Sheep

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A Farmer and Stockbreeder photograph

FAT SHEEP PRODUCTION IN DEVON
1957/58

I, COURTENAY PARK,
NEWTON ABBOT,
DEVON.

Price Three Shillings and Sixpence

FAT SHEEP PRODUCTION IN DEVON

1957/58.

An Economic Study of 46 Fat Lamb and 15 Fat Hogg Enterprises in Mid and South Devon.

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FOREWORD.

Fat sheep production has long been a feature of farming in the lowland area of Devon in which this study was carried out. The land is better than the average in the County and the climate too is comparatively favourable for both livestock production and arable cash-cropping. Traditionally in this area sheep are associated with barley growing, but there have been many changes in the systems of sheep production during the past half century. The depression of the early nineteen thirties was instrumental in bringing about a drastic change in the management of the sheep flock and its relation to the overall farming system. Corn growing for sale became unprofitable and the extensive root break associated with it was greatly reduced. Grass occupied a greater proportion of the farm area and there was a change from arable sheep and hogging to grassland flocks. The pure heavy breed flocks of Devon Long Wools and South Devons were mated with Down-type rams to provide an earlier maturing lamb for finishing mainly on grass.

With the improvement in farming prosperity towards the end of the thirties and the increased demand for home-produced meat during the second World War, there was perhaps some revival in arable sheep production, but because of labour shortage and increased wages, a return to the old system of folding on swedes was not an economic proposition. There was a switch from swedes to a mixture of swedes and kale or to kale and green crops for the sheep to graze. Since the war a further factor has become apparent, there has been a change in demand towards the smaller joint and lighter carcase, which puts the heavy weight sheep to a further disadvantage. The result of these factors is that hogging, even in the modified form, has virtually disappeared and it was most difficult to find a sample of hogging enterprises in the autumn of 1957 for this investigation. In fact only 15 enterprises were costed and in most of these only the tail-end of the lamb crop was finished on roots. Modern methods of weed control and fertilizer use in corn growing, together with the use of leys, have rendered the hogging system obsolete in the area.

The economic considerations of labour cost and consumer preference have forced farmers to adopt changes in technology and husbandry, so that the grass sheep has now almost completely replaced the arable sheep in the Mid and South Devon farming landscape, and from this it follows that the figures in this report relate largely to fat lamb production from grass. Many of the flocks are still of native longwoolled ewes, some are even producing pure bred lambs, but the down type ram is now largely used for crossing and some farmers are even experimenting with other breeds, in order to find the best type of sheep to suit the changing system of farming made necessary by current economic conditions. The essence of good farm management is to adopt innovations and adapt the farming system to make the best of changing economic conditions. There have been great changes in the sheep enterprise on these Devon farms and it is hoped that a study of the facts presented in this report will better equip farmers to make any further modifications which may be necessary within the present and future economic climates.

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INTRODUCTION

This study of fat lamb and fat hogg production was undertaken for the one-year period Autumn 1957 to 1958. The data for hogging relates to the hoggs fattened during the autumn and winter of 1957/58 and born in 1957. The information relating to fat lamb production is for the 1958 lamb crop and in order to complete the picture of the disposal of these lambs it was found necessary to continue the enquiry up to the end of 1958.

Financial and physical data were collected from a sample of 48 farms. On two farms no ewes were kept and store lambs were purchased for hogging. Breeding flocks were maintained on 46 farms and on 13 of these the hogging enterprise was costed during the 1957/58 autumn and winter. The total sample of hogging enterprises was, therefore, 15. Fat lambs were also produced on the 13 farms in 1958 and together with the 33 farms on which fat lamb production only was undertaken, the total sample of fat lamb production enterprises amounted to 46. Because of the widely differing nature of the hogging and fat lamb enterprises, the results have been presented separately. A proportion of the 1958 lamb crop was retained for hogging and this occurred on 28 farms. The costs of fattening these hoggs were not collected, however, and the data for fat hogg production refers specifically to those flocks from which store sheep were kept for fattening during the 1957/58 winter.

GENERAL INFORMATION.

The Sample.

Size of Farms.

The farms on which the 46 flocks studied were located are in an area extending from Crediton in Mid-Devon to Kingsbridge and Plymouth in South Devon, 23 farms being situated in the Exeter district and 23 in the locality of Kingsbridge. The majority of the farms fell within the size range of 100 to 300 adjusted acres, with only three of the sample being less than 100 and eight greater than 300 adjusted acres.

Table 1. Distribution of farms by number and size.

Size of Farm Adj. Acres	No.	%
Under 50	2	4.3
50 - 99	1	2.2
100 - 149	8	17.4
150 - 199	5	10.9
200 - 249	12	26.1
250 - 299	10	21.8
300 - 349	6	13.0
350 and over	2	4.3
Total	46	100.0

Stocking & Cropping.

From the stocking and cropping data presented in the tables which follow, the predominance of mixed farming systems is apparent, with cattle, sheep, pigs, poultry and corn all contributing to the pattern of farm output.

Cows were kept on all but one holding, ranging in number from 2 to 53, with an average of 21 per farm. Store cattle were maintained on all but four farms, poultry on 38 and pigs on 31. Breeding and fattening as a joint enterprise was the most frequent practice with the latter and carried out on 16 farms, 9 produced only weaners and 4 concen-

trated on fattening alone.

Table 2 (a). Analysis of Stocking. Autumn 1957.

		No.	Animal Units No.	Animal Units %
Cattle:	Cows and Bulls	979	979	20.2
	Heifers in calf	42	42	0.9
	Stores over 2yrs	635	635	13.1
	Stores 1 - 2 yrs	867	694	14.3
	Stores 0 - 1 yr	879	440	9.1
Sheep:	Ewes	5336	1334	27.5
	Rams	120	30	0.6
	Hoggs	250	63	1.3
	Lambs	578	-	-
Pigs:	Sows and Boars	229	137	2.8
	Others	1901	237	4.9
Poultry:	Hens 6 mths & over	11825	236	4.9
Horses		18	18	0.4
Total		-	4845	100.0

Table 2 (b). Distribution of Livestock Per Farm

	Cattle	Sheep	Pigs	Poultry	Horses
Total Number	3402	6284	2130	11825	18
No. Farms	45	46	31	38	9
Av.No. per Farm	75.6	136.6	68.7	311.2	2.0

With the exception of two holdings, sheep represented less than 50 per cent of the total animal units per farm. In the majority of cases between 20 and 40 per cent of the animal units were sheep, only 6 farms having less than 20 per cent and 5 farms more than 40 per cent.

Within the sample a certain amount of variation existed in the allocation of land to different crops, but in terms of total adjusted acres grass predominated, occupying 62.9 per cent of the total. Of this, 19.6 per cent was cut for hay and silage, hay being made on all but two farms, whilst silage was confined to 13.

