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Swine — Cost of production

UNIVERSITY OF NOTTINGHAM
SCHOOL OF AGRICULTURE

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PIG COST INVESTIGATION. 1957 to 1959.

Interim Report upon Results for the Second Year

April 1958 - March 1959.

February, 1960.

DEPARTMENT OF AGRICULTURAL ECONOMICS
SUTTON BONINGTON
LOUGHBOROUGH

Price : 2s. 6d.

PIG COST INVESTIGATION. 1957 to 1959.

Interim Report upon Results for the Second Year

April 1958 - March 1959.

R.O. WOOD, M.Sc.

February, 1960.

Department of Agricultural Economics,
Sutton Bonington,
Loughborough.

Price : 2s. 6d.

This report covers the second year's results from a two year investigation into the cost of pig production. A full report covering both years will be issued shortly.

R. BENNETT JONES.

PIG COST INVESTIGATION. 1957 to 1959.

Interim Report upon Results for the Second Year

April 1958 - March 1959.

Method.

Homegrown foods have been valued as follows :-

Cereals at market price plus an allowance for grinding.
Stock feed potatoes at market price.
Grazing at actual cost of production for each herd.
Roots at standard costs of production :-

Fodder beet	£ 3. 10s. per ton.
Mangolds	£ 2. 0s. per ton.
Kale	£ 15. 0s. per acre.

No allowance has been made for residual manurial values and no charge made for litter.

The labour of full time pigmen has been charged at actual costs and all other labour, including the farmer's own labour, at 4s. 0d. per hour.

Miscellaneous costs include transport, veterinary expenses, medicines, repairs to equipment, small equipment replacements, herd book and recording fees, electricity and water.

Output of livestock is the sum of livestock sales and livestock valuation at the end of the period, less the sum of livestock purchases and livestock valuation at the start of the period.

Total costs are the sum of feed, labour and miscellaneous costs.

Margin is the difference between output of livestock and total costs. It is the amount to cover equipment depreciation, overhead and housing costs, interest on capital and profit.

Total meal consumption by breeding or feeding pigs, has been calculated by adding to the weight of purchased and homegrown meals the estimated meal equivalent of other foods.

1 lb. Meal equals :-	4 lbs.	Potatoes.
	5 lbs.	Fodder beet.
	10 lbs.	Mangolds.
	3½ lbs.	Swill.
	2 galls.	Whey.
	⅔ galls.	Skim milk.

The conversion rate is the total meal consumption in lbs. per lb. liveweight increase of pigs fattened from eight weeks old. Allowance has been made for breeding stock being reared with fattening pigs.

Summary of Results.

Records have been obtained for 48 pig herds in the East Midlands for the year 1st April, 1958 to 31st March, 1959. For the purpose of this report they have been divided into three groups :-

Breed only	:	7 herds breeding stores for sale at 8 to 12 weeks old.
Feed only	:	9 herds purchasing stores for fattening.
Breed and Feed	:	32 herds breeding their own pigs for fattening as porkers, cutters, baconers or heavy pork.

In the Summary tables, (pages 5 to 8), the averages have been calculated from the total figures for each group. Particularly in the group of 32 breed and feed herds, there was considerable variation in breed, housing and fattening methods, as well as four end products, porkers, cutters, baconers and heavy pork. Therefore, average results from such groups as these must be considered with care.

Group 1. Breed Only.

The results from seven herds show a margin of £12. 14s. per £100. output; slightly more than £12. 0s. in the previous year.

Again the breeding herds produced more pigs per sow than the breed and feed herds, weaning an extra pig per litter.

Group 2. Feed Only.

The results from nine herds show a margin of £17. 10s. per £100. output; £4. 4s. less than the previous year. This fall in the margin occurred mainly during the Winter period October 1958 to March 1959.

As in the previous year the conversion rate was lower than that for the breed and feed group. It is noticeable that for both years there was a much greater difference between the Summer and Winter conversion rates for the feed only herds than the breed and feed herds.

Conversion Rate Lbs. of meal per lb. of liveweight gain		
Period	Group	
	Feed only	Breed and feed
Summer, 1957	3.64	4.29
Winter, 1957-58	4.23	4.17
Summer, 1958	3.72	4.08
Winter, 1958-59	4.39	4.43

Group 3. Breed and Feed.

The 32 herds in this group made an average margin of £9. 14s. per £100. output; nearly half that in the previous year. The margin per sow was £17. 18s. compared with £32. 6s. in 1957-58 or £1. 14s. per "baconer", compared with £3. 8s. The average number of "baconers" produced has been calculated as the liveweight increase after weaning at eight weeks, divided by 166 lbs., the average increase in weight from eight weeks old of the baconers sold during the year.

The 32 herds weaned 7.6 pigs per litter from 1.61 litters per sow. This was 0.8 more pigs weaned per sow than in the previous year. The average meal consumption per sow was 28.3 cwts. and the average conversion rate was 4.26 lbs.; very similar to those of the previous year.

