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ABERYSTWYTH**

ECONOMIC STUDIES IN SHEEP FARMING IN WALES.

NUMBER 2.

General Report on a survey of Fat Lamb Production on 19 farms in the counties of Glamorgan and Monmouth for the year 1956-57.

by

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CAMBRIAN CHAMBERS, CAMBRIAN PLACE
ABERYSTWYTH**

Price:
2s. 6d.

ACKNOWLEDGEMENT.

On behalf of the Department I should like to take this opportunity of expressing my thanks to the ~~farmers~~ who have participated in this investigation and for the readiness with which they have supplied the information required.

E. F. Nash.

Professor of Agricultural
Economics.

August, 1958.

INTRODUCTION.

This report is based on a survey of fat lamb production on 19 farms in the counties of Glamorgan and Monmouth for the year 1st October, 1956, to 30th September, 1957.

In size the farms ranged between 60 and 304 acres, with an average of 195 acres. In the Glamorgan sample the average size of farm was larger than in that for Monmouthshire, being 211 acres as against 181 acres.

With regard to land utilisation, about three-quarters of the land area per farm, on the average, was under grass. Of the remaining 25 per cent, corn accounted for 15 per cent; root crops for 2 per cent; green crops (Rape and Kale) for 4 per cent; fallow and other crops for 1 per cent; and, finally, land classified as rough grazing for 3 per cent. The proportion of land under corn per farm was composed, on the average, of just over one-third wheat, just under one-third oats, and a fairly equal amount of barley and mixed corn. The Monmouthshire farms tended to have a relatively higher proportion of land under grass than was the case for the farms in Glamorgan.

The type of farming practised was mixed, with cattle, sheep, pigs and poultry, each contributing its share to the total output. On most of the farms the main enterprise was milk production, with beef or store cattle production on the remainder. Fat lamb production occupied a role subsidiary to the main enterprise.

General Features and Physical Results.

The survey of fat lamb production was limited to farms where a permanent flock of breeding ewes was kept. The size of the flocks ranged from 24 to 173 breeding ewes, with an average for the 19 farms of 121. In the Glamorgan sample one flock consisted of less than 50 ewes, while three flocks had under 100. The largest flock comprised 140 breeding ewes. In the Monmouthshire sample only two flocks consisted of less than 100 breeding ewes, whereas four flocks had over 150. On the whole the farms in Monmouthshire tended to keep relatively larger breeding flocks than those found on farms in Glamorgan.

The flocks consisted almost entirely of cross-bred ewes. Classification of the flocks according to breed proved impracticable because most of the flocks were a mixture of cross-bred ewes. Purchased replacements for flock maintenance were obtained from the Brecon, Sennybridge and Builth Wells areas, and also from Monmouth and Forest of Dean areas. Most of the replacements drawn from the

former areas were Welsh ewes crossed with Cheviot or Kerry Hill rams, whilst from the latter they were the Radnorshire-type Welsh ewe crossed with a Suffolk or Clun ram.

The rams used for fat lamb production were drawn from the Suffolk, Hampshire, Border Leicester, Clun and Oxford breeds. On a number of farms rams of more than one breed were kept for this purpose. In the main, however, the breed most favoured was the Suffolk.

The lambing period ranged from early January to the end of April. On the majority of farms the bulk of the lambs were born during February and March. Five farms, however, two in Glamorgan and three in Monmouthshire, had the ewes lambing in January and February; while on three, two of which were in Monmouthshire, the lambing period was much later, in March and April.

Weather conditions were favourable to the enterprise during the winter and lambing period. An indication of the productivity of the breeding ewes is given in the following table:

Table 1.

Productivity of Breeding Ewes Per 100 Ewes Mated.

	Number of lambs	
	Glamorgan	Monmouth
Ewes - Lambing	94	97
- Barren	4	2
- Died	2	1

Over all the 19 farms the average number of lambs born alive per 100 breeding ewes mated was 139. Losses in lambs amounted to 8.6 per cent of the total, leaving 127 lambs reared. The range in the number of lambs reared was from 120 to 151 in Glamorgan, and from 107 to 138 in Monmouthshire.

Table 2.

Distribution of Farms According to Number of
Lambs Reared,
Per 100 Ewes Mated.