Table 3. Sheep as a Percentage of Total Animal Units.

	Farms	
	No.	%
10 per cent and under	-	-
11 - 20	6	13.0
21 - 30	22	47.8
31 - 40	13	28.3
41 - 50	3	6.5
Over 50	2	4.4
Total	46	100.0

Tillage crops accounted for the remaining 36 per cent of the total adjusted acres, corn representing 75 per cent of this and forage and other crops 25 per cent. Although only 8.5 per cent of the total adjusted acreage was under root crops, an average of 20.7 acres were grown on 96 per cent of the study farms. These were predominantly grown as a source of fodder, together with a small quantity of potatoes.

Table 4. Analysis of Cropping. 1958.

	Adj. Acres		Farms		Adj.Acs. per Farm
	No.	%	No.	%	
Wheat	138.5	1.4	12	26.1	11.5
Barley	1752.0	17.5	37	80.4	47.4
Oats	394.5	3.9	28	60.9	14.1
Mixed Corn	398.5	4.0	16	34.8	24.9
Roots for Fodder	723.0	7.2	44	95.7	16.4
Potatoes	128.0	1.3	30	65.2	4.3
Other	86.0	0.9	18	39.1	4.8
Grass: Hay	1782.0	17.8	44	95.7	40.5
Silage	181.0	1.8	13	28.3	13.9
Grazing	4332.5	43.3	46	100.0	94.2
Orchards	88.0	0.9	13	28.3	6.8
Total	10004.0	100.0	-	-	-

Barley was the most popular cereal crop accounting for 17·5 per cent of the total adjusted farm acreage. Mixed corn occupied 4·0 and oats 3·9 per cent. The total cereal acreage was distributed as follows between the individual crops: barley 65·3, mixed corn 14·8, oats 14·7 and wheat 5·2 per cent. Barley was grown on 80 per cent of the farms, indicating that the traditional association of sheep with barley growing is still being maintained.

In terms of total animal units maintained per 100 adjusted acres of crops and grass, this ranged from 23 to 155, the average for the 46 farms being 48.

Table. 5 Density of Stocking.

Animal Units per 100 adjusted acres.

Animal Units	Farms	
	No.	%
21 - 30	3	6·5
31 - 40	6	13·0
41 - 50	19	41·3
51 - 60	7	15·2
61 - 70	8	17·4
71 - 90	1	2·2
91 -110	-	-
111 -130	1	2·2
Over 130	1	2·2
Total	46	100·0

Although the difference in size between the smallest flock, 15 ewes and the largest, 230 ewes, was considerable, a fairly regular distribution throughout this range occurred. From Table 6 it can be seen that 17·3 per cent of the total flocks consisted of less than 60 ewes, 30·4 per cent had between 60 and 100, 37 per cent between 100 and 180, and 15·3 per cent had more than 180 ewes. Only 28·5 per cent of the total number of ewes were in flocks of less than 100 ewes, but these represented almost half the number of flocks in the study. Dissimilarities in flock size between the two districts of Mid and South Devon existed, and the general trend was for the flocks in the Exeter area to be larger than those in South Devon, the former averaging 139 and the latter 93 ewes per flock.

Table 6. Distribution of Farms by Size of Flock. Autumn 1957.

Size of Flock	Farms		Ewes	
	No.	%	No.	%
Under 40 ewes	2	4·3	51	1·0
40 - 60	6	13·0	307	5·7
61 - 80	6	13·0	438	8·2
81 - 100	8	17·4	722	13·6
101 - 140	8	17·4	970	18·2
141 - 180	9	19·6	1417	26·5
181 - 220	5	10·9	976	18·3
Over 220	2	4·4	455	8·5
Total	46	100·0	5336	100·0

The replacement of breeding stock varied with the system of flock management. Home rearing was the predominant practice and represented over 62 per cent of the total replacements. On four farms this method was augmented with purchased ewes. Twenty per cent relied solely on annual purchases whilst no replacements were made in 37 per cent of the costed flocks during 1958. The majority of purchased replacements were bought as 2-tooth ewes, just over 6 per cent as ewe lambs and the remainder as couples. In Table 8 the average price per couple relates to the value of the ewe and lamb or lambs.

Table 7. Ewe Replacements.

Source	Farms		Ewes	
	No.	%	No.	%
Home-reared	16	34·8	505	54·6
Purchased	9	19·6	214	23·1
Home-reared & purchased	4	8·7	(H.R 71 (P 135	7·7) 14·6)
None	17	36·9	-	-
Total	46	100·0	925	100·0

Table 8. Purchased Replacements

Purchased as:-	No.	%	Av. price / head
			£ s. d.
Couples	117	33.5	12 3 7
Ewes	210	60.2	11 2 11
Ewe Lambs	22	6.3	9 10 9
Total	349	100.0	-

With an initial total of 5336 ewes recorded and 925 replacements introduced into flocks during the year, this represented a replacement rate of 17.3 per cent.

The extent of the lambing period showed considerable variation, ranging from 3 weeks to more than 22 weeks; the average time for the 46 flocks being 11.5 weeks. With the exception of the three Dorset Horn flocks which lambed during September and October, the date of commencement varied from early December to late February, but with late December being the most frequent time. Lambing was most often completed during a 12 to 14 week period, but 28.3 per cent of the flocks extended over a longer time. There was no apparent relation between breed and the length of the lambing period.

Table 9. Time Distribution of the Lambing Period.

Length of period	Farms	
	No.	%
Under 4 weeks	5	10.9
4 - 6 "	3	6.5
6 - 8 "	3	6.5
8 - 10 "	4	8.7
10 - 12 "	5	10.9
12 - 14 "	13	28.2
14 - 16 "	4	8.7
16 - 18 "	3	6.5
18 - 20 "	1	2.2
Over 20 "	5	10.9
Total	46	100.0

There was a wide range in the breeds of ewes kept but the native breeds and their crosses predominated and represented just over three-quarters of the total number of ewes on two-thirds of the farms. Of the different breeds, the Devon Long Wool was the most popular, followed closely by the South Devon and together they comprised rather more than half of the total number of breeding ewes. The Dartmoor and Devon Close Wool were less prevalent but contributed 16·8 per cent of the total number of ewes. The most important of the remaining breeds were the Dorset Down, Dorset Horn and Clun Forest.

Although considerable diversity of breed existed between farms, comparatively few had more than one breed of ewe - only one farm in the sample kept 3 breeds; 12 kept 2 breeds and the remainder were confined to one breed. A higher proportion of farms had two or more breeds of ram and of these the Dorset Down and Suffolk were predominant, representing 29·1 per cent and 21·7 per cent of the total number of rams respectively. Tables 11 and 12 give summaries of the popularity of the various breeds in the sample.

