocking was regarded as sufficient safeguard. The following figures show the average net margin for flocks of different stocking densities.

Grassland available per ewe	Number of flocks	Net margin per ewe
Over 2 acres	16	£2 1 8
1 - 2 acres	34	£3 1 6
Under 1 acre	17	£2 12 0

A number of co-operators had increased the size of their sheep flocks in the years before this study. A high proportion of them ran into disease problems of one sort and another and even where clinical symptoms were absent a general lack of thrift was noticeable. On many farms a new concept of sheep management in terms of handling methods, of the control of parasitic infection, and of the provision, utilisation and resting of grazing is called for if stocking rates are to be increased. Most farmers will probably be content with the relatively small flock in spite of its various disadvantages.

No. of ewes per flock	No. of flocks	Net margin per ewe			Labour per ewe			Supplementary feed per ewe			Vet. & med per ewe		Av. price per lamb sold			Lambs born alive as % of ewes to ram	Lambs died as % of lambs born alive	Ewes died as % of ewes to ram
		£:	s:	d:	£:	s:	d:	£:	s:	d:	s:	d:	£:	s:	d:			
0- 49	12	1	8	0	1	10	11	1	10	10	4	8	6	1	10	1.5	13.9	5.5
50- 99	12	3	11	2	1	0	10	1	13	1	3	0	6	3	5	1.6	9.7	5.4
100-149	17	3	1	1	1	3	7	1	12	8	4	4	5	19	2	1.5	8.9	4.8
150-199	9	2	13	3	1	5	4	1	14	6	5	7	6	0	6	1.5	7.9	5.6
200-299	8	3	2	0	1	2	5	1	10	9	3	11	6	4	8	1.4	5.5	4.5
300 +	9	2	18	3		19	4	1	6	0	3	8	6	4	5	1.4	6.0	6.1

The figures in the table above show that with flocks of less than 50 ewes labour costs were very high but flock performance generally was no better than average. Lamb mortality was particularly high. This

figure was probably underestimated in the larger flocks where a lamb with poor chance of survival tended not to be counted among those 'born alive'. This is borne out by the lambing percentage figures.

In spite of the lower lambing percentage and the higher ewe mortality with increasing size of flock, supplementary feed costs, veterinary expenses and labour costs all fell steadily so that there was little variation in net margin per ewe for flocks with over 100 ewes.

Quality of Stock.

The cost of the ewe itself represents a high proportion of the capital invested in the enterprise. Moreover selection of the ewe will, to a large extent, determine the number of lambs born, their health and early growth rate and the weight and quality of wool. Unfortunately reliable evidence of past performance is almost impossible to obtain when buying ewes and, as in a similar study of lamb production made in 1956[1] there is again evidence that farmers are inclined to overbid for the younger, probably over-prepared animals. If bidding were in fact properly informed, then the more expensive ewes would show a higher net margin per head so that overall the expected rate of return from investing in different breeding stock would not vary markedly. This is not so as the following figures show. They cast some doubt on the criteria by which farmers select their stock.

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1. Department of Agricultural Economics, Reading University. Miscellaneous Cost Studies No. 33. May 1957.

Average price per ewe	Number of flocks	Net margin per ewe
£9 and over	11	£1 - 1 - 3
£8 - £9	18	£3 - 7 - 5
£7 - £8	16	£2 -18 -11
£6 - £7	13	£2 -18 - 4
£6 and under	9	£2 -15 - 1

Sale of lambs.

Full sales data with respect to numbers, weights, prices and dates of sale were obtained for 7,650 lambs sold fat from 55 flocks. These shed some light on the questions of when and at what weight to sell.

The question of where to sell is also one with which farmers are concerned. Judging by the relatively small differences between lamb prices from different sized flocks this is one they solved fairly successfully. Lambs from the larger flocks tended to be sold in larger batches either to the F.M.C. or privately to butchers able to handle large numbers, while those from the smaller flocks tended to be sold in smaller batches at local markets. In this way the larger producer was able to achieve economies in handling and transport costs without running the danger of depressing prices in the smaller auction market. The smaller producer, with little scope for such economies, concentrated on doing better than average from the relatively high day to day and batch to batch fluctuations in prices in the smaller market.

