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*Sheep - Cost of prod., O.S.*

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## HOGG FATTENING—WINTER, 1960-61

SOME RESULTS OF SHEEP FATTENING ON 11 FARMS

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## HOGG FATTENING - WINTER, 1960-61

### SOME RESULTS OF SHEEP FATTENING ON 11 FARMS

#### INTRODUCTION

This report gives the results of a study of the costs of fattening hogs on eleven cropping farms during the winter 1960-61.

Six of the farms were in West Perthshire and five in Dumfries-shire.

On some of the farms more than one breed of sheep was fattened, so that altogether seventeen cost records covering 2,544 sheep were prepared.

Grateful acknowledgment is made of the help received from farmers who gave information for this survey.

#### DEFINITION OF SOME TERMS

##### Feeder's Margin

The feeder's margin is the difference between the average selling price per head (including guarantees) of sheep sold and the average purchase price per head of sheep bought.

##### Margin

The margin is the difference between the average selling price per head (including guarantees) of sheep sold and the average cost price per head obtained by dividing the total purchase price of a number of sheep, not by the number bought, but by the number actually sold. By this method deaths and casualties are taken into account.

##### Cash Surplus

The cash surplus is the balance remaining after the deduction from the margin of direct cash outlays on bought feed, dip, medicines, haulage and market commission etc.

##### Surplus or Deficit

Surplus is the final balance which remains after all other costs (estimated costs of home grown grain, turnips, grazing etc., labour and power and overheads) have been deducted from the cash surplus, and a credit allowance made for receipts for casualties and for the residual values of feeding stuffs. Should these other costs (after taking into account the credit allowances) exceed the cash surplus then there is a negative balance and a deficit.

#### SUMMARY

Financial and costing information on seventeen lots of sheep (totalling 2,544 at the start of the costing) is given.

The general average of the feeder's margin (selling price including guarantees less purchase price) was 47s. per head. When deaths and casualties were taken into account the general average of the margin (calculated on the number of sheep sold) was 44s. per head. After direct cash outlays which amounted to 10s. per head were deducted from this margin, a cash surplus of 34s. per head remained. Out of this sum all the remaining costs such as grazing, turnips, home grown feed, labour and power and overheads had to be met. Home grown turnips formed the main cost here, averaging an estimated 22s. per head.

Over the whole sample after all costs had been charged, including a share of overheads, there was an average deficit of 6s. per head.

Of the seventeen records six showed a surplus and eleven a deficit.

During the winter of 1960-61 outbreaks of foot and mouth disease led to restrictions on the movements of stock; and in this survey certain lots of sheep had to be kept on longer than was originally intended. It would seem, however, that a cash surplus of 34s. per head is not enough to cover the remaining costs when all these are taken into account. Admittedly, these remaining costs have been estimated and in some instances may appear rather high, e.g. the figure in Appendix Table II of 91lb. of home grown grain per head over the feeding period for the Suffolk Cross group. But this can be explained when it is remembered that these larger sheep were receiving on average an estimated supplementary feed ration of about 1 lb. per head per day over a period of nearly 18 weeks.

All the farms followed more or less the same system of feeding and management. With the exception of two lots of Crosses and one lot of Blackfaces which were on grass and had turnips carted to them and part of a Blackface lot fattened off on rape, all the sheep after a period of late summer and early autumn grazing were folded on turnips. The two Half-bred lots and one lot each of Suffolk crosses and Cheviots received cut turnips during the later stages of fattening. All the lots with the exception of one group of Crosses received supplementary feeding of home grown grain and purchased sheep concentrate. Also five lots of the Crosses and both Blackface lots were fed some hay.

Where nearly all the sheep are fattened on turnips the return from an acre of turnips may be used as a measure of the profitability or otherwise of folding sheep on the turnips. If all the costs for the sheep with the exception of the cost of growing the turnips are charged against the sheep revenue, then the balance which remains must more than cover the cost of growing the turnips if there is to be any profit from disposing of the crop in this way. It can happen in certain circumstances, for example, where sheep are bought in to eat off a surplus of turnips which might otherwise be wasted, that a very small balance may be justified. But where turnips are grown specifically for sheep feeding, there must be a sufficient balance to cover the growing costs, before there is any profit. In this survey a flat rate of £40 per acre was used as the estimated cost of turnips. And on this basis there would have to be a balance of more than £40 per acre in order to show a profit. There is a tendency, perhaps, to discount to some extent the cost of growing the turnips, and to over-estimate the value of the following crop, of the folded sheep. In the case of the Suffolk crosses, Half-breds and Cheviots this balance per acre of turnips averaged only £7, £16 and £29 respectively - very low figures indeed, particularly the first two.

