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Cattle cost of production O.S.

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AGRICULTURAL ECONOMICS DEPARTMENT

ECONOMIC REPORT NO. 40

BREEDING CATTLE COSTS 1952 - 1953

by

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AGRICULTURAL ECONOMICS DEPARTMENT

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BREEDING CATTLE COSTS 1952 - 1953

This annual review of the costs of rearing calves in the North of Scotland refers to animals born in the Spring of 1953, and since the price received for weaned calves sold in the Autumn of that year reached new high levels, the picture presented is much more favourable than that of the previous two years.

THE HERDS

Forty-two farmers provided information and the herds have been divided into groups similar to those used last year. Table I shows the number of farms in each group and the characteristics of the method of production used.

Table I

Classification of Farms Included in this Report

Name of Group	No. of Farms	Characteristics	Average Distance from sea	Height above sea level
GROUP I CAITHNESS	15	(1) Cows inside in winter (2) Receive hill cat. sub. (3) Mainly one calf reared per cow	3½	180
GROUP II UPLAND	12	(1) Cows inside in winter (2) Receive hill cat. sub. (3) Mainly one calf reared per cow	14	650
GROUP III LOWLAND	7	(1) Cows mainly inside in winter (2) No hill cat. subsidy (3) One or two calves reared per cow	5	210
GROUP IV OUTWINTERED	6	(1) Cows out-wintered (2) Hardy breeds (3) Hill cat. sub. gen. recd. (4) One calf reared per cow	16½	650
GROUP V MULTIPLE REARING	2	Results of calves reared by pail on smaller quantity of milk		

The distinction between Groups I and II is entirely geographical. The farms included in Group II are widely spread out, eight being in the Nairn - Findhorn - Spey valleys, two in Upper Banff-shire and one each in Easter Ross and Kincardine-shire.

SUBSIDIES

Marginal land payments were made to twelve of the fifteen farms in Group I, to eleven of the Upland Group and to five of the six farms in the Outwintered Group. None of the Lowland farms received either the Hill Cattle Subsidy or Marginal Land Payments.

SIZE OF FARM AND FARM TYPE

Group I - All the Caithness herds except one had some rough grazing and the average size of farm was 122 acres arable and 216 rough grazing. Nine of the fifteen farms had under 100 acres arable, three had 100-200 acres and the other three had over 200 acres arable. On all the farms except one the sheep enterprise was either as important as or more important than the cattle.

Group II - The average size of farm was 90 acres arable with seven farms having under 100 acres arable, four with 100-200 acres and one farm with over 200 acres arable. Whilst all the farms had some rough grazing the amount varied from just a few acres to over 2,000 acres on one farm near Tomintoul. On nine of the farms a breeding ewe flock played an important role whilst the other three holdings took in wintering hoggs, so that in all cases the breeding cattle shared with sheep the position of being the main source of income.

Group III - Four farms were under 200 acres and three over that figure, the average size being 207 acres. In all cases crop sales played an important part in the farm economy and whilst the breeding herd was important it was but one of several enterprises on the farm and was often looked upon more as necessary to maintain fertility than a source of revenue.

Group IV - The acreage of arable varied between 140 acres and 535 and each farm had some rough grazing, the amount varying from 300 acres to above 1,500. Sheep were also important on these holdings, and in three cases it was on them and the breeding cattle that the whole farm economy rested. The other three farms consisted of hill linked to good arable ground and other farm enterprises made the importance of the breeding cattle proportionately less.

SIZE OF HERD

The average number of cows per herd in each of the groups is shown in Table II. The proportion of small herds was greatest in the Caithness herds where nine out of the fifteen had under ten cows.

Table II

Number of Cows per Herd

	Average Number of Cows	Range
Caithness Farms	14	6 - 45 cows
Upland	16	7 - 29
Lowland	16	7 - 39
Outwintered	66	30 - 136

The density of breeding cattle on the arable acreage is a useful measure of the relative importance of the cattle enterprise on the farms in the first three groups, and in this instance it will be seen that it was greatest in Group II.

DENSITY OF BREEDING CATTLE PER ACRE (ARABLE)

Caithness Farms	:	9 acres per Breeding Cow
Upland Farms	:	6 acres per Breeding Cow
Lowland Farms	:	13 acres per Breeding Cow

BREED OF COW

In the Caithness and Lowland herds most of the cows were of Shorthorn type with a varying amount of Aberdeen Angus blood present. Group II contains herds from the traditionally 'Black' area of Speyside and most of the cows were either pure bred or cross Aberdeen Angus.

In the Outwintered herds one consisted mainly of Galloway cows whilst the other five were either cross or pure bred Highland.

BULLS

The increasing popularity of the Aberdeen Angus breed is shown in the following enumeration of the breeds of bull used in these herds.

Table III

Breed of Bulls

	Total No. of Bulls used	Aberdeen Angus	Shorthorn	Other
Caithness herds	18	13	4	1 Hereford
Upland herds	12	9	3	nil
Lowland herds	6	5	1	nil
Outwintered herds	20	5	8	3 Hereford 4 Highland

In Group IV the Shorthorn was most popular and each herd had at least one for crossing with the hardier cows.