Table 10. Number of Breeds of Ewe and Ram per Farm.

Breeds of ewe per farm No.	Farms		Breeds of ram per farm No.	Farms	
	No.	%		No.	%
1	33	71·7	1	18	39·1
2	12	26·1	2	21	45·6
3	1	2·2	3	5	10·9
			4	2	4·4
Total	46	100·0		46	100·0

Table 11. Breeds of Ewes.

Breed	Ewes		Farms
	No.	%	No.
Devon Long Wool	1433	26.9	13
South Devon	1096	20.5	14
Dartmoor	495	9.3	6
Devon Long Wool Crosses	477	8.9	3
Devon Close Wool	400	7.5	4
Dorset Down	366	6.9	5
Dorset Horn	362	6.8	3
Clun Forest	306	5.7	5
Border Leicester Crosses	162	3.0	3
Halfbred	144	2.7	2
Radnor	50	0.9	1
Welsh	45	0.9	1
Total	5336	100.0	-

Table 12. Breeds of Ram.

Breed	Rams		Farms
	No.	%	No.
Dorset Down	35	29.1	23
Suffolk	26	21.7	17
South Devon	18	15.0	11
Hampshire Down	8	6.7	8
Devon Long Wool	6	5.0	4
Dartmoor	6	5.0	4
Clun Forest	6	5.0	5
Dorset Horn	5	4.1	3
South Down	3	2.5	2
Down Crosses	3	2.5	2
Border Leicester	2	1.7	2
Half-bred	2	1.7	2
Total	120	100.0	-

The popularity of the Dorset Down ram in the South West is evident

from this study. Though the Suffolk ram has consistently been shown to produce the greatest live-weight gain of lamb and the most economical returns from ewes of various breeds, it is now apparent that individual and local preference have contributed towards the Dorset Down regaining the popularity which it lost during the period of food control.

A comparison of the different breeds in terms of wool clip can be made from the data in Table 13. The weight of wool obtained from the whole flock, ewes, rams and lambs and replacements, averaged 16·1 lb. per ewe but varied from 5·3 lb. to 26 lb. This realised an average price of 3s. 9d., per lb.

Table 13. Average Wool Clip by Breed.

Ewe	Ram	Wool	Av. Price per lb
		lb.	d.
South Devon	x South Devon	20·4	45·0
Dartmoor	x Dartmoor	18·8	44·5
Devon Long Wool	x Devon Long Wool	17·5	45·0
Devon Long Wool	x Down type	13·9	44·5
Devon Close Wool	x Devon Close Wool	13·3	46·0
Dorset Horn	x Dorset Horn	8·6	52·0

Though considerable variation in flock management was apparent on the survey farms, these could be broadly categorised into those adopting a policy of fat lamb and early fat hogg production and those producing some lambs to sell fat, but retaining their own pure replacements. In the former group, which accounted for 26 of the study flocks, the predominant practice was to use a Down-type ram on Longwool ewes, whilst most of the 20 flocks breeding their own replacements kept a Long Wool ram to put to the best ewes for replacements and a Down ram for the remainder.

THE 1958 LAMB CROP.

The 1958 Lamb Crop costed totalled 6666 lambs, of which 6588 were reared and 78 died, the deaths being recorded up to December 31st which was sometime later than the closing date of the financial records. A small number of lambs were purchased during the year, 161 with ewes as couples during the Spring and 44 store lambs later in the Summer. The lamb yield averaged 1·17 lambs per ewe and this ranged from 0·9 to 1·4 lambs per ewe. Of the total lambs reared, 769 were retained for future breeding purposes, the remaining 5819 being ultimately sold either fat, store, as couples or for breeding replacements.

Table 14. The 1958 Lamb Crop. *

	No.	%
Sold	5819	87·3
Retained for replacements	769	11·5
Total Reared	6588	98·8
Deaths +	78	1·2
Total *	6666	100·0

\+ Up to Dec. 31st 1958.
* Includes 161 lambs purchased as couples and 44 stores.

Table 15. Lambs Retained as Replacements.

	No.	%	% of Lambs reared	Av. value/head at Dec. 31st 58 £ s. d.
Ewe Lambs	748	97·3	11·4	9 8 0
Ram Lambs	21	2·7	0·3	8 6 0
Total	769	100·0	11·7	-

The ram lambs, which represented nearly 3 per cent of those kept for replacements were valued at an average of £8. 6s. 0d. per head at the end of the year, the ewe lambs were worth £9. 8s. 0d. at this time.

Of the 5819 lambs for ultimate sale, 56·3 per cent were disposed of before July 31st 1958, at about six months of age. Subsequently a fur-

ther 22·2 per cent were sold by the end of the year, and 21·5 per cent were retained for winter fattening, the majority of these being sold during the period January to March 1959.

Table 16. Time of disposal of Lamb Crop.

Time of Sale	No.	%
Before July 31st 1958	3274	56·3
Between July 31st and Dec. 31st	1293	22·2
After Dec. 31st 1958	1252	21·5
Total	5819	100·0

At the end of July 1958, on three of the study farms none of the current years lambs had been sold, whilst on four farms all had been sold. By the end of the year this situation had changed, only one farm having all the 1958 lambs on hand and 18 having none. In three of the 28 flocks where lambs were still unsold at the end of the year, these represented only a small proportion of their total sales, but in the remaining 25 flocks considerably larger numbers were still on hand.

Table 17. Distribution of Farms According to Time of Lamb disposal 1958.

Percentage of total Lamb Crop sold	Before July 31st		Before Dec. 31st	
	No. farms	%	No. farms	%
0 %	3	6·5	1	2·2
Between 1 - 25	8	17·4	2	4·4
26 - 50	11	23·9	6	13·0
51 - 75	11	23·9	5	10·9
76 - 99	9	19·6	14	30·4
100%	4	8·7	18	39·1
Total	46	100·0	46	100·0

The highest proportion of the 4567 lamb disposals during 1958 were as fat lambs, these represented 97·7 per cent of the total. The remaining outlets as stores, couples or breeders were relatively unimportant and together accounted for only 2·3 per cent of the lambs sold by

31st December 1958. Value per head at the time of sale was considerably greater in the case of lambs sold from pedigree flocks for breeding purposes, which averaged £10, than prices realised by lambs sold fat or as stores, which made £7. 14s. 0d., and £6 respectively.

Table 18. Analysis of Lamb Sales and Average prices. Sales before December 31st 1958.

