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Swine - Cost of production

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Farmers' Report No. 133



**Costs and Returns
from Keeping Pigs on Eleven
Yorkshire Farms 1955-56**

UNIVERSITY OF LEEDS *University*

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This report is based on the costs of keeping pigs on eleven farms in Yorkshire in 1955/56 - the fifth year for which this enterprise has been studied at Leeds. Like its predecessor, it has been written by Mr.I.G.SIMPSON from material collected and tabulated by Mr.D.McInnes.

The general structure of pig costs shows no considerable change from year to year nor from district to district. It has been decided, therefore, to discontinue this study for the present and to rely for an indication of any future changes on those centres that are still costing this Enterprise. This is a particularly appropriate time to thank all those farmers who have assisted in this investigation during the last five years.

W.Harwood Long

COSTS AND RETURNS FROM KEEPING PIGS ON ELEVEN YORKSHIRE FARMS

1955-6

Pigs were costed on eleven Yorkshire farms during the twelve months ending 24th March 1956. With one exception, these were all mixed farms. On all eleven, pigs were both bred and fattened, no stores being purchased and few sold. On seven of the farms, most of the pigs were sold as baconers, on another two baconers formed the major part of the output but sales of pedigree breeding stock were also important.⁺ Pigs from the two remaining farms were marketed chiefly as porkers. Table 1 shows how sales from the eleven farms as a whole were distributed between the different classes of pigs.

Table 1. Distribution of Pig Sales from 11 Costed Herds

	Numbers Sold as a	Percentage by Value
	Percentage of All Sales	of Total Sales
	Per Cent	Per Cent
Baconers	71.2	73.5
Pork Pigs	16.5	12.8
Store Pigs	2.9	1.0
Weaners	2.1	.4
Stock for Breeding	4.2	9.1
Cull Sows and Boars	1.9	2.5
Casualties & Home Consumption	1.2	.7
	100.0	100.0

All the eleven herds were above average in size. Gross pig output averaged £6,292 per herd over the twelve months while the average number of sows was 27 per herd with a range of from 14 to 40. It is probable that the standard of management was higher in these herds than in the majority of Yorkshire herds.

Table 2. Costs per £100 Gross Output from Pigs

	Average of 11 Farms		Your Farm	
	Costs per £100 Output	Percentage of Total Cost	Costs per £100 Output	Percentage of Total Cost
	£. s. d.	Per Cent	£. s. d.	Per Cent
Purchased Foods	50.10. 6.	63.4		
Home Grown Foods	16.17. 6.	21.1		
Labour	8. 5. 0.	10.4		
Other Costs	4. 1. 6.	5.1		
Total Costs	79.14. 6.	100.0		100.0
Surplus	20. 5. 6.			
	100. 0. 0.		100. 0. 0.	

Average costs can be most satisfactorily expressed for comparative purposes in terms of cost per £100 gross output from pigs. Table 1 shows that costs averaged £79.14s.6d. per £100 gross output leaving a margin of £20.5s.6d. to cover interest on investment, a share of the general expenses incurred in running the farm and a

⁺ In previous reports, results from herds where sales of pedigree breeding stock were important, were excluded from the average. This year, however, results from such herds are included. The costs per £100 gross output in these herds were very close to the average.

return to management. The average cost per £100 gross output of £79.14.6. is about £2 higher than that for the nine herds costed in 1954/55. As in that year foods were the main constituent of the total cost. Compound pig meals accounted for 79 per cent of the cost of purchased foods and cereals, charged at their market value, for 97 per cent of the cost of home grown foods.

Table 3. Range of Costs per £100 Gross Output on Individual Farms

(a) Food Cost per £100 Gross Output

Food Cost (to nearest £)	£50-£59	£60-£69	£70-£79	£80-£89
Number of Farms	1	7	2	1

(b) Labour Cost per £100 Gross Output

Labour Cost	£5-£5.19s	£6-£6.19s	£7-£7.19s	£8-£8.19s	£9-£9.19s	£10-£10.19s	Over £11
Number of Farms	2	1	4	2	-	1	1

(c) Total Cost per £100 Gross Output

Total Cost (to nearest £)	£60-£69	£70-£79	£80-£89	Over £90
Number of Farms	1	6	3	1

The ranges for the food, labour, and total costs per £100 gross output, given in Table 3 indicate the considerable differences in the results for the separate herds.

