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*Sheep -
Cost of
production
O.S.*

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ECONOMICS OF LIVESTOCK PRODUCTION

WINTER FATTENING OF SHEEP 1948-1949

by

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ECONOMICS OF LIVESTOCK PRODUCTION

WINTER FATTENING OF SHEEP 1948 - 1949

INTRODUCTION.

This report covers the second year of an investigation into the winter fattening of sheep. Some comparisons are made with the results of the previous year.

A study of prices of store and fat stock shows that when the supply of stores is ample to meet the demand, any increase in the price of the finished product is likely to accrue to the fatterer, while under scarcity conditions it is largely absorbed into the market price of the stores. The storms which occurred in the winter of 1947 greatly reduced the number of store sheep coming on to the market and complete recovery from that set-back had not been made by 1948-49. The following figures suggest that the number of store sheep available for winter fattening in Scotland was approximately the same in the Autumn of 1948 as in the corresponding season of 1947.

NUMBER OF SHEEP IN SCOTLAND⁽¹⁾
(000's)

	1945	1946	1947	1948	1949
Total No. of Sheep at 4th December of each Year	5192	5078	4779	4995	-
No. of Sheep at 4th June of each Year excluding those under 6 months old	-	4155	3952	3983	4191
No. of Sheep disposed of between December and June of the following Year	1037	1126	796	804	-

It is therefore not surprising that increases in the price of fat sheep, granted after the Spring of 1947, have been accompanied by more than proportionate increases in the price of stores.

MONTHLY INDEX NUMBERS OF PRICES OF STORE AND FAT SHEEP IN SCOTLAND⁽²⁾
1927-29 = 100

Year	Store Sheep				Fat Sheep			
	July	Aug.	Sept.	Oct.	Jan.	Feb.	Mar.	Apr.
1945	132	146	168	161	-	-	-	-
1946	132	-	177	163	139	142	144	150
1947	169	168	234	200	150	153	157	168
1948	233	275	239	259	193	197	201	204
1949	-	-	-	-	197	201	204	214

However /

(1) Statistics published by the Dept. of Agriculture for Scotland.
(2) Ibid.

However, the September census of 1949 shows that the breeding flocks have now been restored to their pre-1947 level.

NUMBER OF BREEDING SHEEP (EWES, FEEL HOGGS & RAMS) IN SCOTLAND (3)
(000's)
(at September of each year)

Year	<u>1945</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>
Number of Sheep	4043	4106	3874	4054	4183

Other things being equal, this recovery should lead to a fall in the relative price of stores and hence to rather more favourable opportunities for those farmers who buy in sheep for winter fattening.

WINTER FATTENING OF SHEEP.

The present investigation relates to 20 farms in the South East of Scotland in areas where the fattening of sheep on turnips is the long established practice. Seven of the farms were in Berwickshire, eight in Fife, two in Angus and one each in Roxburgh, Peebles and Midlothian. In all, a total of 5467 sheep were included in the 20 flocks costed giving an average of 273 sheep per flock, but the number per flock ranged from 85 to 492 sheep.

SIZE OF FLOCK COSTED.

No. of Sheep	<u>Under 100</u>	<u>100-199</u>	<u>200-299</u>	<u>300-399</u>	<u>400 and over</u>
No. of Flocks	3	4	4	5	4

All the 5467 sheep, apart from a few cast ewes, were hoggs born in the previous Spring. Rather more than 60% of them were bred and fattened on the same farms, in contrast to the previous year's sample, of which approximately only one-third were own-bred. The breeds represented may be classified thus -

Oxford and Suffolk Crosses	59%
Half Bred (B.Leicester x Cheviot) ...	24%
Greyface (B.Leicester x Blackface)...	8%
Blackface	8%
Cheviot	1%

The average estimated dressed carcass weight of all sheep at the beginning was 52 lb., and they ranged in weight from 29.5 lb. to 70 lb. per head per flock.

