Cattle - Cost of production U.S.

THE NORTH OF SCOTLAND COLLEGE OF AGRICULTURE

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BREEDING CATTLE COSTS IN UPLAND HERDS - 1957/58

by

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Introduction

This report concerns the cost of rearing calves in the breeding herds of the Moray Firth area of the North of Scotland and refers to year 1st November, 1957/58.

Farm Type

Results were available from 22 farms, all situated in the glens which run up from the coast, the average distance from the sea being 15 miles and the height above sea level 720 ft. with 10 farms between 700 and 900 ft.

The cow subsidy and marginal land grant were received on all the farms in this sample and the breeding cattle were one of the main enterprises on most of the holdings, being usually associated with wintering ewe hoggs or a breeding flock of ewes.

Season

The winter 1957/58 was long and by early May most of the winter foods had been used up. The situation was aggravated by an extremely poor oat crop in 1957 which left most of the farms short of grain. The average period of winter feeding was 173 days and the crop yields for these farms averaged:-

Oats	14 cwts. per acre
Roots	19 tons per acre
Hay	25 cwts. per acre

System

Single suckling was the normal system on all the farms in the group and only occasional cows in a few of the herds reared more than one calf. On 19 of the farms an Aberdeen-Angus bull was used and on one farm a Shorthorn bull, while in the other two herds, bulls of both breeds were used. Most of the cows were Aberdeen-Angus x Shorthorn.

Size of Herd

This averaged 25, with 13 of the herds having under 20 cows each, 6 herds with between 20 and 40 cows, and 3 herds with over 40 cows.

Time of Birth of Calves

Seventeen of the farms sold at least some of their calves in the autumn sales and therefore wanted a high proportion of early calves and in these herds the proportion of December-January calves was 39% compared with 12% in the other five herds. Average figures for the whole group are shown in Table I and compared with your farm.

Table I

Proportion of Early Calves

%

	Dec. or before	Jan.	Feb.	Mar.	Apr.	May or later	TOTAL
Average	17	15	18	27	12	11	100
Your Farm							100%

Cost per Cow

Since each cow will normally produce one calf in each twelve month period, the cost of keeping a cow for a year forms the basis of determining the cost of the calf.

Table II

Cost per Cow per Year

Item	Average	%	Your Farm	%
Net Foods	£14.16. -	43		
Grazing	3.18. -	11		
Labour and Power	7.10. -	22		
Cow Deprecn.	2. 6. -	7		
Bull Charge	1.12. -	5		
Miscellaneous	-. 9. -	1		
Share of Farm Overheads	3.17. -	11		
Total	£34. 8. -	100		

The cost per cow is £2. 7/- higher than that of last year. The cost varied from £20 - £48, the range being:-

£20 - £25	2 Farms
£25 - £30	4 "
£30 - £35	4 "
£35 - £40	5 "
£40 - £45	6 "
£45 - £50	1 "

Winter Foods

Details of the average cost of winter foods is given in Table III, the charges for home grown foods being based on cost of production figures adjusted according to the yield per acre on each farm. The costs shown are "Net", i.e. with residual manurial values already deducted.

Table III

Winter Food Costs per Cow - 1957/58

Type of Food	Average	Your Farm
Roots	£8. 5. -	
Straw (eaten)	1. 6. -	
Oats	2. 7. -	
Hay	1.15. -	
Purchased concentrates	-. 9. -	
Draff, Silage, etc.	-.14. -	
	£14.16. -	

The most common combination of foods occurred on nine farms and the average amounts fed on them were:-

Roots	107.8 cwts.
Straw (eaten)	8.7 cwts.
Oats	2.4 cwts.
Hay	6,8 cwts.

The average acreage required for winter feeding was:-

	Average	Your Farm
Turnips and Swedes	.22	
Hay	.14	
Oats	.15	
Other	.04	
	.55 Acres per Cow	

In addition to the above foods, about 1 acre of straw is required for feeding and bedding.