Table 4. Performance and Food Costs of Breeding Pigs

	Average of 11 Farms	Your Farm
Pigs Born per Litter	10.3	
Pigs Weaned per Litter	7.7	
Litters per Sow per Year	1.8	
Pigs Weaned per Sow per Year	13.9	
Meal Equivalent per Sow per Year	27.0 cwt	cwt
Meal Equivalent per Pig Weaned	227 lbs	lbs
Cost of Meal Equivalent per Cwt	33/9d	
Food Cost per Sow per Year	£47.10.0.	£. s. d.
Food Cost per Pig Weaned	£3. 8. 2.	£. s. d.
Average Weight of Pigs Weaned	34 lbs	lbs
Food Cost per 10 lb Weaner Weight	20/6d	

Satisfactory returns from pigs depend on the achievement of high standards of performance and efficiency in food conversion from both the breeding and fattening pigs. Table 4 and 6 indicate the average standards obtained in the costed herds. Table 4 dealing with breeding pigs shows that just under 14 pigs were weaned per sow per year at an average weight of 34 lbs. Each sow with the pigs sucking it consumed the equivalent of 27 cwt of meal a year (including a small allowance for the boars) at a cost of £47.10s. Food cost per pig weaned amounted to £3.8.2. equivalent to 20/6d per 10 lb weaner weight.

Table 5. Range on Individual Farms for Some of the Factors in Table 4.

(a) Pigs Weaned per Sow per Year

Pigs Weaned per Sow	10.0 - 11.9	12.0 - 13.9	14.0 - 15.9	16.0 - 17.9
Number of Farms	2	2	4	3

(b) Meal Equivalent Fed per Sow per Year

Meal Equivalent per Sow	20.0-24.9 cwts	25.0-29.9 cwts	30.0-34.9 cwts
Number of Farms	3	3	5

(c) Food Cost per Sow per Year

Food Cost per Sow	£35 -	£40-	£45-	£50-	Over
	£35.19s	£44.19s	£49.19s	£54.19s	£55
Number of Farms	4	1	1	2	3

(d) Food Cost per 10 lbs Weaner Weight

Food Cost per 10 lb Weaner Weight.	12/-	16/-	20/-	24/-	28/-
	-	-	-	-	-
	15/11d	19/11d	23/11d	27/11d	32/0d
	1	6	1	1	2

There were considerable differences between herds in the performance and food consumption of the sows (see Table 5). The variations in food cost per pig weaned in particular were very large when related to weight. (Table 5.d.) This factor represents the cumulative effect of differences in the number of pigs reared per sow, in the food consumption of the sows and in the price per cwt of that food. In the herd with the best results, weaners at 35 lbs were produced at a food cost of only 46/8d per head whereas in that with the least satisfactory, 27 lb weaners required foods costing 88/8d per head for their production.

Table 6. Fattening Conversion Ratio & Food Cost for Fattening Pigs

	Average of 7 Farms	Your Farm
Cost of Meal Equivalent per Cwt	31/6d	
Fattening Conversion Ratio (Lbs Meal Equivalent fed per lb liveweight increase)	3.9	
Food Cost per 100 lb Liveweight Increase	£5.8.5.	

The figures given in Table 6 relating to the fattening pigs are averages only for the seven herds from which most of the pigs were sold as baconers. The fattening conversion ratio of 3.9 lbs of meal equivalent is satisfactory and suggests that the standard of management was high. It compares favourably with

the rate of 4.2 lbs achieved in the herds costed in 1954/55. Good housing for the fatteners on these seven farms was undoubtedly a factor in the achievement of a ratio of 3.9 lbs. The improvement over 1954/55 was partially offset by the higher cost of meal equivalent in the latter year at 31/6d per cwt as against 30/5d so that the reduction in the actual cost of foods per 100 lbs liveweight increase was less marked. The best fattening conversion ratio achieved was 3.5 and the least satisfactory was 4.2. Food cost per 100 lbs liveweight increase varied from £4.18.4. to £5.15.8.

Table 7. Liveweight at Slaughter & Value per Score of Bacon and Pork Pigs

	Total Pigs Sold from 11 Herds	Average of 11 Farms		Your Farm	
		Liveweight at Slaughter	Price Per Score Liveweight	Liveweight at Slaughter	Price Per Score Liveweight
		sc.lbs	£. s. d.	sc.lbs	£. s. d.
Baconers	2592	10.4	1. 18. 4.		
Pork Pigs Sold on Deadweight	478	8.5	1. 16. 0.		
Pork Pigs Sold on Liveweight	125	7.18	1. 12. 0.		