RANGE IN ESTIMATED DRESSED CARCASS WEIGHT OF SHEEP AT COMMENCEMENT OF THE FATTENING PERIOD
(AVERAGE PER FLOCK)

Weight in lb.	<u>Under 40</u>	<u>40-49</u>	<u>50-59</u>	<u>60-69</u>	<u>70 and over</u>
No. of Flocks	1	5	9	4	1

The/

(3) Statistics published by the Dept. of Agriculture for Scotland.

The sheep were put on turnips at various dates from September 26th to February 22nd, but on 12 farms root feeding commenced in November. The period spent on turnips ranged from an average of 50 days to 186 days. The average for all flocks was 110 days, i.e. 11 days longer than for last year's sample.

AVERAGE NUMBER OF DAYS PER FLOCK ON TURNIPS

No. of Days on Turnips	<u>50-74</u>	<u>75-99</u>	<u>100-124</u>	<u>125-149</u>	<u>150-174</u>	<u>175 and Over</u>
No. of Flocks	4	3	8	2	1	2

The average estimated dressed carcass weight of the fat sheep was 68.0 lb. per head per flock, giving an average increase of 15.9 lb. for the fattening period. The distribution of the average increase in dressed carcass weight per head per flock is given below.

AVERAGE ESTIMATED GAIN IN DRESSED CARCASS WEIGHT DURING THE FATTENING PERIOD.

Average Gain (Lb.)	<u>5-10</u>	<u>10-15</u>	<u>15-20</u>	<u>20-25</u>	<u>25 and Over</u>
No. of Flocks	3	6	6	3	2

Not all the sheep costed were graded fat. Some which were unfit to grade at the end of the period went out as stores. Percentage figures for the disposal of the 5467 sheep were as follows.

Graded fat	92.9%
Casualties	1.1%
Deaths	1.2%
Stores	4.8%

In each record the sheep were divided into the above four categories according to the method of disposal. The arbitrary principle was adopted of allocating the various costs to each class of sheep in proportion to the number of days each spent on turnips. Table I summarizes the above data for all sheep other than 265 sheep which went out as stores. In this way the net costs of casualties and deaths have been charged against the fat sheep.

TABLE I /

TABLE I : PHYSICAL DATA - 5076 FAT SHEEP.

Physical Data	COLUMN I		COLUMN II		COLUMN III	
	All Flocks		15 Profitable Flocks		5 Unprofitable Flocks	
	5076 Sheep		3581 Sheep		1495 Sheep	
	All Sheep	Per Cent	All Sheep	Per Cent	All Sheep	Per Cent
Initial No. of Sheep	5202	100.0	3662	100.0	1540	100.0
Casualties	59	1.1	38	1.0	21	1.4
Deaths	67	1.3	43	1.2	24	1.5
No. of Sheep sold fat	5076	97.6	3581	97.8	1495	97.1
Average estimated dressed carcass weight - stores	52.1		52.9		49.9	
" " - fat	68.0		69.2		64.3	
Average gain in weight (lb.)	15.9		16.3		14.4	
Average length of fattening period per sheep (days)	110		103		131	
Average estimated gain in dressed carcass weight per sheep per day (lb.)	0.145		0.158		0.110	

COSTS AND RETURNS.

Table II gives a summarized statement of costs and returns for the 20 flocks. These have been divided into two groups according to whether they show a profit or loss. All average figures quoted are weighted according to flock size.

The costing procedure adopted is set out in appendix A.

AVERAGE COSTS - ALL FLOCKS.

An examination of the costs shows the following order of importance.

Initial Cost of Store Sheep	70.0%
Home grown Foods	22.5%
Labour	3.5%
Purchased Foods	1.6%
Other Expenses	2.4%

These figures stress the overriding importance of the cost of store sheep and that of home grown foods. Labour and other costs are relatively unimportant.

The average cost of store sheep was £5.9.1d. The distribution of the cost per head is set out below.