TIME OF BIRTH OF THE CALVES

In this year's sample of farms there was a tendency to calve earlier than with the 1951/2 sample and the number of calvings in May and June was much lower.

Table IV

Time of Birth of the Calves
(Expressed as Percentage figure)

1953	Caithness Herds	Upland Herds	Lowland Herds	Outwintered Herds
January or before	8	11	4	1
February	18	25	22	12
March	31	24	45	41
April	25	20	25	27
May	15	12	4	16
June or later	3	8	-	3
	100%	100%	100%	100%

It is likely that with the return to a buyer's market for meat, the demand for calves born in January or before will increase even although it may mean feeding the cow rather better. In the outwintered herds early calvings are however not usually* desirable and indeed in two of the herds the farmers were glad the winter 1952/3 was not prolonged since many of the cows calved on the early side.

SEASON

Once again as the weather was fairly mild there was no shortage of winter keep on any of the farms and the period of winter feeding was around 25 or 26 weeks in most cases.

The cows were put out to grass about May 5th on the Lowland Farms and about a week later in Groups I and II. The Autumn of 1953 was exceptionally mild and grazing went on till well into November on most farms.

METHOD OF COSTING

The first step is to determine the cost of keeping a breeding cow for a year - in this case from November 1st 1952/1953 or thereabouts.

Details of the standard cost per hour of man labour and tractor work, the allocation of overhead costs, and the charges for home grown foods are shown in Appendix III.

COST PER COW PER YEAR

The average cost of keeping a cow for a year is shown in Table V and in fact differs very little from the 1951/2 costs.

Table V

Average Cost per Cow per Year

Item	15 Caithness Herds	12 Upland Herds	7 Lowland Herds	6 Outwintered Herds
Food				
Turnips & Swedes	8:14: 6	10: 4:10	9: 8: 1	1: 6: 7
Straw (eaten)	1:10: -	1:14: 9	2: 1: 7	1: 6: 4
Hay	1: -: -	-:15: 4	-: 4: 8	1: 1: 2
Oats	4:19: 1	1:18:10	-:15: 3	-:17: 1
Silage	-: -: -	-: 2: 3	-:16: 2	3: 2: 3
Concentrates	-: 7: -	-: 8: 8	-: -: -	-: 5: 8
Other Food	-: -: -	-: 3: 9	-: 1: 9	-: -: -
Net Foods	16:10: 7	15: 8: 5	13: 7: 6	7:19: 1
Labour & Power	6: -: 2	5:14: 8	4: 1: 3	3: 1: 2
Grazing	3: 2:11	5: 1: 3	6: -: 8	2: 6:11
Miscellaneous	-: 4: 9	-: 3: 7	-: 3: 1	-: 2: 8
Cow Depreciation	1: 6: 7	-:16: 8	-: 5: 1	-: 1: 4
Bull Charge	1: 2: 8	1: 8: 4	1:11: 9	1: 3: 7
Overhead Costs	2: 1: 7	2: 2: 5	1:10:10	1:16: 8
Net Cost	30: 9: 3	30:15: 4	27: -: 2	16:11: 5

The importance of the winter foods in determining the total costs is shown in Table VI from which it will be seen that it makes up about half the costs per cow in all the groups.

* One of the herds costed is adopting the "two calves in three years" policy, which means that each year a few cows will calve in November or December.

Table VI

Proportion of Cost per Cow per Year due to Various Items

Item	15 Caithness Herds	12 Upland Herds	7 Lowland Herds	6 Outwintered Herds
Foods	55	51	50	48
Labour & Power	20	19	13	18
Grazing	10	16	23	14
Miscellaneous	-	-	1	1
Cow Depreciation	4	3	1	1
Bull Charge	4	4	6	7
Overheads	7	7	6	11
	100%	100%	100%	100%

DISCUSSION ON THE ITEMS OF COST

1) WINTER FOOD

The feeding on the farms of the first three groups was basically the same and was founded on the heavy feeding of turnips (or swedes) and oat straw. Hay was fed on just over half the Caithness and Upland farms but the amount used was usually not very large and it was frequently a single feed in the middle of the day.

Oats were used on all the Caithness farms and on all the farms in the Upland Group except one. The amount fed was, however, much more in Group I than in Group II, where usually a single feed was given each day for a couple of months or so after calving. Other foods used were: Upland Group - Bran 2 farms; Draff 2 farms; Silage, 1 farm: Caithness Group - Dried Grass 1 farm; Fish Meal 1 Farm; Calf Nuts, 2 farms: Lowland Farms - 4 used Oats, and Draff was also fed on one farm.

The average amounts used in each of the three groups is shown in Table VII whilst the average amounts fed including only each farm using the food is shown in Appendix II.