There have been years when this system of sheep fattening has been quite profitable, especially where a low buying-in price of stores with good selling price for the finished sheep has left a sufficiently wide feeder's margin and where the fattening period has not been too long. However, for the heavier folded sheep in this sample (winter 1960-61) the margin was too narrow and the feeding bill too heavy (because of a longer fattening period) to leave a profit. A rather wet winter may also have had something to do with a slower fattening rate.

Sheep fattening is a somewhat speculative business, because, while the fat sheep prices can be gauged within certain limits (due to the guaranteed prices), the probable prices of stores in August and September can only be guessed at when the turnip crop is being sown in the spring.

THE SAMPLE

This has been grouped according to breeds as follows:-

<u>Breed</u>	<u>No. of Costs</u>	<u>Total No. of Sheep</u>
Suffolk cross	2	288
Half-bred	3	403
Cross (Greyface)	7	931
Cheviot	3	739
Blackface	2	183
	<u>17</u>	<u>2544</u>

PROFITABILITY

The feeder's margin (the difference between the average selling price per head (including guarantees) of sheep sold and the average purchase price of sheep bought) is shown below:-

<u>Breed</u>	<u>Average Selling Price</u>			<u>Average Buying-in Price</u>			<u>Feeder's Margin</u>		
	£	s.	d.	£	s.	d.	£	s.	d.
Suffolk cross	8	18	8	6	11	6	2	7	2
Half-bred	8	11	5	6	4	9	2	6	8
Cross	7	14	4	5	7	5	2	6	11
Cheviot	6	10	1	4	3	1	2	7	0
Blackface	5	3	4	3	2	0	2	1	4
All Breeds	7	9	1	5	2	7	2	6	6

When the calculations are based on the number of sheep actually sold, i.e. when deaths and casualties are taken into account, the resulting margin averaged as follows:-

<u>Breed</u>	<u>Margin</u>		
	£	s.	d.
Suffolk cross	2	4	5
Half-bred	2	2	6
Cross	2	4	7
Cheviot	2	4	0
Blackface	2	0	4
All Breeds	2	3	9

After direct cash outlays on bought feed, dip, medicines, haulage and commission etc., were deducted from the margin, the average cash surplus which remained was as follows:-

<u>Breed</u>	<u>Cash Surplus</u>		
	£	s.	d.
Suffolk cross	1	14	10
Half-bred	1	7	11
Cross	1	16	5
Cheviot	1	14	4
Blackface	1	13	11
All Breeds	1	14	1

It was out of this cash surplus that all other costs had to be met. In the first four groups there was not enough to meet all these other costs so that a deficit resulted. Only the Blackfaces as a group showed a surplus.

<u>Breed</u>	<u>Surplus</u>			<u>Deficit</u>		
	£	s.	d.	£	s.	d.
Suffolk cross				1	3	1
Half-bred				14		8
Cross						9
Cheviot				5		3
Blackface	7	11				
All Breeds				6		2

Tables IV and V in the Appendix give information about the cost structure, margins and returns.

#### PRICES

The average sale price per lb. deadweight (including guarantees) and the average deadweight (actual or estimated) in lb. per head are shown below:-

<u>Breed</u>	<u>Deadweight</u>	<u>Price</u>	
	lb.	s.	d.
Suffolk cross	56	3	2
Half-bred	50	3	5
Cross	42	3	7 $\frac{3}{4}$
Cheviot	34	3	10
Blackface	27	3	9 $\frac{3}{4}$
All Breeds	42	3	7

The smaller sheep sold for a higher price per lb.

Tables I, II and III in the Appendix give details of sheep numbers, length of fattening period, acreage of roots folded, amount of feed fed etc.

#### COSTING METHOD AND TERMS

##### Home bred sheep

These have been valued in at the farmer's estimate of their market value at the beginning of the costing.

##### Sheep sold store

Some sheep which were sold store have also been included in the costing, since it was possible to give an estimated deadweight at the time of sale.

##### Credits

Credits have been allowed for any receipts for casualties.

Residual values of feeding stuffs have also been credited, having been calculated according to the tables in the Twelfth Report of the Scottish Standing Committee appointed to deal with this.

#### CHARGES ETC. IN THE COST STRUCTURE

##### Bought Feed

This has been charged at the price the farmer paid for it.

#### Home Grown Grain

Home grown grain has been charged at 18s. per cwt. Oats were the usual grain but in certain lots some barley was also fed.

#### Turnips

These have been charged at £40 per acre where the sheep were folded and at £2 per ton when carted out to the sheep.

#### Hay

Home grown hay has been charged at £8 per ton.

#### Rape

The grazing of rape was charged at £10 per acre.