TABLE II /

TABLE II : PROFIT AND LOSS ACCOUNT - 5076 FAT SHEEP

	COLUMN I			COLUMN II			COLUMN III		
	All flocks			15 Profitable Flocks			5 Unprofitable Flocks		
	5076 Sheep			3581 Sheep			1495 Sheep		
	All Sheep	Per Head	Per Cent	All Sheep	Per Head	Per Cent	All Sheep	Per Head	Per Cent
	£ s. d.	%	£	£ s. d.	%	£	£ s. d.	%	
Food	- Purchased	594 - . 2. 6	1.6	442 - . 2. 8	1.7	152 - . 2. 1	1.3		
	- Home Grown	9077 1.15. 2	22.5	5902 1.12. 6	21.0	3175 2.3. 3	27.0		
Labour	- Shepherd	1045 - . 4. 3	2.7	819 - . 4. 7	3.0	226 - . 3. 3	2.0		
	- Other	255 - . 1. 3	0.8	163 - . 1. 1	0.7	92 - . 1. 7	1.0		
Power	- Tractor	88 - . - . 5	0.3	52 - . - . 4	0.2	36 - . - . 8	0.4		
	- Horse	31 - . - . 2	0.1	21 - . - . 2	0.1	10 - . - . 2	0.1		
Sundry Expenses		287 - . 1. 3	0.8	183 - . 1. 3	0.8	104 - . 1. 4	0.8		
Overheads		435 - . 1.10	1.2	318 - . 1.10	1.2	117 - . 1.10	1.2		
Total Feeding Costs		11812 2. 6.10	30.0	7900 2. 4. 5	28.7	3912 2.14. 2	33.8		
Initial Cost of Sheep		27452 5. 9. 1	70.0	19222 5.10. 2	71.3	8230 5. 5.11	66.2		
Total Costs		39264 7.15.11	100.0	27122 7.14. 7	100.0	12142 8. - .1	100.0		
Less Credits		253 - . 1. 1		185 - . 1. 2		67 - . - .10			
Net Costs		39011 7.14.10		26937 7.13. 5		12075 7.19.3			
Returns		40401 8. - . 8		28938 8. 4. 3		11463 7.10.2			
Profit		1390 - . 5.10		2001 - .10.10					
Loss						612 - . 9.1			

AVERAGE /

AVERAGE COST PER HEAD OF STORE SHEEP

Shillings per Head	Under 80/-	80/- - 99/-	100/- - 199/-	120/- - 139/-	140/- and Over
No. of Flocks	1	4	9	5	1

The initial average cost per lb. estimated dressed carcass weight was 2/1d., but it ranged from 1/8¹/₂d. per lb. to 2/3¹/₂d. per lb.

AVERAGE COST PER LB. ESTIMATED DRESSED CARCASS
WEIGHT OF STORE SHEEP

Pence per Lb.	20-	21-	22-	23-	24-	25-	26-	27-
No. of Flocks	1	-	-	2	6	4	3	4

Generally speaking the heavier sheep commanded the highest price per lb.

The average price per lb. estimated dressed carcass weight at sale was 2/4¹/₂d., a figure substantially higher than that paid for the store sheep. All the hogs in the sample were graded first class.

Next in importance is the cost of food, amounting to 24.1% of the total costs and equivalent to £1.17.8d. per head. An analysis of food costs is presented in Table III.

Home grown foods comprise 93.4% of the total food cost, equivalent to £1.15.2d. per head. Turnips and swedes amount to 68.6% at a cost of £1.5.10d. per head. The other important item is oats at 13.5% and 5/1d. per head. Purchased foods only account for 6.6% of the total. Roughages and succulents make up 79% of the food costs and concentrates 21 per cent.

The basic ration consisted of roots together with a certain amount of cereals. Hay was fed to 14 flocks while 9 received a little sugar beet pulp and 6 were allowed a small quantity of sheep nuts.

The only other item of note is labour, accounting for 3.5% of the total cost, or 5/6d. per head. There appears to be little scope for economies in this direction. Size of flock appears to exert little or no influence on the labour cost per sheep.

PROFITABILITY.

Table II indicates that 15 flocks made an average profit of 10/10d. per fat sheep, while 5 flocks showed a corresponding loss of 9/1d. per head. The distribution of profits and losses was as follows.