Table 8. The Grading of Bacon Pigs

Grade	Percentage of Bacon Pigs Sold from 11 Herds.	Percentage of Bacon Pigs Sold from your Herd.
A	71.5	
B	20.6	
C	4.7	
F	1.0	
L	.6	
Ungraded	1.6	
	100.0	

Details of the prices obtained per score for fat pigs sold are given in Table 7 and for the grading of the bacon pigs in Table 8.

Table 9. Estimated Cost & Return for a Bacon Pig of 10 Score Liveweight

	£. s. d.	Pounds of Meal Equivalent
Food Cost per Pig Weaned at 34 lbs	3. 9. 9.	227
Food Cost per Pig Fattened from 34 to 200 lbs l.w.	9. 0. 0.	641
Total Food Cost from Birth to Slaughter at 200 lbs l.w.	12. 9. 9.	868
Labour and Miscellaneous Costs	2. 5. 9.	
Total Cost from Birth to Slaughter at 200 lbs l.w.	14. 15. 6.	
Return on a 10 Score Pig at 38/4d per Sc.	19. 3. 4.	
Surplus	4. 7. 10.	

An estimate of the cost of producing a 10 score liveweight bacon pig is given in Table 9. In this table, the cost of food has been calculated from the average food cost per pig weaned as given in Table 4 plus an allowance for fattening based on the average food cost per 100 lbs liveweight increase in the herds producing mainly baconers as shown in Table 6. It has been assumed that labour and miscellaneous costs represent the same proportion of the cost of producing a baconer as they do in the average costs per £100 gross output. No allowance has been included for a share of the depreciation for the breeding stock which probably amounts to rather over 5/- per pig sold.

It has been decided to discontinue for the time being the investigation into the costs and returns from pigs kept on Yorkshire farms which was commenced in 1951. It may therefore be of interest to summarize briefly the results obtained during the five years of the investigation. These five years were a period of change in pig production on British farms. Pig numbers were increasing rapidly in 1951 and continued to do so until 1954 (Table 10). The increased supplies of pig meat which resulted were mainly absorbed as pork rather than bacon (Table 11).

Table 10. Pig Numbers in the United Kingdom 1951-1956

		Sows for Breeding	Total Pigs
		Thousands	Thousands
1951	June	560	3891
	December	571	4895
1952	June	594	4962
	December	618	5326
1953	June	699	5165
	December	743	5881
1954	June	814	6251
	December	771	6913
1955	June	683	5843
	December	668	5974
1956	June	692	5515

Source:- Agricultural Returns

Table 11. Supplies of Bacon & Pork in the United Kingdom

		1951	1952	1953	1954	1955
Home Produced	Bacon	215	285	257	256	263
	Pork	96	171	258	383	386
	Total	311	456	515	639	649
Imported	Bacon	220	252	312	301	308
	Pork	8	11	23	21	25
	Total	228	263	335	322	333

Source:- C.E.C. Review "Meat 1956"

In mid 1954, fatstock marketing was decontrolled and partly as a result the government became involved in paying heavy subsidies in order to maintain returns to pig producers at the guaranteed level. In order to limit and if possible to reduce these subsidies, it became desirable to halt the expansion in pig numbers, and the guaranteed price for fat pigs was reduced by 3/- per score deadweight at the 1954 price review and again by 2/6d in 1955. The guaranteed price was adjusted, however, in line with changes in the price of feedingstuffs. Table 10 shows that the fall in prices probably combined with general instability in the market prices for fat pigs in the period following decontrol resulted in a marked reduction in pig numbers between 1954 and 1955, but numbers have tended to increase again in 1956.

Table 12. Results from Pig Costs Investigation for 1951 to 1956.