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TABLES.

Costs and Returns per £100. Output of Pigs.

Table 1. £.

Group	Breed only			Feed only			Breed and Feed		
Number of herds	7			9			32		
Period	Summer	Winter	Year	Summer	Winter	Year	Summer	Winter	Year
Feed	67.2	70.7	69.0	64.4	79.9	71.9	72.4	79.0	75.7
Labour	15.1	16.4	15.7	7.0	7.9	7.4	10.2	10.4	10.3
Miscel-laneous	2.4	2.8	2.6	3.1	3.2	3.2	4.1	4.4	4.3
Total costs	84.7	89.9	87.3	74.5	91.0	82.5	86.7	93.8	90.3
Margin	15.3	10.1	12.7	25.5	9.0	17.5	13.3	6.2	9.7
Output of Live-stock	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Distribution of Total Costs.

Table 2. Per cent.

	Breed only			Feed only			Breed and Feed		
Number of herds	7			9			32		
Period	Summer	Winter	Year	Summer	Winter	Year	Summer	Winter	Year
Feed	79.4	78.6	79.0	86.4	87.8	87.1	83.5	84.2	83.9
Labour	17.8	18.2	18.0	9.4	8.7	9.0	11.8	11.1	11.4
Miscel-laneous	2.8	3.2	3.0	4.2	3.5	3.9	4.7	4.7	4.7
Total costs	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note : In these tables no allowance has been made for housing costs, equipment depreciation and overheads.

Breeding Efficiency Factors.

Calculated on the basis that pigs were weaned at eight weeks.

Table 3.

Group	Breed only			Breed and Feed		
Period	Summer	Winter	Year	Summer	Winter	Year
Average No. of sows per herd	8.2	8.2	8.2	25.6	24.3	24.9
Number of pigs :						
Born per litter	11.4	10.8	11.1	9.9	9.7	9.8
Weaned per litter	9.1	8.5	8.8	7.7	7.5	7.6
Litters per sow	0.82	0.86	1.67	0.83	0.79	1.61
Pigs weaned per sow	7.5	7.3	14.6	6.4	5.9	12.3
Cwts. meal per sow	14.9	17.7	32.4	13.1	15.2	28.3
Cost of meal per cwt.	s. d. 32. 9.	s. d. 30.10.	s. d. 31. 9.	s. d. 32. 5.	s. d. 32. 0.	s. d. 32. 3.

Feeding Efficiency Factors.

Table 4.

Group	Feed only			Breed and Feed		
Period	Summer	Winter	Year	Summer	Winter	Year
Conversion rate	3.72	4.39	4.05	4.08	4.43	4.26
Cost of meal per cwt.	s. d. 28. 5.	s. d. 28. 6.	s. d. 28. 5.	s. d. 28. 8.	s. d. 28. 2.	s. d. 28. 4.

Notes : Cwts. meal per sow and conversion rates include foods other than meals at their estimated meal equivalent.

Cost of meal per cwt.: This is the average cost of purchased plus homegrown meals and excludes other foods.

Fat Pigs : Prices, Weights and Grading.

Table 5.

Group	Feed only			Breed and Feed		
Period	Summer	Winter	Year	Summer	Winter	Year
Porkers up to 150 lbs. D.W.						
Number sold	699	1,000	1,699	1,038	1,681	2,719
Deadweight per pig	117 lbs.	115 lbs.	116 lbs.	113 lbs.	108 lbs.	110 lbs.
Liveweight per pig	161 lbs.	158 lbs.	159 lbs.	155 lbs.	148 lbs.	151 lbs.
Price per score	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Deadweight	44. 3.	47. 0.	45. 5.	45. 2.	46. 6.	46. 0.
Liveweight	31.11.	34. 1.	33. 4.	32.11.	33.11.	33. 6.
Baconers.						
Number sold	381	245	626	2,387	2,540	4,927
Deadweight per pig	154 lbs.	152 lbs.	153 lbs.	151 lbs.	151 lbs.	151 lbs.
Liveweight per pig	205 lbs.	206 lbs.	205 lbs.	201 lbs.	201 lbs.	201 lbs.
Price per score	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Deadweight	46. 0.	45.10.	45.11.	47. 2.	46. 7.	46.10.
Liveweight	34. 7.	33.10.	34. 3.	35. 4.	35. 0.	35. 2.
Heavy Pork over 150 lbs. D.W.						
Number sold	282	339	621	350	486	836
Deadweight per pig	157 lbs.	169 lbs.	163 lbs.	182 lbs.	167 lbs.	174 lbs.
Liveweight per pig	208 lbs.	222 lbs.	215 lbs.	238 lbs.	220 lbs.	227 lbs.
Price per score	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Deadweight	44. 4.	44. 7.	44. 5.	42.10.	44. 1.	43. 6.
Liveweight	33. 5.	34. 0.	33. 9.	32.11.	33. 5.	33. 2.
Bacon Grading.	%	%	%	%	%	%
Payment Grade 1	30.2	45.7	36.3	41.4	50.2	46.0
2	16.3	14.7	15.6	20.8	17.3	19.0
3	-	-	-	-	-	-
4	3.1	9.4	5.6	5.4	5.4	5.4
5	28.6	16.8	24.0	19.5	13.8	16.5
6	5.8	2.9	4.6	3.0	2.3	2.6
7	11.0	6.5	9.3	5.4	4.0	4.7
8	-	-	-	0.3	1.1	0.7
9	3.1	2.0	2.7	0.7	0.4	0.6
10	1.9	2.0	1.9	3.5	5.5	4.5
	100.0	100.0	100.0	100.0	100.0	100.0