DISTRIBUTION OF PROFITS AND LOSSES PER FAT SHEEP.

Shillings per Head	<u>Losses</u>			<u>Profits</u>		
	<u>Over 20/-</u>	<u>10-20/-</u>	<u>0-10/-</u>	<u>0-10/-</u>	<u>10-20/-</u>	<u>Over 20/-</u>
No. of Flocks	1	1	3	9	4	2

TABLE III /

TABLE III : FOOD COSTS.

	COLUMN I			COLUMN II			COLUMN III		
	All Flocks			15 Profitable Flocks			5 Unprofitable Flocks		
	5076 Sheep			3581 Sheep			1495 Sheep		
	All Sheep	Per Head	Per Cent	All Sheep	Per Head	Per Cent	All Sheep	Per Head	Per Cent
£	£ s. d.	%	£	£ s. d.	%	£	£ s. d.	%	
<u>Purchased Foods</u>									
Cereals	274	-. -.10	2.2	204	-. -.11	2.6	70	-. 1. -	2.2
Sugar Beet Pulp	135	-. -. 8	1.8	83	-. -. 7	1.7	52	-. -. 9	1.7
Feeding Nuts	95	-. -. 7	1.5	95	-. -. 9	2.1	-	-	-
Miscellaneous	90	-. -. 5	1.1	60	-. -. 5	1.2	30	-. -. 4	0.7
TOTAL	594	-. 2. 6	6.6	442	-. 2. 8	7.6	152	-. 2. 1	4.6
<u>Home Grown Foods</u>									
Turnips and Swedes	6902	1. 5.10	68.6	4328	1. 2.10	64.9	2574	1.14. 8	76.4
Oats	1136	-. 5. 1	13.5	718	-. 4. 8	13.2	418	-. 6. 4	14.0
Beet Shaws	648	-. 2. 9	7.3	528	-. 3. 1	8.8	120	-. 1. 6	3.3
Hay	277	-. 1. -	2.7	245	-. 1. 4	3.8	32	-. -. 5	1.0
Miscellaneous	114	-. -. 6	1.3	83	-. -. 7	1.7	31	-. -. 4	0.7
TOTAL	9077	1.15. 2	93.4	5902	1.12. 6	92.4	3175	2. 3. 3	95.4
GRAND TOTAL	9671	1.17. 8	100.0	6344	1.15. 2	100.0	3327	2. 5. 4	100.0
Succulents and Hay	7868	1. 9. 9	79.0	5134	1. 7. 6	78.2	2734	1.16. 8	80.9
Concentrates	1803	-. 7.11	21.0	1210	-. 7. 8	21.8	593	-. 8. 8	19.1
Cost per lb. estimated gain in dressed carcase weight		-. 2.4 $\frac{1}{2}$			-. 2. 2			-. 3.1 $\frac{3}{4}$	

The/

The distribution of profits and losses expressed as a percentage of net costs shows that the large majority lay within the range of $\pm 10\%$.

DISTRIBUTION OF PROFITS AND LOSSES EXPRESSED AS
A PERCENTAGE OF NET COSTS

Per Cent	L o s s			P r o f i t		
	10-20	0-10		0-10	10-20	20-30
No. of Flocks	1	4		11	2	2

The average profit per cent on net costs was 4.6% for all flocks: the fifteen profitable flocks show an average gain of 8.0% and the five unprofitable ones an average loss of 5.7%.

SOME FACTORS AFFECTING PROFITABILITY.

In considering the results of this investigation it must be borne in mind that the sample is a small one and includes breeds of widely differing characteristics. Any conclusions drawn can therefore only be of a tentative nature.

(1) Length of the fattening period in relation to weight increase.

Table I shows that the 15 profitable flocks made an average gain of 16.3 lb. estimated dressed carcass weight over a fattening period of 103 days, while those which made a loss required 131 days to make a corresponding increase of 14.4 lb. The average period required to make a gain of 1 lb. dead weight was 6.3 days for the former and 9.1 days for the latter. These figures become even more significant when it is remembered that the profitable flocks included most of the Blackface sheep in the sample.