No. of lambs reared.	Number of Farms.	
	Glamorgan	Monmouth
Under 115	-	2
Over 115 & under 125	3	4
" 125 " " 135	4	3
" 135	2	1

The average lambing results for the two counties, together with the disposal of the lambs reared, are given in the table overleaf -

Table 3.

Lambing Results and Disposal of Lambs Reared.
Per 100 Breeding Ewes.

	Glamorgan.		Mormouth.	
Lambs - Born Alive	144		133	
- Losses	13		10	
- Reared	131		123	
<u>Disposal:</u>	No.	%	No.	%
Retained for Flock Replacement	10	7	12	10
Sold as Fat Lambs	75	58	94	76
On hand for sale - 30th Sept.	46	35	17	14
Total	131	100	123	100

On the average the Glamorgan farms had relatively better results in terms of lambs born alive. Even allowing for the relatively higher losses in lambs, 9 per cent as against 7.5 per cent, these farms still retained their advantage in the number of lambs reared.

The breeding ewes are normally retained in the flock for the duration of their productive life, the culls being invariably fattened off and sold. At the beginning of the survey year, October 1956, the numbers of breeding ewes on the farms in Glamorgan and Monmouthshire were 912 and 1437 respectively. From these totals, 10 and 15 per cent respectively were culled, fattened off, and sold. Death accounted for a further 4 and 6 per cent respectively of the breeding ewes. In order to maintain flock numbers at about the same figure at the end of the year, therefore, replacements of the order of just over 14 and 21 per cent respectively were required.

In actual fact replacements on the Monmouthshire farms amounted to 25 per cent of the number of breeding ewes at the beginning of the year. Total replacements on Glamorgan farms amounted to 36 per cent of the initial numbers. This relatively high figure is explained by the fact that it was the intention on many farms not only to replace ewes lost through culling and death but also to increase the size of the breeding flock.

Replacements were obtained either entirely from outside sources as yearlings or two-year-olds, or partly from outside sources and partly from home-bred lambs, or entirely from among home-bred lambs. During the late summer and early autumn of 1957 there was a considerable rise in the prices of yearlings and two-year-olds, and this in many cases affected managerial

decisions with regard to the purchase of replacements from outside sources. The proportion of home-bred lambs retained to replenish the breeding flock was relatively higher in Monmouthshire than in Glamorgan. Of the total replacements transferred into flocks, 73 per cent were purchased on the Glamorgan farms, and 48 per cent home-bred on the Monmouthshire farms.

A trend in the seasonality of lamb sales is discernible in Table 3. The farms in Monmouthshire, on the average, sold about three-quarters of the total lambs reared by the 30th September. In comparison just over half the lambs had been sold from the Glamorgan farms during the same period, with over one-third remaining on hand for sale during the winter.

The monthly distribution of lamb sales is given in Table I in the Appendix. The twelve months may be divided into three categories. The months April to June inclusive can be regarded as the early-lamb period; the months July to September inclusive as the period for mid-season lamb; and the months from October through the winter as the late-lamb season. The lambs sold during the months October 1956 to March 1957 were almost entirely from the previous year's crop and as such fell into the category of late-lamb. Very few of the new season's lambs were sold from the survey farms in either county before April. The proportions of such lambs sold in March in Glamorgan and Monmouthshire were 0.4 and 1.9 per cent respectively. Early-lamb sales accounted for the same proportion, i.e. 29 per cent, of the total lambs sold in both counties. Just under one-half of the lambs sold from the Monmouthshire farms were disposed of as mid-season lamb, while on the Glamorgan farms the figure was just over one-third.

The proportion of lambs marketed from the Monmouthshire farms increased each month from April onwards to reach a peak in August. This is the period during which the growth of grass is most active and it would appear that the farms made full use of this fact. On the Glamorgan farms, on the other hand, although there was a sharp increase in the proportion marketed from April to May, there was a slight decrease each month thereafter. Late-lamb production was a traditional feature of farm policy on a number of farms in Glamorgan.

Financial Results.

A detailed statement of production and costs is provided in Table II in the Appendix. Owing to the variation in the number of breeding ewes kept on

the farms the results have been presented per 100 breeding ewes.

Cost Structure.

The proportionate distribution of costs is shown in the table below.

Table 4.

Percentage Distribution of Costs.