	No.	%	Prices realised £ s. d.
Fat Lambs	4464	97.7	7 14 0
Stores	46	1.0	6 0 0
Couples	21	0.5	-
For breeding purposes	36	0.8	10 0 0
Total	4567	100.0	-

The channels of disposal of lambs before December 31st 1958 are given in Table 19. Sale by auction was the most popular method of disposal for lambs but the F.M.C. followed closely in importance. These two channels accounted for 42 per cent and 36.3 per cent of the total sales respectively.

Table 19. Method of disposal. Fat and Store Lambs - sold before December 31st., 1958.

	No. Lambs	%
Auction	1895	42.0
F.M.C.	1637	36.3
Butcher	719	15.9
Private	259	5.8
Total	4510	100.0

Table 20 contains a summary of the monthly sales of lambs during 1958. The greatest number of lambs were sold during the four months April to July, these accounting for 62 per cent of the total. The highest individual monthly sales occurred during May.

Table 20. Monthly Distribution of Fat Lamb Sales. 1958 Lamb Crop.

Monthly Distribution	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
No. of Lambs Sold	55*	157	208	602	997	713	521	265	206	149	348	289
Percentage	1·2	3·7	4·8	13·2	21·8	15·6	11·4	5·8	4·5	3·3	8·4	6·3
Average Deadweight per Head (lb.)	46·9	45·7	40·7	39·6	40·8	41·6	43·4	47·1	43·4	46·4	49·7	49·8
Average Realisation Price/lb. D.C.W. (d)	47·1	48·3	53·1	50·9	45·2	39·8	38·7	35·2	40·4	38·8	36·7	43·4
Average Realisation Price/Head (£)	9·2	9·2	9·0	8·4	7·7	6·9	7·0	6·9	7·3	7·5	7·6	9·0

* Dorset Horns

Average realisation prices per head and per lb. dead carcase-weight were highest during the first three months of the year when nearly 10 per cent of the total lambs were sold. However, it must be noted that in order to obtain the peak prices prevailing at this time from the early sale of lamb, higher costs had to be incurred in intensive ewe management and supplementary feeding. The lambs sold from April to August were weaned off grass and though not realising the highest prices per lb. dead carcase-weight, caught the market before prices began to fall from June onwards.

A comparison of prices received for lambs from the study farms, with the average market and F.M.C. prices for corresponding weight ranges is given in Table 22. For seven months of the year F.M.C. prices were better than average auction prices, during the remaining five months this situation was reversed. This only slight superiority of the F.M.C. over the auction market as a means of lamb disposal suggests that there is little to choose between them for the marketing of fat lambs. However, data resulting from this study and presented in the following table shows that prices realised from the F.M.C. were better than the market prices received for correspondingly heavier animals.

Table 21.

	Av. dead weight /head. lb.	Av. realisation Price/head		
		£	s.	d.
Auction	44.7	7	8	0
F.M.C.	42.1	7	16	0
Butcher	42.6	8	2	0
Private	41.6	8	10	0

Systems of management of the over-wintered lambs varied. The 1252 lambs retained represented 21.5 per cent of the 1958 lamb crop, and were sold during the first few months of 1959. Fattening off roots and green fodder was the most frequent method, although 14.9 per cent were sold exclusively off grass and 18.4 per cent off grass supplemented with concentrates.

Table 22. A Comparison of Monthly Average Prices Realised from the Sale of Fat Lambs with Average Market and F.M.C. Prices. 1958.

Monthly Distribution	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Average Realisation Price/lb. D.C.W. (d.)	47·1	48·3	53·1	50·9	45·2	39·8	38·7	35·2	40·4	38·8	36·7	43·4
Average Auction Market Price/lb. D.C.W. (d.)	46·4	49·3	53·8	54·6	49·2	42·3	41·3	38·9	39·4	38·7	37·8	38·9
Average F.M.C. Price/ lb. D.C.W. (d.)	42·5	44·8	64·5	55·1	47·0	40·3	40·9	39·6	39·6	38·9	40·0	40·3

Table 23. Ultimate Disposal of Lambs Retained After Dec. 31st 1958.

	No.	%	% of Total Lamb sales	Value per head at Dec. 31st. 1958
				£ s. d.
Sold off grass alone	186	14.9	3.2	6 10 0
Sold off grass and concentrates	231	18.4	4.0	8 0 0
Sold off roots and greenfodder	835	66.7	14.3	7 12 0
Total	1252	100.0	21.5	-

It was the general opinion of those farmers with late-born lambs which were not fat enough to be sold prior to September 1958, that the price differential pertaining between this time and early in the New Year was sufficient to make over-wintering worthwhile.

FINANCIAL RESULTS. 1957/58.

Table 24. Trading Account - 46 Farms. 1957/58.

Opening Valuation	No.	£	£
Rams	120	1,909	
Ewes	5336	49,197	
Lambs	578	4,579	
Hoggs	250	1,712	57,397
Purchases			
Rams	10	278	
Ewes)	333	3,885	
Lambs)	161		
Lambs	44	331	
Hoggs	45	360	4,854
Births	6461		-
Gross Output (carried down)			56,606
	13338		118,857
Inputs			
Feedingstuffs:			
Home-grown: Hay		606	
Silage		7	
Corn		1,063	
Roots		4,925	
G'fodder		2,189	
Grazing		13,061	21,851
Purchased: Conc's.		709	
Keep		263	972
Labour:			
Manual		6,546	
Power and Contract		949	7,495
Veterinary & Medicines			920
Overheads & Stores			2,366
MARGIN			23,002
			£ 56,606

Sales	No.	£	£
Rams	32	361	
Ewes)	686	4,680	
Lambs)	21		
Lambs	3611	27,563	
Hoggs	142	1,097	
Wool		15,717	49,418
Closing Valuation			
Rams	106	1,463	
Ewes	5313	46,180	
Lambs	3073	21,492	
Hoggs	34	304	69,439
Deaths: Rams	4		
Ewes	262		
Lambs	54		
	13338		118,857
Gross Output (brought down)			56,606
			£ 56,606

Table 25. Gross Output, Inputs, and Margin per Ewe put to Ram

1958

No. of Ewes put to Ram		5456	
		£ s. d.	%
Gross Output:			
Livestock		7 9 11	72.5
Wool		2 17 8	27.5
TOTAL OUTPUT		10 7 7	100.0
	Quantity		
Inputs			
Foods: Purchased Concentrates (lb.)	8.82	2 7	2.1
Keep		1 0	.8
Home-grown Corn (lb.)	18.74	3 11	3.2
Hay/Silage (lb.)	24.53	2 3	1.8
Roots & G'fodder (acres)	.06	1 6 1	21.2
Grazing	-	2 7 11	38.9
Total Foods	-	4 3 9	68.0
	Hours		
Labour: Manual	6.32	1 4 0	19.5
Horse	.18	4	.3
Tractor	.56	2 3	1.8
Contract	-	11	.7
Total Labour	-	1 7 6	22.3
Miscellaneous:			
Overheads	-	6 0	4.8
Veterinary & Medicine	-	3 5	2.8
Depreciation on Equipment	-	2 6	2.0
Consumable Stores		1	.1
		12 0	9.7
TOTAL INPUTS	-	6 3 3	100.0
MARGIN	-	4 4 4	-

Some Efficiency Measures:

No. of Ewes per Adjusted Acre	2.10
Margin per Adjusted Acre	£8 17 0
No. of Lambs Reared per Ewe	1.17

The financial results of the fat-lamb enterprise are set out in Tables 24 and 25. In Table 24 a trading account is presented showing the revenue, expenses and valuations for the whole sample. In Table 26 the presentation has been modified to show the gross output, inputs and margin per ewe put to ram.