Grazing

The cost of grazing averaged 2/11d. per week, with the 7 highest costs (average 4/5d. per week) occurring on the farms with under 50 acres rough grazing and the 9 lowest costs (average 1/11d. per week) on the farms with over 250 acres rough grazing.

Cow Depreciation

This item is apt to vary greatly from year to year in the case of small herds, but the average figure for the whole sample is very close to that of last year.

Bull Charge

In 4 small herds this was simply the service charge plus the time taken in walking the cows to the bull and totalled 28/- per cow. The average cost of keeping a bull for 21 herds (including 3 herds in Appendix I) is shown in Table IV.

Table IV

Cost of Keeping a Bull for a Year

Foods	£15. 4. -
Grazing	4. 1. -
Labour and Overheads	10.10. -
Insurance	1. 7. -
Depreciation	23.19. -
TOTAL	£55. 1. -

Number of cows served: 40. Cost per cow: £1. 7/-.

The high cost of the bull service charge in small herds is very clearly shown in this sample:

No. of Cows Served per Year	Bull Charge per Cow
Under 30 (6 herds)	49/-
30 - 45 (8 herds)	25/-
Over 45 (7 herds)	16/-

Cost per Calf

The cost of rearing a calf to weaning would be almost identical with the cost per cow if each cow reared one calf each year. In practice, however, a number of adjustments have to be made. Additions are the cost of any foods and grazing consumed by the calves and the price of any young calves purchased in, while deductions have to be made in respect of house cows kept for household milk production and any calves sold young. The average cost per calf was £34.14/- and the range was:

Cost per Calf

£20 - £25	3 Farms
£25 - £30	2 Farms
£30 - £35	6 Farms
£35 - £40	4 Farms
£40 - £47	7 Farms

Returns

The profit or loss per calf was calculated by comparing the cost per calf with the sale price (or valuation figure in the case of calves not sold) both before and after the addition of income from the cow and calf subsidies.

Table V

Cost and Returns per Calf

	Average	Your Farm
Cost per Calf to Weaning	£34.14. -	
Sale Price of Valuation	37. 5. -	
MARGIN	+2.11. -	
Cow and Calf Subsidies	17.14. -	
NET MARGIN INCLUDING SUBSIDIES	£20. 5. -	

The effect of the marginal land grant in reducing the cost of home grown foods has not been taken into account.

Fourteen of the twenty-two farms showed a profit even before the effect of the cow and calf subsidies was considered, while they all made a profit after allowing for the subsidies.

Comments on Returns

(a) The high cost herds were among those with the poorest financial returns thus:

Average of 5 Herds with Highest Costs:

Cost per Calf	£43.10. -	
Returns per Calf	36. 9. -	
LOSS	£7. 1. -	(All showed a loss)

(b) The best returns came from the farms with a high sale price per calf and on these farms the costs were not in fact high, thus:

Average of 5 Herds with Highest Sale Price per Calf:

Cost per Calf	£33. 1. -
Returns per Calf	41. 2. -
PROFIT	£8. 1. - (All showed a profit)

These figures confirm what has been noticed in previous years, i.e. that the high priced calves have not usually incurred high costs of production.

(c) Trend of Results over the Past Five Years. The average results for a group of nine farms costed over the past five years is shown in Table VI.

Table VI

Average Costs and Returns over 5 Years
(9 farms)

Year	Cost to Weaning	Valuation of Sale Price (including subsidies)	Margin
1953/4	£31. 5. -	£43.16. -	£12.11. -
1954/5	29.13. -	44. 1. -	14. 8. -
1955/6	31.15. -	45. 2. -	13. 7. -
1956/7	30.19. -	49.18. -	18.19. -
1957/8	31.12. -	53. 8. -	21.16. -

The results suggest that the cattle enterprise of upland farms in this area is now in as strong a position as it has been since the collection of economic data began.