	:	
	: Glamorgan	: Mornmouth
	: %	: %
Hand-Fed Foods	: 17.6	: 15.6
Grazing	: 44.2	: 49.2
Forage Crops	: 8.3	: 5.9
Labour	: 20.0	: 17.5
Transport and Marketing Charges	: 4.4	: 5.6
Vet & Medicines	: 2.0	: 3.0
Miscellaneous	: 3.5	: 3.2
	:	
Total	: 100.0	: 100.0

Grazing and supplementary food accounted for about 70 percent of the total costs. The other item of importance in the cost structure was labour. The remaining costs, transport and marketing charges, veterinary services and medicines, sheep dips and marking fluid, and a share of the general farm expenses, though constituting an integral part of the enterprise, together accounted for only a relatively small proportion of the total.

Supplementary Feeding.

With one exception supplementary feeding of the in-lamb ewes was practised on all farms. The amount and duration of such feeding varied from farm to farm and depended a great deal on weather conditions. In general, hand-feeding began about a month or so before lambing and continued afterwards until sufficient grass was available. The following table shows the average amount of food fed per ewe during this period on farms in both counties.

Table 5.

Foods and Amount Fed per Ewe.

	:	
	: Glamorgan	: Mornmouth
	: lb.	: lb.
Concentrates	: 36.5	: 28.1
Hay	: 59.6	: 23.7
Swedes	: 71.1	: 95.1
Mangolds	: 297.5	: 205.9

The concentrates fed were mainly home-grown cereals, oats or mixed-corn, the remainder being purchased cake or flaked maize. Feeding was at the rate of 1 lb. to 1½ lb. per ewe per day.

On a number of farms swedes were included in the ration for the ewes before lambing. Mangolds were fed after lambing. Weather conditions during the spring of 1957 were rather dry, and in many cases the hand-feeding of mangolds was continued for a longer period than usual.

Forage crops were grown on a few farms in both counties and used almost entirely to finish lambs for the market in late autumn or winter.

Labour.

The manual labour requirements per 100 breeding ewes are given in Table III in the Appendix. These requirements were almost entirely met by the labour available on the farms; only in two cases in Glamorgan and a similar number in Monmouthshire was it necessary to employ additional labour and that was in respect of shearing.

Shepherding absorbed the major part of the time, accounting for 81.6 per cent and 77.4 per cent of the total requirements in Glamorgan and Monmouthshire respectively. The operation of shepherding embraces all the customary tasks associated with the care and attention of the flock, such as dosing, inoculating, hand-feeding etc. The peak period in the demand for labour is during lambing. The average times spent on this aspect of the operation were 191.5 hours in Glamorgan and 196.9 hours in Monmouthshire.

Returns.

The average returns from the sale of sheep and wool are given in Table II in the Appendix. The percentage distribution of the returns is shown in the table below.

Table 6.

Percentage Distribution of Returns.

	: Glamorgan : Monmouth	
	%	%
Lambs	83.3	80.0
Ewes	3.6	8.3
Rams	0.1	0.1
Wool	13.0	11.6
Total	100.0	100.0

About four-fifths of the returns were obtained from the sale of fat lambs, wool being the item next in importance. Culled ewes from the breeding flock sold fat, together with, in some instances, the sale of rams, made up the remainder of the returns.

Margins.

The resulting margin from the enterprise on the farms in both counties was, on the average, somewhat similar, as shown below.

Table 7.

Margins per 100 Breeding Ewes.

	: : Glamorgan	: : Monmouth
Gross Production	: £ 969	: £ 925
Total Costs	: 409	: 372
Margins	: 560	: 553

There was a wide range in the margins obtained on individual farms. In Glamorgan they ranged from £360 to £741 per 100 breeding ewes. The range on the Monmouthshire farms was from £296 to £784 per 100 breeding ewes. The distribution of the farms according to the margin obtained is given in the following table.

Table 8.

Distribution of Farms According to Margin Obtained per 100 Breeding Ewes.

Margin per 100 Breeding Ewes:	: : Glamorgan	: : Monmouth
	: : No.	: : No.
Under £300	: -	: 1
Over £300 & Under £400	: 2	: 1
" £400 " " £500	: 1	: 1
" £500 " " £600	: 3	: 4
" £600	: 3	: 3

Some Factors Affecting Profitability.