The average total feeding cost per sheep per day was 5.2d. for the profitable flocks and 5.0d. for the unprofitable ones. Figures in Table III show that the ratio of the cost of concentrates to the cost of other foods consumed is approximately the same in the profitable and unprofitable flocks.

The importance of obtaining good healthy stores of a type likely to thrive and put on weight quickly, and the necessity of avoiding checks during the fattening period are therefore vital factors if a profit is to be realised.

(2) The Cost of store sheep.

The average cost of store sheep in the profitable flocks was £5.10.2d., and in the unprofitable ones £5.5.11d. Further analysis shows that the corresponding average costs per lb. estimated dressed carcass weight were 2/0 $\frac{3}{4}$ d. and 2/1 $\frac{1}{2}$ d. respectively. The margin between the estimated dead weight cost per lb. as stores and the price per lb. received for the fat sheep was 3 $\frac{1}{2}$ d. in the case of the profitable flocks and 2 $\frac{1}{2}$ d. in the unprofitable ones - a difference of 1d. per lb. This suggests that the price paid for stores in the unprofitable flocks was too high and that if a profit is to be realised on purchased stores, shrewd buying is essential.

Because of the overriding importance of the price paid for store sheep, an attempt has been made to deduce the limiting average price per lb. estimated dead carcass weight which may safely be paid for store hogs of the heavy and medium-heavy breeds. For this purpose 15 flocks have been selected from the sample. They possess the following characteristics.

Range /

	<u>Range over 15 Flocks</u>	<u>Average</u>
(1) Estimated dressed carcass weight per head at the time of purchase	40 - 60 lb.	51.7 lb.
(2) Estimated dressed carcass weight per head at the time of sale	57 - 85 lb.	69.9 lb.
(3) Gain in weight over the fattening period	12 - 25 lb.	18.1 lb.
(4) Duration of fattening period	52 - 186 days	124 days

The average cost of keeping a sheep for 124 days (based on costs for the whole sample) is £2.12.9d. The average return for a fat sheep of 70 lb. dressed carcass weight would be £8.4.11d., equivalent to $2/4\frac{1}{4}$ d. per lb. Therefore, on average, the price per lb. dead weight which may be paid for an average store of 51.7 lb. dead weight would be -

- (a) $2/2$ d. per lb. if no profit or loss is to be incurred;
- (b) $2/0\frac{1}{4}$ d. per lb. to obtain a profit of 5% on the total outlay,

assuming average feeding costs. In the first case a margin of $2\frac{1}{4}$ d. per lb. under the price at the time of sale is required, and in the second a margin of 4d. The margin between the price per lb. for 1st grade lambs at any time from September - November, and that in force at a period approximately four months later, ranges from 2d. to $2\frac{1}{2}$ d. (See Fig. I)

Keeping in mind that home grown food stuffs have been put in at average prices and that these, together with the initial cost of the sheep, account for well over 90% of the total outlay, it would appear that under average conditions a profit is unlikely to accrue if the store sheep are bought at a price per lb. estimated dressed carcass weight equal to the grading price holding good at the time of purchase. A margin of 1d. per lb. should ensure a profit. The general trend of the results indicates that if the store sheep are in good order, so that the fattening period is likely to be considerably less than the average, then a relatively higher price per lb. may be paid. If the fattening period is likely to extend well over 4 months, the price per lb. should be correspondingly less. The above generalisation therefore holds good over the range of conditions under consideration, though it is at best only a rough guide. Any substantial change in the cost of food stuffs or in the price structure for fat sheep would render it invalid.

(3) Feeding costs per lb. gain in estimated dressed carcass weight.

The average cost of food per lb. estimated gain in dressed carcass weight was $2/4\frac{1}{2}$ d. The profitable flocks show an average cost of $2/2$ d. per lb. as against $3/1\frac{3}{4}$ d. for the unprofitable ones. Corresponding total feeding costs are $2/11\frac{1}{4}$ d., $2/8\frac{3}{4}$ d. and $3/9$ d. respectively. It is seen that the average price of the final product barely covers the cost of food consumed during the final fattening stage. These figures support the conclusions of the previous section.