Gross Output.

Because there was an element of hogging in some flocks included in this study it was not possible to separate completely the gross output of fat lambs from the gross output of the lambs retained for winter fattening. The wool is a joint product and an allocation of this would be arbitrary. Any lambs on hand at the end of the fattening period were, therefore valued at ruling market prices and their value is included in total gross output. The value of livestock output per ewe was £7. 9s. 11d. or 72·5 per cent of the total. The remaining 27·5 per cent was made up by wool sales which amounted to £2. 17s. 8d. and the total gross output was £10. 7s. 7d. per ewe.

Inputs.

The total costs incurred in achieving an output of livestock and wool of £10. 7s. 7d. per ewe put to ram were £6. 3s. 3d. Food costs accounted for 68, labour 22·3 and miscellaneous items for 9·7 per cent of this total.

Expenditure on food amounted to £4. 3s. 9d. per ewe, but of this only 3s. 7d. was spent on purchased concentrates and keep, the remainder being for home-grown food. Of the hand foods, corn and purchased concentrates contributed 7·8 per cent and hay and silage 2·6 per cent to the total food costs, being fed in 31 and 33 of the flocks respectively. The use of silage for sheep was confined to two flocks. Roots and greenfodder represented 31·2 per cent of the total food costs and were consumed at the rate of ·06 acres per ewe. Swedes and kale were the most popular crops in this group, grown either as a mixture or separately. With the exception of turnips, which in a few instances were grown with swedes, the remaining root and greenfodder crops were relatively unimportant. Indication of the distribution of these crops over the total root acreage on the study farms is given in Table 26.

During 1958, 2157 acres of grazing were devoted to sheep which is equivalent to ·4 acres per ewe. Of the total costs incurred on food, grazing accounted for 57·2 per cent and cost £2. 7s. 11d. per ewe. The hand-fed foods were equivalent to the produce of ·015 adjusted acres - corn and purchased concentrates representing ·005 and hay and silage ·01 adjusted acres.

Table 26. Acreage Allocation to Various Roots and Greenfodder Crops.

	No. of Acres	%	No. of Farms
Mangolds	11.0	3.3	15
Turnips	6.5	2.0	4
Swedes	86.0	25.8	28
Kale	81.8	24.4	14
Cabbage	.5	.1	2
Mixed Roots	105.0	31.5	14
Vetches	5.0	1.5	2
Rape	10.6	3.2	2
Silage	5.0	1.5	1
Rye and Others	22.5	6.7	6

Roots and greenfodder crops accounted for .06 adjusted acres whilst the highest proportion of the total of .48 adjusted acres was made up by .4 adjusted acres of grazing. The annual requirement of .48 (or .475) adjusted acres per ewe represents a stocking rate of 2.1 ewes per adjusted acre devoted to the breeding flock and followers.

Labour costs amounted to £1. 7s. 6d. per ewe, and of this total, manual labour requirements for shepherding represented 87.3 per cent and tractor power 8.2 per cent. This is equivalent to 12.3 man hours and 1.1 tractor hours per 100 ewes per week. Some contract work was done in 50 per cent of the flocks, in the majority of cases this was either dipping, shearing, or both. The expense incurred amounted to only 3.3 per cent of the total labour costs.

Of the miscellaneous costs, general overheads were the highest individual item, representing 50 per cent of the total. The remaining 50 per cent were attributable to veterinary requirements and a charge made for equipment depreciation.

Profitability.

The average margin, which is equivalent to Management and Investment Income, was £4. 4s. 4d. per ewe put to ram or £8. 17s. 0d. per adjusted acre. Within the sample considerable variation was apparent and in three cases losses of 3s. 7d., 11s. 10d. and £1. 9s. 0d. per ewe were

incurred. The surplus margins earned by the remaining flocks ranged from 12s. 0d. to £11. 10s. 3d. per ewe, with 8 flocks realising more than £6 per ewe.

Comparison of Results 1953/54 and 1957/58.

A similar survey of fat lamb production, on a rather smaller sample, was carried out in 1953/54 and it may be of interest to compare the results of the two surveys. Total gross output per ewe increased by 19s. 11d. as a result of a slightly better lamb yield; an increase of .07 lambs per ewe being achieved in 1957/58. The density of stocking was greater by .1 ewes per feed acre in the latter year. Costs, however, also rose, food costs by £1. 9s. 7d., labour by 9s. 10d. and miscellaneous items by 2s. 2d. per ewe. The rise in total costs was greater than the increase in gross output. The margin, therefore, fell by £1. 1s. 8d. per ewe and £1. 15s. 0d. per adjusted acre in 1957/58 as compared with 1953/54.

FACTORS IN THE PROFITABILITY OF FAT LAMB PRODUCTION.

Various analyses have been carried out in order to discover the most important factors in the profitability of fat lamb production on this sample of Devon farms. In considering the nature of the sample it soon becomes apparent that profitability per acre is an important criterion. The farms are on average not large and are situated in the rather better land districts. Under these circumstances a high level of profit per acre is required from an enterprise in order to make a good contribution to total farm income. Twenty farms have been selected from the total sample, ten with the highest and ten with the lowest margins per adjusted acre devoted to the sheep enterprise. The data for each of these groups have been analysed and the results are presented in Tables 27 and 28. The differences in margin per acre are very striking, £20. 15s. 0d. per acre on the most profitable farms compared with £2. 5s. 3d. per acre on the least profitable. Since all labour has been charged in the costs, these figures represent management and investment income; the return for management and interest on capital invested in the enterprise. The margin of £20. 15s. 0d. per acre achieved on the most profitable farms compares favourably with the overall farm results for the above average farms in the Farm Management Survey. In only two groups of farms with above average profits in 1957 was the management and investment income per acre greater than £20. 15s. 0d. The exceptions were a group of small intensive dairy farms in East Devon and a group of small specialised dairy and pig farms in Cornwall. It is evident, therefore, that well managed fat lamb enterprises were capable of yielding profits per acre which compared very favourably with most other enterprises under the price cost conditions which existed in 1958.