#### Grazing

The estimates of charges for home grazing varied from 6d to 1s. per head per week. The commonest estimated charge was 9d per head per week.

#### Labour

All labour (farmer, family and hired) has been charged at a flat rate of 5s. per hour.

In certain cases a small element of power has been included under the labour heading and has been calculated at 4s.6d per tractor hour.

#### Miscellaneous Expenses

These include any expenditure on dip, medicines or inoculations.

#### Overheads

These have been charged at the rate of 7s. per £ of the labour and power cost.

HOGG FATTENING - WINTER 1960-61

APPENDIX

TABLE I	Numbers of sheep handled, periods kept, etc.
TABLE II	Average number of weeks kept, average weights of bought feed, home grain and roots used.
TABLE III	Acreage of roots, number of weeks folded, number of sheep per acre etc.
TABLE IV	Average cost structure per head (calculated per sheep sold).
TABLE V	Margins and returns.



APPENDIX TABLE I

HOGG FATTENING - WINTER 1960-61

NUMBERS OF SHEEP HANDLED, PERIODS KEPT, ETC.

	<u>Suffolk Cross</u>	<u>Half-bred</u>	<u>Cross</u>	<u>Cheviot</u>	<u>Blackface</u>	<u>Total</u>
Number of costs	2	3	7	3	2	17
Average of numbers costed	144	134	133	246	92	150
Range of numbers costed	62-226	39-242	74-226	127-308	65-116	39-308
Earliest purchase date	16/8/60	16/8/60	10/8/60	28/7/60	27/8/60	28/7/60
Latest purchase date	31/8/60	26/1/60	22/11/60	21/10/60	27/10/60	26/1/61
Earliest selling date	16/1/61	16/1/61	30/11/60	16/1/61	30/11/60	30/11/60
Latest selling date	5/3/61	24/3/61	15/6/61	7/4/61	24/3/61	15/6/61
Total number home bred	132	-	-	-	-	132
Total number bought	156	403	931	739	183	2412
Total number sold fat	282	390	722	713	146	2253
Total number sold store	-	-	189	-	34	223
Total casualties	2	4	-	7	-	13
Total deaths	4	9	20	19	3	55
% mortality	1.4	2.2	2.2	2.6	1.6	2.2
Average estimated deadweight (lb. per head)	56	50	42	34	27	42
Average sale price per lb. (incl. guarantees)	3/2d	3/5d	3/7 <sup>3</sup> / <sub>4</sub> d	3/10d	3/9 <sup>3</sup> / <sub>4</sub> d	3/7d
Average hours labour per sheep	1.4	1.1	0.8	0.7	0.5	0.9

APPENDIX TABLE II

HOGG FATTENING - WINTER 1960-61

AVERAGE NUMBER OF WEEKS KEPT, AVERAGE WEIGHTS OF BOUGHT FEED, HOME GROWN GRAIN AND ROOTS FED

	<u>Suffolk cross</u>	<u>Half-bred</u>	<u>Cross</u>	<u>Cheviot</u>	<u>Blackface</u>	<u>Total</u>
Number of costs	2	3	7	3	2	17
Total number of sheep	288	403	931	739	183	2544
Total number of sheep sold	282	390	911	713	180	2476
Average time kept (weeks)	25	21	25	23	20	23
Average time grazing (weeks)	8	6	16	8	17	11
Average time folded on roots (weeks)	17	15	9	15	3	12
Average weight of bought feed eaten (in lb. per head for the whole period)	17	30	13	11	12	16
Average weight of home grown grain eaten (in lb. per head for the whole period)	91	32	15	38	10	33
Average weight of all roots used (in cwt. per head for the whole period)	16	16	9	14	5	12

APPENDIX TABLE III

HOGG FATTENING - WINTER 1960-61

ACREAGE OF ROOTS, NUMBER OF WEEKS FOLDED, NUMBER OF SHEEP PER ACRE, ETC.

	<u>Suffolk Cross</u>	<u>Half-bred</u>	<u>Cross</u>	<u>Cheviot</u>	<u>Blackface</u>	<u>Total</u>
Total acreage of roots folded	10.5	13.2	15.0	22.2	.8	61.7
Estimated total weight of folded roots used (tons)	221.7	311.0	356.4	507.0	22.4	1418.5
Estimated weight of folded roots used per acre (tons)	21.1	23.6	23.8	22.8	28.0	23.0
Number of folded sheep	282	390	703	713	78	2166
Approximate number of weeks folded (based on number of folded sheep sold)	17	15	12	15	7	14
Average number of sheep to the acre (based on number of folded sheep sold)	27	30	47	32	98	35
Average weight of folded roots used per day (in lb. per head)	14.8	16.7	13.7	15.6	12.8	15.1
With a yield of 20 tons to the acre to be eaten off in a 10 week period at the above rate, the number of sheep folded to the acre would be:	44	38	47	42	49	43