Table IV gives some comparisons of 4 high food cost flocks with 5 low cost ones. The large quantity of concentrates fed in the former is offset by the choice of low cost alternative foods. Although factors other than the ration fed influence the estimated gain in dressed carcass weight per week, the above data suggest that care in securing a nice balance between succulents, hay and concentrates and the choice of the cheapest alternative foods are important items in securing a quick weight gain at low cost.

TABLE IV /

TABLE IV : COMPARISON OF 4 HIGH FOOD COST FLOCKS
WITH 5 LOW COST ONES.
(AVERAGE RATION PER HEAD PER WEEK)

	4 High Food Cost Flocks		5 Low Food Cost Flocks	
	lb.	%	lb.	%
<u>Concentrates</u>				
Feeding Nuts	-		1.6	
Cereals	3.9		4.3	
Sugar Beet Pulp	0.4		0.8	
Miscellaneous	-		0.3	
Total Concentrates	4.3	2.8	7.0	4.8
Hay	1.9	1.3	1.3	0.9
Succulents	146.0	95.9	137.0	94.3
Cost of food per head per week	2/8 $\frac{1}{4}$ d.		2/5 $\frac{1}{4}$ d.	
Cost of food per lb. gain in estimated dressed carcass weight	3/11 $\frac{1}{4}$ d.		1/11d.	
Average length of fattening period (days)	126 days		89 days	
Average estimated dressed carcass weight of store sheep	56.3 lb.		52.1 lb.	
Ditto of fat sheep	67.5 lb.		69.9 lb.	
Average gain over fattening period	11.2 lb.		17.8 lb.	
Average estimated gain in dressed carcass weight per week	0.62 lb.		1.40 lb.	

(4) Deaths and Casualties.

The combined death and casualty rate in the flocks under review was uniformly low. In no instance did it exceed 3 per cent of the initial number of sheep.

INDIVIDUAL FLOCK PERFORMANCE.

An attempt has been made to assess individual flock performance using the following standards.

- (1) Average cost of food per lb. gain in estimated dressed carcass weight per head per flock.
- (2) Average expenses (other than cost of food) per lb. gain in estimated dressed carcass weight per head per flock.

Deviations/

Deviations from these average costs were then considered in the light of the breed of sheep, length of fattening period and the importance of the item in relation to total costs.

(3) Average maximum price per lb. estimated dressed carcass weight at which the stores could have been purchased without incurring a loss. The deviation of this cost from the actual price paid is then considered, in addition to the margin between the estimated price per lb. dead weight of the store sheep and that realised at the time of sale.

The following points emerge -

Four flocks show high feeding costs and five low feeding costs. Four were adversely affected by the high valuation placed on the stores while five gained through shrewd buying.

In two of the above cases skilful buying was offset by exceptionally high feeding costs; these flocks showed an overall loss. In one flock, indifferent buying was linked with a high feeding cost. There was one instance of a high feeding cost counteracted by careful buying and one where a low price paid for stores was associated with low feeding costs, to give a very favourable return on net outlay.

Only in two cases did expenses (other than cost of food) deviate substantially from the average. In one of these - an unprofitable flock - the loss was accentuated.

With respect to the five flocks which showed a loss, the cause can safely be ascribed to high feeding costs in three instances. In another, the loss was due to the unfavourable valuation placed on the store sheep; the price per lb. dead weight received for the fat sheep was barely equivalent to the estimated price per lb. paid for them as stores.

SUMMARY AND CONCLUSIONS.

As the foregoing records show, 20 flocks of feeding sheep of an average size of 273 hogs, folded on roots for approximately 110 days, made an average profit of 5/10d. per head in 1948-49. Fifteen profitable flocks show an average return of approximately 8% on net costs. This may be regarded as satisfactory.

Over half the sheep were started on roots in November and the large majority were finished between January and April. Fig.(1) shows a positive correlation between the price per lb. dressed carcass weight of 1st grade hogs and the number killed each month. As prices per lb. advance throughout the winter, the number of sheep graded increases steadily.