(d) It is difficult to assess the representative nature of the sample of herds costed, but from the point of view of sale prices, the main sale markets for the calves costed were Grantown, Inverness and Dingwall and average sale prices at those marts in Autumn 1958 were supplied by the Farm Economics Branch of the Department of Agriculture for Scotland.

	Heifers	Bullocks	All Calves
Grantown-on-Spey	£38. 6. -	£53. 1. -	£48. 4. -
Inverness	36.17. -	46. 3. -	42. 9. -
Dingwall	34.14. -	43. 7. -	39.11. -

The Grantown prices in particular include a few very high prices in respect of calves purchased for show purposes. In comparing the above prices with those of the sample average of £37. 4/-, it should be remembered that the latter included a number of smaller calves unsold which were valued well below average market prices.

Acknowledgment

The hospitality and kindness extended by the farmers and their families to the staff of this department is gratefully acknowledged.

APPENDIX I

While the main report discusses the normal system of calf rearing in practice in the North of Scotland, this section notes four results from variations in the normal system, i.e. 3 results from hardy herds outwintered and one result from "off season" calves born August - October. All four results gave a satisfactory margin in 1957/8.

Table I

Cost and Margin per Cow and per Calf (1957/8)

	3 Hardy Herds Outwintered			Off Season Calves
	A	B	C	D
Roots	£-. -	£-. -	£-. -	£-. 9
Straw (eaten)	1. 6	2.15	-. -	-. 3
Oats	-. -	-. -	-. -	-. -
Hay	7. -	-. 4	1. -	-.12
Silage	-. -	2.15	1.14	4. -
Other Foods	-. -	-. -	-. 3	-. -
NET FOODS	8. 6	5.14	2.17	5. 4
Grazing	2. -	2. 9	4. 1	3.17
Labour and Power	7.18	3.13	3. 1	5. 5
Cow Depreciation	-. -	1.13	2. -	-. -
Bull Charge	1. 5	-.19	1.17	2. 2
Miscellaneous	-. 3	-. 1	-. -	-.10
Share of Farm Overheads	6.10	3. 6	2.14	4. 1
Net Cost per Cow	26. 2	17.15	16.10	20.19
Net Cost per Calf	26. 4	20. 7	19. 5	24.17
Valuation or Selling Price	27. -	32.13	32. -	35.17
MARGIN (+)	-.16	12. 6	12.15	11. -
Cow/Calf Subsidies	17. -	18. -	18. -	17.19
MARGIN (including subsidies)	17.16	30. 6	30.15	28.19

APPENDIX II

Foods

Home Grown foods were charged at average cost of production figures adjusted for crop yield.

Average crop yields were:	Roots	19 tons per acre (i.e. used)
	Oats	14 cwts. per acre
	Hay	25 cwts. per acre

For these yields costs were:	Roots carted	2/2d. per cwt.
	Oats	£1. 5/- per cwt.
	Hay	7/6d. per cwt.

All labour, including that of the farmer, has been included in the cost.

Labour

(a)	Stockmen	4/1d. per hour
	Tractor Drivers	3/10d per hour
	General Workers	4/- per hour
(b)	Tractors	4/3d. per hour

Overheads

1. 6/9d. per £1 man labour
2. 5/- per stock unit

Livestock Units

1. For overhead cost calculations, the scale used is that recommended by the Scottish Agricultural Economist.

2. For Grazing:

Breeding Cows	1 unit
1 - 2 year Cattle	$\frac{3}{4}$ unit
Cattle under 1 year	$\frac{1}{2}$ unit
Ewes and Rams	$\frac{1}{4}$ unit
Lambs over 3 months	1/14 unit
Lambs over 6 months	1/7 unit

Grazing Cost

The method used is that used for the Milk and Feeding Cattle Costs in the North of Scotland.

Subsidies

No account has been taken of the Marginal Land Grant in lowering the cost of production of crops. Lime and Fertilisers have, however, been charged net (i.e. with subsidies deducted).