The most striking difference in the figures for the two sets of farms is that gross output per acre is over two and a half times as great on the most profitable farms, £36. 12s. 7d. compared with £14. 1s. 1d. Costs per acre, on the other hand, are only a little over one-third greater, £15. 17s. 7d. compared with £11. 15s. 10d. The net result of these differences in gross output and costs is the greatly superior margin on the most profitable farms. The differences in gross output are accounted for by a greater output of both livestock and wool on the ten farms with the highest margins. The main factors in the greater gross output are density of stocking with breeding ewes and a higher productivity per ewe. In the most profitable enterprises nearly double the number of ewes, 3·0 compared with 1·6 were maintained per adjusted acre. The gross output per ewe was £3. 9s. 1d. per head greater on the high margin farms, £1. 0s. 3d. of this difference being due to greater value of wool and £2. 8s. 10d to higher livestock output. The weight of the wool clip was greater on the high profit farms by nearly 6 lb. per ewe mated, although the average price per lb. realised was a little lower. It is likely that the higher

wool output resulted partly from a greater preponderance of long-wooled type of ewe and more of the ewes being mated to long-wooled rams in the ten most profitable farms. In spite of the fact that a higher proportion of the ewe lambs were retained as replacements in the most profitable group, approximately 19 per cent compared with just over 9, only 37 per cent of the lamb crop remained unsold by December 31st, as against 49 on the low profit farms. Of the lambs ultimately sold, over 47 per cent were disposed of by August 31st in the high margin group compared with just under 39 per cent on the low profit farms. It would, therefore, appear that the more successful farmers were getting their fat lambs out earlier, and the values of the lambs retained at 31st August indicate that a better class of lamb was produced by these farmers. This factor together with the higher lamb yield of 1·19 per ewe mated as against 1·07 accounts for the greater livestock output per ewe. This difference in lamb yield is of the order of 12 per cent or approximately one-eighth greater. If the average value of a lamb is taken at £8, then even this relatively small percentage difference in lamb yield amounts to about £1 per ewe greater output, which illustrates the importance of lamb yield as an economic factor in fat lamb production. There is also evidence that ewe depreciation was less in the high profit group. It is clear then that by virtue of the greater intensity of stocking with ewes and of the higher productivity of these ewes both in respect of wool and lamb output, that the ten most successful flocks had a very great advantage in gross output per acre, and subject to reasonable economy in costs they were in a favourable situation to achieve a much higher level of profitability.

It is evident from Table 27 that the difference in costs per acre of about 35 per cent between the two groups of farms was in no way proportionate to the difference in output which was just over two and a half times greater in the highest profit group. When the total costs are calculated per ewe mated, then the most successful farms show an advantage of some £2. 2s. 0d. per ewe less, which is the result of the greater intensity of stocking with ewes. The main difference in costs per acre were for foods, particularly roots and greenfodder, the proportion of these crops being nearly double on the high profit farms. Costs per acre of grazing were not very different, but more hand foods were fed. Direct labour on the sheep was greater as were the miscellaneous expenses which are mostly of an overhead nature. Because of the number of ewes kept per acre on the most profitable farms the costs per ewe show a completely different picture from the costs per acre. The level of hand-feeding and the cost of roots and greenfodder per ewe were almost identical in both groups, but the grazing costs per ewe were considerably less in the high profit group. This follows because the per acre costs were very similar, but stocking density with ewes was much greater on the high profit farms, so that the grazing costs were spread over a greater number of ewes and a much higher level of utilisation was achieved.

Similarly the manual labour costs per ewe were much lower on the densely stocked high profit farms; an illustration of a considerable economy in the use of labour.

To sum up the factors which determine profitability in fat lamb production, it would seem that a high rate of stocking with productive breeding ewes is necessary to achieve a high gross output per acre which is a fundamental condition for success on the type of farms studied. Although more intensive management of grassland and greater provision of hand-fed foods, roots and greenfodder crops will be necessary, it is likely that the additional costs incurred will be less than the increased gross output and will give rise to greater profit margins. The extent to which intensification is carried out will depend on the relative prices of fat lamb and wool on the one hand and the inputs involved on the other, but it is evident from the results for the ten most profitable farms in the sample costed that the more intensive fat lamb enterprises were the most profitable.

Table 27. Gross Output, Costs and Margins per Adjusted Acre
High and Low Margin per Acre Farms, 1958

	10 Farms with Highest Margin	10 Farms with Lowest Margin
No. of Adjusted Acres	409.81	576.31
	£ s d	£ s d
Gross Output:		
Livestock	25 8 0	9 13 5
Wool	11 4 7	4 7 8
TOTAL	36 12 7	14 1 1
Inputs		
Foods: Purchased Concentrates	13 5	6 0
Keep	2 8	7
Home-grown Corn	8 5	4 9
Hay/Silage	5 9	3 3
Roots & Greenfodder	3 9 10	1 15 4
Grazing	5 15 9	5 11 8
Total Foods	10 15 10	8 1 7
Labour: Manual	2 18 8	2 7 8
Horse	2 6	3 1
Tractor	5 4	8
Contract	4 3	3 2
Total Labour	3 10 9	2 14 7
Miscellaneous:		
Overheads	14 8	11 11
Veterinary & Medicine	10 0	3 7
Depreciation on Equipment	6 0	4 1
Consumable Stores	4	1
Total Miscellaneous	1 11 0	19 8
TOTAL INPUTS	15 17 7	11 15 10
MARGIN	20 15 0	2 5 3
Some Efficiency Measures:		
No. Ewes per Adjusted Acre	2.97	1.58
No. Lambs Reared per Ewe	1.19	1.07

Table 28. Gross Output, Costs and Margins per Ewe put to Ram
High and Low Margin per Acre Farms, 1958
(per adjusted acre)

	10 Farms with Highest Margin	10 Farms with Lowest Margin
No. of Ewes put to Ram	1217	912
	£ s d	£ s d
Gross Output:		
Livestock	8 11 1	6 2 3
Wool	3 15 7	2 15 4
Inputs	12 6 8	8 17 7
Foods: Purchased Concentrates	4 6	3 9
Keep	11	5
Home-grown Corn	2 10	3 0
Hay/Silage	1 11	2 1
Roots & G'fodder	1 3 6	1 2 4
Grazing	1 19 0	3 10 6
Total Foods	3 12 8	5 2 1
Labour: Manual	19 9	1 10 2
Horse	11	5
Tractor	1 9	1 11
Contract	1 5	2 0
Total Labour	1 3 10	1 14 6
Miscellaneous:		
Overheads	4 11	7 6
Veterinary & Medicine	3 5	2 3
Depreciation on Equipment	2 0	2 7
Consumable Stores	1	1
Total Miscellaneous	10 5	12 5
TOTAL INPUTS	5 6 11	7 9 0
MARGIN	6 19 9	1 8 7
Some Efficiency Measures:		
No. Ewes per Adjusted Acre	3.0	1.6
Margin " " "	£20 15 0	£2 5 3
No. Lambs Reared per Ewe	1.19	1.07

FAT HOGG PRODUCTION 1957/58.