In order to ascertain the influence of some factors on the profitability of the enterprise, farms with relatively high and low margins in both counties have been grouped separately, and their results compared.

Table 9.

Comparison of Production and Costs on Farms with Relatively
High and Low Margins in Both Counties per 100
Breeding Ewes.

	Glamorgan		Monmouth	
	3 Farms with High Margins	3 Farms with Low Margins	3 Farms with High Margins	3 Farms with Low Margins
	£	£	£	£
Gross Production (A)*	m 1166	869	1032	775
Costs: Hand Fed Foods	51	130	67	25
Grazing	191	205	118	261
Forage Crops	64	4	31	-
Labour	84	83	73	65
Other	45	41	48	45
Total Costs (B)	435	463	337	396
Margin (A-B)	731	406	695	379
No. of Breeding Ewes per Farm	88	102	156	105

In both counties the high-margin groups have, on the average, a gross production about one-third greater than the low-margin groups.

No great difference exists in the levels of costs per 100 breeding ewes as between the two groups in either county. Such difference as does appear is accounted for by the relatively higher costs of grazing and supplementary food in the low-margin groups. Even if the high-margin groups had the same level of costs as the low-margin groups in either county the difference in the margin realised would still be significant.

Gross Production per £100 costs in the high-margin group was £268 in Glamorgan and £306 in Monmouthshire. In contrast the low-margin group in Glamorgan had a gross production of £187 Per £100 costs, and in Monmouthshire the figure was £196.

Undoubtedly some differences exist between the farms in respect of situation, type and quality of soil, productivity of flock etc.

* Gross Production equals the difference between the Opening Valuation of Sheep plus Purchases of Sheep, and the Closing Valuation plus Returns from the sale of Sheep and Wool.

Some of these differences are revealed in the physical results of the enterprise as shown below.

Table 10.

Lambing Results and Disposal of Lambs Reared per 100
Breeding Ewes.

	Glamorgan				Monmouth			
	3 Farms with High Margins		3 Farms with Low Margins		3 Farms with High Margins		3 Farms with Low Margins	
Lambs: Born Alive	150		138		140		125	
Losses	15		14		11		8	
Reared	135		124		129		117	
<u>Disposal:</u>	No.	%	No.	%	No.	%	No.	%
Retained for Flock Replacement	4	3	21	17	12	9	19	16
Sold as Fat Lambs	113	84	43	35	83	68	92	79
On Hand for Sale on 30th September	13	13	60	48	29	23	6	5
Total	135	100	124	100	129	100	117	100

The most striking difference is that the high-margin groups had relatively better lambing results. The proportion of lambs lost on the farms in both groups in Glamorgan was roughly similar; in Monmouthshire relatively fewer lambs were lost in the low-margin group than in the high-margin group. Nevertheless, the overall position was that the high-margin groups reared a relatively larger number of lambs per 100 breeding ewes.

Another noticeable feature in the table is that the low-margin groups in both counties, with fewer lambs reared, retained a relatively higher proportion of them to replenish the breeding flock. Whether this decision was due to customary policy or because of the price situation prevailing for replacements during the late summer of 1957, it undoubtedly meant a loss in income, and a consequent reduction in the ultimate margin.

Differences in the seasonality of sales are apparent, especially in respect of the two groups in Glamorgan. In Monmouthshire both groups sold the majority of the lambs reared by the 30th September.

The monthly distribution of lambs sold in both groups in each county is given in Table IV in the Appendix. As before, the lambs sold between October and the end of March were almost entirely from the previous year's crop. Very few lambs of the 1957 season were sold before April.

In Glamorgan the low-margin group marketed about one-quarter of the lambs as mid-season and over half as late-season lamb. In contrast the high-margin group sold about the same proportion, i.e. 36 per cent, as early-lamb and as mid-season lamb.

In Monmouthshire the low-margin group sold over half the lambs during the early-lamb season and over one-quarter as mid-season lamb. The high-margin group disposed of 68 per cent of the lambs before the 30th September, the bulk being sold as mid-season lamb.

Thus, in general, the factors which favoured the high-margin groups were, firstly, the relatively larger number of lambs reared; secondly, the retention of fewer home-bred lambs as replacements; and, lastly, the disposal of the majority of the lambs through sale before the 30th September.