Over the period beginning 25th April and ending 31st October for batches of lambs from 35-48 lbs[1] inclusive an average price of 39d per lb. was received. At the end of April prices were 10d per lb. above this average, by the end of May however this margin had gone and indeed prices did not rise above average again until mid-September.

A number of points need to be borne in mind. First, the high prices in the spring are of short duration, second, prices even at that time tend to lose some of their attraction because of the way the subsidy tends to iron out seasonal price movements, third, once the period of high prices is over price variations (after paying the subsidy) are relatively small - generally of the order of a penny or two below the average. Such seasonal price movements are undoubtedly small in relation to seasonal variations in the costs of production. It is hardly surprising that these farmers tended to aim at low cost production although they realised the danger of market glutting - as had occurred in 1959.

In order to compare weekly price/weight differentials batches sold over the same period - late April to the end of October - have been divided into 35-41 lbs and 42-48 lbs groups. The lighter animals averaged 40d per lb. the heavier ones 38d per lb. The margin in favour of the smaller lambs varied a good deal as the season progressed, but in only two weeks did it reach 5d per lb.

Without more information about market conditions and the quality of lambs sold little can be offered in explanation of week to week price fluctuations beyond the fact that, as supplies generally increased and the

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1. These weights are to some extent arbitrary but they give a good coverage of the data over the period in question.

weather became warmer so the smaller carcass fetched more per lb. This is borne out by the fact that, early in the season, when supplies were low in relation to demand it was the larger animal which fetched the extra 1d or 2d per lb. This was so in five out of the first nine weeks. The smaller animal fetched 4d to 6d per lb more during the warmer summer months when supplies were relatively plentiful. In the autumn, however, as supplies fell off and the weather became cooler so the margin in favour of the smaller animal was reduced.

Appendix A.

Distribution of flocks by counties

County	No. of flocks
Buckinghamshire	25
Oxfordshire	18
Berkshire	11
Northamptonshire	7
Hampshire	4
Warwickshire	2

Average of lambs born alive as % of ewes to ram	145.9
Average of lambs died as % of lambs born alive	7.5
Average of ewes died as % of ewes to ram	5.4

Average weight of fleece 6.4 lbs and price £1.7.4d

Average weights of food per ewe:

Silage	0.2 cwts
Hay	0.9 "
Roots	2.4 "
Concentrates	0.6 "

Appendix B.

Average costs and returns per head of ewes put to the ram - based on records of 67 flocks.

	£:	s:	d:
Sales of breeding stock	1	5	11
Sales of lambs	6	13	0
Deficiency payments		7	2
Wool	1	5	5
Closing valuation of stock	6	18	7
Total Sales and Closing Valuation of Stock	£16	10	1
Opening valuation of stock	7	12	11
GROSS MARGIN	£8	17	2

COSTS.	£:	s:	d:	£:	s:	d:
Labour				1	2	3
Food: Purchased concentrates		12	6			
Purchased other feed		1	2			
Homegrown concentrates		1	8			
Roots		4	8			
Silage			8			
Hay		9	9			
Grazing	2	15	6	4	5	11
Vet. and medicine					4	1
Other direct costs					1	0
Drepreciation and repairs					2	7
Transport and marketing					3	7
Total Costs other than Stock				£5	19	5
NET MARGIN (Gross Margin - Total Costs other than Stock)				£2	17	9

Opening and closing valuations of livestock and livestock transfers are at commercial market values.

Labour, feed (other than grazing) and other inputs are valued at cost to the farmer.

Grazing costs are based on an average figure of 11d per ewe week and 9d per lamb week excluding the first six weeks of the lamb's life. This average figure was obtained from the detailed costings of grazing per stock unit carried out as part of this Department's milk cost investigation.

Differences in grazing costs per ewe depend therefore, for the individual flocks, on the length of time the ewes were on the farm, the number of lambs reared to six weeks and the time they were carried beyond that age. No account is taken in this figure of any individual farm variations in costs of grassland management.