Value of Weaners.

Table 6.

Group	Breed only			Breed and Feed		
Age	8 to 12 weeks			Approx. 8 weeks		
Period	Summer	Winter	Year	Summer	Winter	Year
	£. s.	£. s.	£. s.	£. s.	£. s.	£. s.
Sales	4.17.	4.19.	4.18.	4. 8.	4.13.	4.11.
Estimated value at 8 weeks old	5. 0.	4. 6.	4.12.	4.11.	4.10.	4.11.

AGREED SUPPLEMENT FOR PIG RECORDING SCHEMES.

The following tables are intended for comparison with results from other Provinces.

Breed and Feed Herds - Number of Herds - 32.

Year 1st April, 1958 to 31st March, 1959.

Table I. Total Stock Account for Herds in Group.

No.		£.	£.
	Opening Valuation		
57	Boars	1,721	
817	Sows and gilts	24,146	
1,849	Suckling pigs	4,782	
3,144	Feeding stock	32,408	63,057
	Purchases		
19	Boars	877	
18	Sows and gilts	661	1,538
344	Weaners	1,606	
201	Stores	1,197	2,803
12,617	Pigs born alive		-
			67,398
	Livestock output		146,845
19,066			£ 214,243

No.		£.	£.
	Closing Valuation		
52	Boars	1,709	
784	Sows and gilts	21,951	
1,653	Suckling pigs	3,797	
3,684	Feeding stock	36,912	64,369
	Sales		
37	Boars	772	
339	Sows and gilts	7,654	
303	Weaners	1,377	9,803
145	Stores	1,044	
2,719	Porkers	34,341	
4,927	Baconers	87,122	
836	Other fat pigs	15,786	
179	Casualties	1,041	
25	Young boars and gilts	737	140,071
	Deaths		
2,833	Pre-weaning	-	
519	Post weaning	-	
31	Boars and sows	-	-
19,066			£ 214,243

Table II. Costs per £100. Livestock Output.

ITEM		Totals	Per £100. Livestock Output
		£.	£.
Food :			
Purchased :			
Concentrates	63,234 cwts.	96,813	66.0
Others : i(a) Roots	90 cwts.[1]	56	+
i(b) By-products	1,427 cwts.[1]	1,796	1.2
ii	-	-	-
Homegrown :			
Concentrates	10,135 cwts.	11,636	7.9
Others : i Roots	752 cwts.[1]	405	0.3
ii Grazing		459	0.3
Total Cost of Food		111,165	75.7
Labour		15,115	10.3
Miscellaneous		6,264	4.3
Sub-Total		132,544	90.3
Surplus		14,301	9.7
Total Livestock Output		£146,845	£100.0

[1] Cwts. Meal Equivalent.

Table III. Breeding Section. 32 Herds.

Costs per Weaner.

I T E M		Total Costs	Cost per Weaner
Food :		£.	£.
Concentrates	22,551 cwts.	36,320	3.64
Other Foods :			
Roots	544 cwts.[1]	241	0.02
By-products	355 cwts.[1]	293	0.03
Grazing		459	0.05
Total Cost of Food		37,313	3.74
Labour and Miscellaneous		not	allocated
Herd Depreciation		1,826	~~1.83~~ 0.18
Total number of weaners		9,980	

[1] Cwts. Meal equivalent.

Table IV. Feeding Section. 32 Herds.

Costs per 100 lbs. Liveweight Gain.

Number of pigs			13,366
Total liveweight gain			1,372,824 lbs.
Cost of food per 100 lbs. liveweight gain	$\frac{73,852}{13,728.24}$	=	£ 5.38

Table V. Feeding Section. 32 Herds.

Conversion Rate per lb. Liveweight Gain, Post-weaning Period.

Number of pigs sold	8,831
Total liveweight of pigs sold	1,621,696 lbs.
Average liveweight of pigs sold	184 lbs.

Conversion rate 4.26 lbs. meal and meal equivalent per lb. liveweight gain.