APPENDIX TABLE IV

HOGG FATTENING - WINTER 1960-61

AVERAGE COST STRUCTURE PER HEAD (CALCULATED PER SHEEP SOLD)

	<u>Suffolk cross</u>			<u>Half-bred</u>			<u>Cross</u>			<u>Cheviot</u>			<u>Blackface</u>			<u>Total</u>		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Cost price	6	14	3	6	8	11	5	9	9	4	6	1	3	3	0	5	5	4
			2			10			11			7			6			8
Haulage to farm		4	1		8	0		3	6		3	1		3	2		4	2
Bought feed			9		2	3			10		2	0			8		1	5
Miscellaneous expenses		1	7			5			9		1	6			8		1	0
Haulage to market		3	0		3	1		2	2		2	6		1	5		2	5
Commission etc.																		
		9	7		14	7		8	2		9	8		6	5		9	8
Cash outlay (1)																		
		14	8		5	2		2	5		5	8		1	6		5	1
Grain	1	10	8	1	8	2		16	4	1	5	7		7	7	1	1	10
Turnips		-			-			1	0		-			1	2			6
Hay		-			-			-			-			2	9			2
Rape																		
Total home grown feed (2)	2	5	4	1	13	4		19	9	1	11	3		13	0		1	7
		7	0		5	7		13	4		6	7		10	9		9	3
Grazing (3)		7	2		5	8		4	4		3	6		2	6		4	6
Labour (4)		2	6		2	0		1	6		1	3			11		1	7
Overheads (5)																		
	10	5	10	9	10	1	7	16	10	6	18	4	4	16	7	7	17	11
GROSS COST (1 - 5)																		
		1	0		1	4		-			7			-				6
Casualties		3	1		2	8		1	9		2	5		1	2		2	2
Residual values																		
		4	1		4	0		1	9		3	0		1	2		2	8
Total credits																		
NET COST	10	1	9	9	6	1	7	15	1	6	15	4	4	15	5	7	15	3

APPENDIX TABLE V

HOGG FATTENING - WINTER 1960-61

MARGINS AND RETURNS.

	<u>Suffolk cross</u>			<u>Half-bred</u>			<u>Cross</u>			<u>Cheviot</u>			<u>Blackface</u>			<u>Total</u>			
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	
Average selling price (incl. guarantees)	8	18	8	8	11	5	7	14	4	6	10	1	5	3	4	7	9	1	
Average buying-in price	6	11	6	6	4	9	5	7	5	4	3	1	3	2	0	5	2	7	
FEEDER'S MARGIN (excluding deaths, casualties etc.)	<u>2</u>	<u>7</u>	<u>2</u>	<u>2</u>	<u>6</u>	<u>8</u>	<u>2</u>	<u>6</u>	<u>11</u>	<u>2</u>	<u>7</u>	<u>0</u>	<u>2</u>	<u>1</u>	<u>4</u>	<u>2</u>	<u>6</u>	<u>6</u>	
MARGINS AND RETURNS																			
(Calculated per sheep sold)	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	
Selling price (incl. guarantees)	8	18	8	8	11	5	7	14	4	6	10	1	5	3	4	7	9	1	
Less cost price	6	14	3	6	8	11	5	9	9	4	6	1	3	3	0	5	5	4	
MARGIN	2	4	5	2	2	6	2	4	7	2	4	0	2	0	4	2	3	9	
Less bought feed and direct cash outlays		9	7		14	7		8	2		9	8		6	5		9	8	
CASH SURPLUS	1	14	10	1	7	11	1	16	5	1	14	4	1	13	11	1	14	1	
Less home grown feed and grazing	2	12	4	1	18	11	1	13	1	1	17	10	1	3	9	1	16	10	
(-)		17	6	(-)		11		3	4	(-)		3		10	2	(-)		2	9
Add credits		4	1		4	0		1	9		3	0		1	2		2	8	
(-)		13	5	(-)		7		5	1	(-)		6		11	4	(-)		1	
Less Labour		7	2		5	8		4	4		3	6		2	6		4	6	
(-)	1	0	7	(-)		12			9	(-)		0		8	10	(-)		4	7
Less overheads		2	6			2		1	6		1	3			11		1	7	
(-)				(-)						(-)						(-)			
SURPLUS or (-) DEFICIT	<u>1</u>	<u>3</u>	<u>1</u>	(-)	<u>14</u>	<u>8</u>	(-)	<u>9</u>	(-)	<u>5</u>	<u>3</u>		<u>7</u>	<u>11</u>	(-)	<u>6</u>	<u>2</u>		