Examination of the individual records brings out a number of factors which are important if a profit is to be realised.

(a) A reasonably priced store must be obtained. For heavy and medium-heavy breeds the price per lb. estimated dead weight of the store sheep should be at least 1d. per lb. less than the grading price holding good for 1st grade hogs at the date of purchase. This should ensure a profit under average conditions.

(b) A quick live weight increase should be aimed at. It is important that the store sheep should be of a type likely to thrive, and that checks are avoided during the fattening period.

(c) Attention must be given to the cost of foods, coupled with
a/

a judicious balance between concentrates, succulents and roughages. In the five flocks which show a loss, the proportion of roots in the diet was rather higher than in the other flocks.

(d) Careful management is required to reduce deaths and casualties to a minimum.

If these four conditions are met then, granted average crop yields and climatic conditions, the folding of sheep on turnips can produce a satisfactory return - assuming there is no substantial deviation from the costs and price structure of 1948-49.

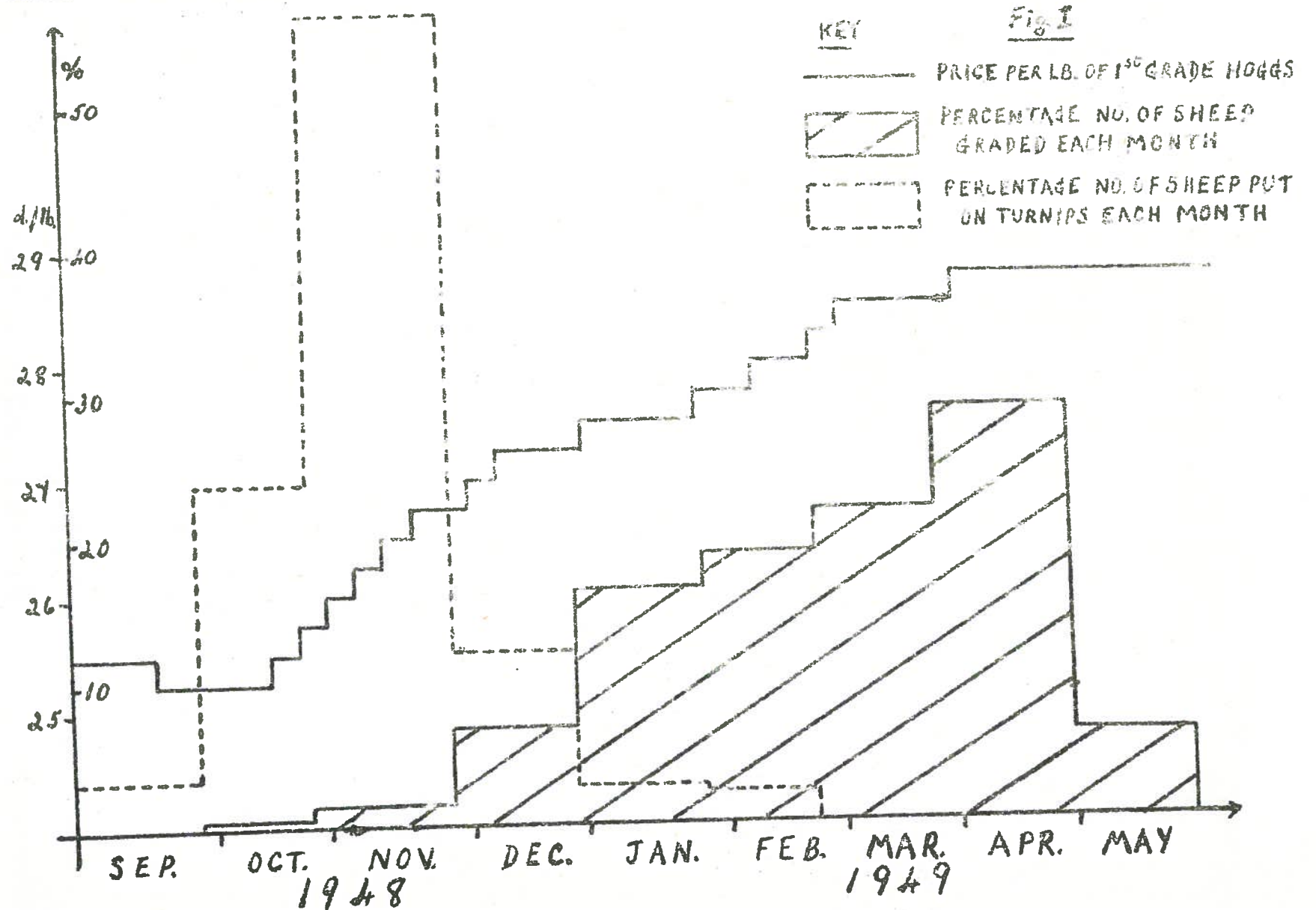
It must be kept in mind that, while the winter fattening of purchased hogs may be a risky enterprise - due mainly to the vagaries of the store sheep market, the overall returns from hogs bred and fattened on the same farm may be quite good except, of course, in those years when the winter is particularly severe or crop yields well below the average. This follows because any substantial changes in the basic costs of producing the food and rearing the store sheep are taken into consideration in fixing the price of the final product, mutton.