Table 29. Trading Account - 15 Farms. 1957/58

	No.	£	£		No.	£	£
Opening Valuation	1358		9,843	Sales	1628		13,966
Purchases	293		2,116	Closing Valuation	17		130
Gross Output (carried down)			2,137	Deaths	6		-
	1651		14,096		1651		14,096
Inputs				Gross Output (brought down			2,137
Feedingstuffs:							
Home-grown: Hay		93					
Corn		64					
Roots		670					
G'fodder		843					
Grazing		675	2,345				
Purchased		-					
Labour:							
Manual		501					
Power		9					
Horse		17	527				
Veterinary & Medicines			15				
Overheads			231				
				LOSS			981
			£ 3,118				£ 3,118

The financial and physical data presented in this section relates to 1,651 hoggs, born in 1957 and fattened during the autumn and winter of 1957/58.

Of this total, 1,358 sheep were on farms at the beginning of the study year and these were valued at an average price per head of £7. 5s. 0d. A further 293 hoggs were purchased on 47 per cent of the farms between August 1957 and February 1958 for a similar average price of £7. 4s. 6d. During the year six deaths occurred and 1,628 sheep were graded at an average price of £8. 11s. 7d. and a carcase weight of 57·5 lb. per head. The 17 hoggs which remained unsold in autumn 1958 were valued at £7. 2s. 11d. per head.

FINANCIAL RESULTS.

The total costs incurred in achieving an output, in terms of meat, of £1. 5s. 10d. per hogg were £1. 17s. 9d. Food accounted for 75·3 per cent, labour 16·8 and miscellaneous items for 7·9 of this total.

Table 30. Gross Output, Inputs and Margins per Hogg - 15 Farms 1957/1958.

No of Hoggs Fattened	1651		
GROSS OUTPUT		£ s d 1 5 10	% 100·0
Inputs	Quantity		
Foods: Purchased Concentrates	-	-	-
Keep	-	-	-
Home-grown Corn	-	9	2·0
Hay (lb.)	12·5	1 1	2·9
Roots & G'fodder (acres)	·05	18 4	48·6
Grazing	-	8 3	21·8
Total Foods	-	1 8 5	75·3
Labour: Manual	Hours 1·63	6 0	15·9
Power		4	·9
Total Labour	-	6 4	16·8
Miscellaneous:			
Overheads	-	10	7·5
Veterinary & Medicine	-	2	·4
Total Miscellaneous	-	3 0	7·9
TOTAL INPUTS	-	1 17 9	100·0
MARGIN	-	-11 11	-
Some Efficiency Measures:			
No. of Hoggs per Adjusted Acre		8·3	
Margin per Adjusted Acre		-£4 18 10	

Expenditure on food amounted to £1. 8s. 5d. per hogg and of this roots and greenfodder together were the largest individual item of cost. These represented 64·6 per cent of the total, but within the sample ranged from 5s. 0d. to £1. 17s. 0d. Grazing costs were less than half the former, but nevertheless constituted a considerable item of expense, and similarly exhibited marked differences between farms in the sample - these ranged from 2s. 0d. to £1. 7s. 9d. per hogg. No purchased concentrates were fed and home-grown corn was relatively unimportant. Hay was consumed at an average rate of 12·5 lb. per head and accounted for 3·9 per cent of the total food costs.

From Table 31 it can be seen that an average of ·12 adjusted acres were required per hogg, which is equivalent to 8·3 hoggs per adjusted acre. Half of this total acreage was attributed to grazing and of the remainder 6·1 per cent was represented by corn and hay and the rest made up by root and greenfodder crops. Access was given to grazing and root or greenfodder crops on all farms, and of the latter, swedes and kale were the most popular. The acreage of grazing per hogg ranged from ·01 to ·15 adjusted acres.

Table 31. Adjusted Acres Devoted to Hoggs.

	Total Adj. Acres	%	Adj. Acres per Hogg
Corn	2·75	1·4	·01
Hay	9·25	4·7	
Grazing	97·7	49·2	·06
Roots & Greenfodder	88·85	44·7	·05
TOTAL	198·55	100·0	·12

Labour costs amounted to 6s. 4d. per hogg, total manual labour requirements representing 95.2 per cent and tractor power 4·8 per cent of this total. Of the miscellaneous items, general farm overheads and equipment depreciation accounted for 94 per cent and veterinary requirements the remaining 6 per cent.

Table 32 contains a summary of the monthly distribution of hogg sales. More than 60 per cent of the total sales occurred during the first three months of 1958 at a time when prices were beginning to rise after the decline which had occurred from October to December 1957. During nine of the eleven months when hogg sales occurred, the average prices realised were less than the average monthly market prices. This may have been the result of almost half the hoggs being disposed of through channels other than the auction markets (Table 33).

Table 32. Monthly Distribution of Fat Hogg Sales. 1957/1958.

Monthly Distribution	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	June	Aug.
No. of Hoggs Sold	8	52	46	245	131	278	364	339	124	40	1
Percentage	·5	3·2	2·8	15·0	8·0	17·1	22·4	20·8	7·6	2·5	·1
Average Deadweight per Head (lb.)	34·0	49·1	57·4	61·5	56·6	59·4	56·1	57·3	56·5	55·0	57·0
Average Realisation Price per Head (£)	6·2	7·3	7·9	8·1	7·8	8·5	8·5	9·4	9·6	8·3	7·1
Average Realisation Price/lb. D.C.W. (d.)	44.0	35·7	33·0	31·6	33·1	34·4	36·4	39·4	40·8	36·2	29·9
Average Market Price per lb. D.C.W. (d.)	40·6	39·9	37·4	37·2	37·3	36·6	38·1	40·4	42·7	35·4	31·8

An average total cost of £1. 17s. 9d. per hogg was incurred in order to achieve an output in terms of meat of £1. 5s. 10d. Consequently an overall deficit margin of 11s. 11d. per hogg was earned. Although only two of the 15 costed flocks earned surplus margins, considerable variation existed between these, ranging from a surplus margin of £1. 8s. 10d. to a deficit of £2. 16s. 0d. per hogg. An average deficit margin of £4. 18s. 10d. per adjusted acre devoted to the hogging enterprise was realised.