Conclusion.

The physical and financial results obtained from the survey show a wide variation from farm to farm. From an analysis of these results it has been found that the primary factor affecting the profitability of the enterprise was the number of lambs reared.

The discussion and comment in this report has been limited to general terms because the results presented relate to only one year. A more detailed discussion must await the results for other years. The survey has been continued for the current year, and will probably extend into a third.

The main enterprise on most of the survey farms was milk production. Naturally this enterprise was the first concern of management. Some prejudice does exist among farmers against fat lamb production on the grounds of likely competition for grassland. Nevertheless the results of this survey show that, in general, fat lamb and milk production can fit in with one another. The majority of the lambs from the milk-producing farms were sold during the months April to September inclusive, a period when the growth in grass is most active, and there is little danger of interference with the main enterprise.

The successful integration of sheep and dairy cattle is a test of managerial skill. An enterprise study of the type used here cannot be expected to provide answers as to the methods of achieving it. All that can be expected is a statement of the cost structure and the returns obtained from the enterprise, with its related physical results. To study the question fully consideration must be given to the financial results of the farm as a whole, and this must be left to a subsequent report in this series.

APPENDIX.

Table I.

Monthly Distribution of Lamb Sales.

	Glamorgan		Monmouth	
	No.	%	No.	%
October 1956	35	3.3	101	5.9
November	-	-	63	3.7
December	58	5.4	60	3.5
January 1957	267	25.0	67	3.9
February	28	2.6	11	0.6
March	4	0.4	95	5.6
April	30	2.8	95	5.6
May	140	13.1	178	10.5
June	138	12.9	220	13.0
July	128	12.0	330	19.4
August	114	10.7	353	20.8
September	126	11.8	127	7.5

Table II.

Production, Costs and Margins per 100 Breeding
Ewes.

	Glamorgan	Monmouth
	£	£
<u>Opening Valuation & Purchases</u>		
Opening Valuation	975	751
Purchases of Sheep	359	117
Total (A)	1334	868
<u>Closing Valuation & Sales of Sheep:</u>		
Sales of Sheep	876	946
Sale of Wool	131	125
Closing Valuation	1296	722
Total (B)	2303	1793
<u>Gross Production (B-A)</u>	969	925
<u>Costs</u>		
Hand Fed Foods	72	58
Grazing	181	183
Forage Crops	34	22
Labour	82	65
Vet & Medicines	8	11
Sheep Dips etc.	6	5
Transport & Marketing Charges	18	21
Share of General Farm Expenses	8	7
Total Costs	409	372
<u>Margin</u>		
Gross Production minus Total Costs	560	553

Table III.

Manual Labour Requirements per 100 Breeding
Ewes.

Operation.	Glamorgan.		Monmouth.	
	Hours	%	Hours	%
Shepherding	401.7	81.6	302.1	77.4
Dipping	11.1	2.3	8.7	2.2
Shearing	60.5	12.3	52.9	13.6
Marketing etc.	19.0	3.8	26.5	6.8
Total	492.3	100.0	390.2	100.0

Table IV.

Monthly Distribution of Lamb Sales on Farms with Relatively
High and Low Margins in Both Counties.

	Glamorgan.				Monmouth.			
	3 Farms with High Margins.		3 Farms with Low Margins.		3 Farms with High Margins.		3 Farms with Low Margins.	
	No.	%	No.	%	No.	%	No.	%
October 1956	23	5.6	12	4.1	11	2.0	32	9.3
November	-	-	-	-	52	9.2	-	-
December	43	10.5	-	-	15	2.7	14	4.0
January 1957	37	9.1	145	49.7	-	-	7	2.0
February	8	2.0	-	-	8	1.4	2	0.6
March	4	1.0	-	-	95	16.8	-	-
April	19	4.6	-	-	65	11.5	12	3.5
May	77	18.9	20	6.8	30	5.3	109	31.5
June	48	11.8	42	14.4	40	7.1	78	22.5
July	51	12.5	12	4.1	87	15.4	30	8.7
August	45	11.0	12	4.1	142	25.1	55	15.9
September	53	13.0	49	16.8	20	3.5	7	2.0

ACKNOWLEDGEMENT.

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