Under present conditions when the number of store sheep available seems insufficient to meet normal demand, it is likely that the greater proportion of the overall profit on producing fat sheep accrues to the person rearing the store. However, as the breeding flocks have now been restored to their pre-1937 level, there is reason to hope that conditions will become more favourable for those farmers who buy in sheep for winter fattening.

ACKNOWLEDGMENT.

Grateful acknowledgment is made of the help given by farmers who have co-operated in this investigation. If the report succeeds in stimulating consideration of some of the more important factors on which the profitability of the enterprise depends, then the time spent in keeping records will have been well worth while.

DISTRIBUTION OF SHEEP SALES PER MONTH IN RELATION TO THE PRICE OF 1st GRADE LAMBS



A P P E N D I X A

METHOD OF COST PROCEDURE ADOPTED IN THIS REPORT.

Foods.

Home grown feeding stuffs have been charged at average prices representing costs of production. The costs of the purchased feeding stuffs are the actual price paid including delivery.

The more important home grown foods were valued as follows -

Turnips	£1.15/-	per ton, lifted, shawed and carted off.
Turnips	£1.10/-	per ton, growing in the field.
Beet Shaws	£1. 5/-	per ton.
Oats (bruised)	£16	per ton.
Hay	£5.6/8d.	per ton.

Standard residual manurial values have been deducted from the gross cost of both purchased and home grown foods to arrive at the costs shown in the tables.

Labour.

This is based on the actual wages (including perquisites) paid to the shepherd; where the farmer himself worked with the sheep his time has been included at current rates. Other labour comprises the help given to the regular shepherd in such tasks as carting-out feeding stuffs, shifting nets and cutting turnips.

Power.

The cost of any work done by tractors and horses used for the haulage of feeding stuffs and equipment has been charged at 3/- per hour and 1/3d. per hour respectively.

Sundry Expenses.

These are the costs of such items as droving, haulage, dip, medicines, insurance, petrol for the turnip cutter and incidental replacements of equipment.

Overheads.

In conformity with the principles adopted by the Scottish Conference of Agricultural Economists these have been calculated at the following rates based on the direct labour and power used - 5/- per £1 of direct labour; 3/- per tractor hour; 9d. per horse hour.

Total Feeding Costs.

The cost of feeding and the initial costs of those sheep which either died or were graded as casualties have been included in the feeding costs of the fat sheep.

Initial Cost of Sheep.

This consists of the actual costs of those sheep which were purchased, and in the case of home-reared stores, the farmers's estimates of/

of their market value. In this way all the sheep in the sample have been brought in on the same basis - market price.

Credits.

Receipts from the grading of casualties have been shown as credits and deducted to arrive at net costs.

Returns.

These are the receipts from the sale of fat sheep.

The costs and returns from sheep finishing as stores have been completely excluded from the Profit and Loss Account.