Table 33. Method of Disposal of Hoggs.

	No.	%	Average Deadweight per Head	Average Realisation Price/Head
			lb.	£ s d
Auction	852	52.3	56.1	9 0 3
F.M.C.	435	26.7	53.9	8 1 6
Private	176	10.8	62.5	8 5 6
Butcher	165	10.2	57.9	7 19 0
TOTAL	1628	100.0	-	-

From this outline of the main inputs and gross outputs of winter fattened sheep, it is apparent that high surplus margins per hogg or per adjusted acre are not realised in the majority of cases. Because of the shortage of grass during the winter months, special fodder crops have to be grown to obtain satisfactory rates of growth, and most of the additional returns from increased liveweight gain are absorbed by these costs.

However, this assessment of margin per adjusted acre devoted to hoggs takes no account of the treading value and manurial residues returned to the soil by winter-fattened sheep. In the study area considerable stress is laid on this factor as a means of increasing the yields obtained from succeeding crops and this is thought to compensate for the deficit realised by the hogg enterprise. But, by allocating the additional revenue from increased crop yields to the gross profits of the crop rather than to the hogg enterprise a false picture of the real value and profitability of the latter is given.

APPENDIX I.

Standard Supplement of Financial Results. 1957/58.

Based on 46 flocks averaging 119 ewes, with 1.17 lambs reared per ewe.

Table A. Gross Margin per Ewe.

	£ s d	£ s d		£ s d	£ s d
Opening Valuation:			Sales:		
Rams	7 0		Rams	1 4	
Ewes	9 0 4		Ewes)	17 2	
Lambs	16 9		Lambs)		
Hoggs	6 3		Lambs	5 1 1	
Total		10 10 4	Hoggs	4 0	
			Wool	2 17 8	
			Total		9 1 3
Purchases:			Closing Valuation:		
Rams	1 0		Rams	5 4	
Ewes)	14 3		Ewes)	8 9 3	
Lambs)			Lambs)		
Lambs	1 3		Lambs	3 18 9	
Hoggs	1 3		Hoggs	1 1	
Total		17 9	Total		12 14 5
(a) Total stock input		11 8 1			
(c) Gross margin (b-a)		10 7 7			
		21 15 8	(b) Total stock output		21 15 8

Table B. Net Margin per Ewe.

	Quantity	£ s d	£ s d
Labour:			
Manual hrs.	6·32		1 4 0
Power -			2 3
Horse hrs.	·18		4
Contract -			11
Feed:			
Purchased - Concentrates lb.	8·82	2 7	
Keep acs.	·01	1 0	
Home-grown - Concentrates lb.	18·74	3 11	
Roots acs.	·04	18 1	
Silage) Hay) lb.	24·53	2 3	
Greenfodder acs.	·02	8 0	
Grazing		2 7 11	
Total Feed			4 3 9
Veterinary and Medicine			3 5
Depreciation on Deadstock			2 6
Consumable Stores			1
Total direct Costs			5 17 3
Share of General Farm Expenses			6 0
Total Other Inputs			6 3 3
NET MARGIN (Gross Margin - Other Inputs)			4 4 4

Standard Supplement of Financial Results. 1957/58.

Based on 15 hogg enterprises averaging 110 hoggs

Table A. Gross Margin per Hogg

	£ s d		£ s d
Opening Valuation:	5 19 3	Sales:	8 9 2
Purchases:	1 5 8	Closing Valuation:	1 7
(a) Total Stock Inputs	7 4 11		
(b) Gross Margin (b-a)	1 5 10		
	8 10 9	(b) Total Stock Output	8 10 9

Table B. Net Margin per Hogg.

	Quantity	£ s d	£ s d
Labour:			
Manual hrs.	1.63		6 0
Power			4
Feed:			
Home-grown - Concentrates		9	
Hay lb.	12.5	1 1	
Roots & Greenfodder(acs)	.05	18 4	
Grazing		8 3	
Total Feed			1 8 5
Veterinary and Medicine			2
Depreciation on Deadstock			1 3
Total Direct Costs			1 16 2
Share of General Farm Expenses			1 7
Total Other Inputs			1 17 9
NET MARGIN (Gross Margin - Other Inputs)			- 11 11

APPENDIX II.

COSTING METHOD.

FOODS

(a) Grazing. The actual costs incurred on grassland were determined for both pasture and hay/silage land. To determine the total cost of grazing, one-half the costs incurred on hay/silage land, excluding harvesting costs, was charged for aftermath grazed by livestock and added to pasture land costs. Of the total costs thus derived, one-third was charged to the winter period of November to April, and two-thirds to the summer period of May to October.

The total winter and summer grazing costs were apportioned according to the number of animal units of the different classes of livestock grazing the pastures. The conversion factors used in determining these animal units were as follows:-

	Animal Units
Cattle	
2 years and over	1.0
1 - 2 years	.8
0 - 1 year	.5
Sheep	
1 year and over	.25
6 - 12 months	.2
0 - 6 months	-
Pigs	
Boars	.3
Sows	.6
Horses	1.0

(b) Purchased. Charged at cost on the farm.

(c) Home-grown. The costs of all home-grown forage crops, hay, corn and silage were taken from Report 97 by this department.

(Cropping and Crop Costs in South-West England)

LABOUR.

Manual - charged at 3s. 9d. per hour
Horse - charged at 1s. 6d. " "
Tractor - charged at 4s. 6d. " "

OTHER COSTS.

General Farm Overheads - Charged at 5s. 0d. per £ of manual labour directly expended on sheep.

Manures - Artificial manures were charged at net cost to the farmer. F.Y.M. was charged at £1 per ton plus the cost of labour in applying it.

Ley Establishment - A charge of £1. 10s. per acre was made on all temporary grass.

Hedging and Ditching - Charged at 10s. 0d. per acre.

Machinery and Depreciation - On grassland, charged at 5s. 0d. per acre.

Depreciation on Sheep Equipment - An annual rate of 10% of costs was applied on all equipment except wire netting which was depreciated at 25%.

MANURIAL AND CULTURAL RESIDUES.

No manurial residues from preceding years were charged and none carried forward to succeeding years.

VALUATION OF SHEEP.

The initial value of sheep on the farm and the value of those remaining on the farm at the conclusion of the investigation were estimated by the farmers.

DEFICIENCY PAYMENTS.

In all cases where sheep qualified for a deficiency payment, this has been included in the returns from sales.

ADJUSTED ACRES.

To arrive at this term, the pasture equivalent of the rough grazings was estimated and added to the area of crops and grass. The following conversion factors were used in determining acreage equivalents:-

Concentrates	1 ton	≡ 1 acre
Hay	$1\frac{1}{2}$ "	≡ 1 acre x $\frac{2}{3}$