Year	1951/52	1952/53	1953/54	1954/55	1955/56
Number of Herds Costed	12	14	13	9	11
Costs per £100 Gross Output	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Foods	73.10. 0.	70.13.6.	68. 3. 6.	67. 5.6.	67. 8. 0.
Labour	7.16. 6.	7.12.6.	6.10. 6.	7.11.0.	8. 5. 0.
Miscellaneous	2.16. 6.	2.17.6.	2. 8. 0.	3. 0.0.	4. 1. 6.
T o t a l:	84. 3. 0.	81. 3.6.	77. 2. 0.	77.16.6.	79.14. 6.
Surplus	15.17. 0.	18.16.6.	22.18. 0.	22. 3.6.	20. 5. 6.
	100. 0. 0.	100.0.0.	100. 0. 0.	100. 0.0.	100. 0. 0.
Pigs Weaned per Sow	10.6	14.2	14.3	14.3	13.9
Meal Equivalent Fed per Sow	n.a	26 c.	27½ c.	27 c.	27 c.
Food Cost per 10 lb Weaner Weight	n.a	n.a	19/10d	17/10d	20/6d
Fattening Conversion Ratio	n.a	n.a	4.4	4.2	3.9
Food Cost per 100 lbs Liveweight Increase	n.a.	n.a	£6.17.10.	£5.14.9.	£5.8.5.
Percentage of Baconers Graded A	n.a	74	74	66	70

There have been considerable changes in the sample of pig herds costed during the five years, in fact only four herds were costed over the full period. The results shown in the five year summary in Table 12 do not therefore represent fluctuations within a sample of identical herds. It is surprising that the magnitude and pattern of the costs per £100 gross output have varied comparatively little during the five year period. As circumstances in the latter years were less favourable, it would appear that the surplus margin has been maintained only because pigs were produced with greater efficiency in the costed herds in these as compared with the earlier years.

A comparison of the performance standards shows that apart from the first year, both the number of pigs weaned and food consumption per sow have remained fairly constant. On the other hand, the fattening conversion ratio and the food cost per 100 lbs liveweight increase from fattening pigs have been markedly reduced since 1953/54 (the records were not detailed enough for these factors to be calculated in 1951/52 or 1952/53). It would appear then that the improvement in efficiency has been secured mainly on the fattening side. It is noteworthy that in spite of stricter standards, the proportion of baconers graded A has fallen only slightly.

Interesting as a comparison of past results is, producers will be more interested in the future trend of pig prices and returns. These are uncertain although in the recent White Paper "Long Term Assurance for Agriculture" the government undertakes not to reduce guaranteed prices by more than 4 per cent in any one year or by 9 per cent over three years. While these guarantees give producers a limited amount of security, it seems likely that British pig producers will continue to be under pressure to increase their efficiency and reduce production

costs. The difference in the prices paid to British producers and to those in the exporting countries is still wide. For instance in the first six months of 1956, Danish farmers received the sterling equivalent of 41/8d per score deadweight for first grade baconers compared with 51/5d received by British farmers for similar pigs. ++ An increase in either home production or imports could result in lower market prices and the payment of a larger government subsidy. Increased supplies of beef and lamb might affect the market for pork which now takes more than half of the United Kingdom output of pig meat.

Foods account for about 85 per cent of the costs of pig production. For this reason, the principle aim in efficient pig production must be to obtain the maximum output per unit of food fed. The achievement of this aim can be greatly aided by the recording of the quantities and costs of the foods consumed by both the breeding and the feeding pigs. To assist farmers to undertake such recording the Agricultural Economics Section have prepared a "Pig Feed Recording Book" (price 2/6d post free). This book not only simplifies food recording and the calculation of efficiency factors but also provides suitable standards with which to compare the results from an individual herd. Such a comparison can be of considerable assistance in the diagnosis of faults in management.

++ C.E.C. Intelligence Bulletin, August 1956.

Some Notes on the Methods Used in this Report

1. All purchased foods were charged at cost. Homegrown cereals were charged at estimated market value. Fodder beet was charged at £4 per ton.
 2. Manual labour has been charged at its actual cost on each farm.
 3. The following items have been included under miscellaneous costs:- rent, repairs, equipment depreciation, veterinary bills, medicines, transport, service fees, fuel and power.
 4. No allowance has been made for any share of the general expenses incurred in running the farm.
 5. Gross output is the closing valuation of pigs plus the value of sales less the opening valuation and less the value of purchases.
 6. All averages given in this report are the simple averages of the herd results. Because of this the performance factors and food costs given in Tables 4 and 6 do not necessarily tie up with each other.
 7. The information given in the tables in this report is comparable with that for all meal herds in the "agreed supplements" to reports on pigs issued by other agricultural economics centres.
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