Table VII

Average Foods fed per cow - Winter 1952/3

Item	15 Caithness Herds	12 Upland Herds	7 Lowland Herds
Turnips & Swedes	94.2 cwt.	117.5 cwt.	115.6 cwt.
Straw Eaten	11.7 cwt.	12.2 cwt.	18.3 cwt.
Oats	4.2 cwt.	1.6 cwt.	1.0 cwt.
Hay	3.0 cwt.	2.0 cwt.	0.7 cwt.
Concentrates	0.2 cwt.	0.3 cwt.	- cwt.
Silage	- cwt.	0.5 cwt.	6.6 cwt.
Other Foods	- cwt.	1.5 cwt.	0.6 cwt.

With the Outwintered cattle the feeding system varied considerably from farm to farm, and the amounts used are shown in detail in Table VIII.

Table VIII

Feeding; Winter 1952/3; Outwintered Herds

Item	Z	Y	X	W	V	U
Turnips & Swedes	41 cwt.	15 cwt.	20 cwt.	-	-	-
Straw	6	13	15.6	10 cwt.	1.3 cwt.	9 cwt.
Hay	-	3.7	-	10	4	.01
Oats	-	-	2	2	1.3	-
Silage	41	15	15	-	59	20
Concentrates	-	-	-	1	-	-

Because the winter was mild, there was no shortage of foods on any of these farms. Farms Z, Y, X are linked to good arable holdings whilst Farm V is in Caithness and is easily the most exposed farm in the Group.

2) LABOUR & POWER

In the first two groups the labour was mainly that of the farmer or his family thus:

	Labour supplied by Farmer & Family
15 Caithness Herds	12 herds
12 Upland Herds	10 herds
7 Lowland Herds	3 herds
6 Outwintered Herds	1 herd

Where a full time cattleman was employed the cost per hour was worked out on the actual wages paid, but in all other cases standard rates were used.

The average man hours per cow per week was 1.35 for the Caithness Group, 1.17 for the Upland Group and 0.93 and 0.44 for the Lowland and Outwintered Groups respectively. On the smaller farms the labour used is inevitably greater and in most cases the buildings are very badly planned from the point of view of doing the job quickly and easily. The item 'Power' occurs with Group IV where tractors were used in carting out the foods.

3) GRAZING

The method of calculation is that employed for the milk and feeding cattle costs and in most cases the cost of the whole of the grass on the farm was calculated and divided by all the stock grazing during the summer. The average grass cost per week is shown in Table IX.

Table IX

Average Cost per Cow per Week - Summer 1953

	Caithness Farms	Upland Farms	Lowland Farms	Outwintered Farms
Grass Cost per cow.	2/4¾	3/11	4/10½	1/8
Range in Costs per week.	5½d. - 4/5	1/8 - 7/5	2/8½ - 7/3	2d. - 4/2

The rough grazings were fully made use of to bring the costs down on the Caithness farms but on some of the farms in both Groups II and IV the cows were on low ground for part or all of the summer and this of course increased the costs. The absence of any rough grazing or old grassland on the lowland farms meant that the costs were higher than in the other groups. The grassland fertiliser subsidy has been taken into account in determining these figures.

COW DEPRECIATION

The price received for cast cows was high during this 12 month period (it averaged £40 per cow sold over all the groups) and the cow depreciation figure is therefore low especially as only 5 cows died over all the cows costed.

BULL CHARGE

Eight of the herds had no bull and for them the cost per cow served came to 10/5 including the service fee and the time taken walking to the neighbouring farm and back.

The remaining herds all had at least one bull and the yearly cost of the bull averaged £39: 6:11 made up as follows:

	£ s. d.
Winter Foods	15:18: 5
Other Winter Costs	5:15: 6
Summer Cost	5: 6:11
Depreciation	11:18: 7
Other Costs	-: 7: 6
	£39: 6:11

The mean number of cows served by each bull was 29 so that the service charge per cow averaged £1: 7: 2, or £1:11: 2 taking the 'average of the averages' i.e. counting each farm as one unit. The bull depreciation is worked out by taking the expected selling price from the price at which the bull was purchased, and dividing by the number of years the bull was used. Most of the bulls were purchased between £60 - £100 and the average number of seasons they were expected to be used was between three and four. The greater the number of cows a bull serves, the lower the bull charge per cow and this was actually the greatest factor influencing the service charge per cow.

	Bull Charge
Under 20 cows served per year	52/1
20 - 29 cows " " "	29/6
30 - 39 cows " " "	27/5
Over 39 cows " " "	20/5

VARIATION IN THE COST PER COW PER YEAR

Costs in the first two groups were naturally higher since the small size of herd, indifferent buildings, and heavy feed costs due to low crop yields all combine to make calf production relatively expensive. The spread in the costs is shown in Table X for all four groups.

Table X

Variation in the Cost per Cow per Year

Number of Herds with Cost per Cow:

	£10 - £15	£15 - £20	£20 - £25	£25 - £30	£30 - £35	£35 - £40
Caithness Herds	-	-	1	7	4	3
Upland Herds	-	-	-	7	3	2
Lowland Herds	-	-	1	6	-	-
Outwintered Herds	3	2	1	-	-	-

COST OF THE CALF TO WEANING

This was obtained by adding to the cow herd cost the cost of any calves purchased or transferred in and also the cost of keeping any cows which were in the herd for part of the year and which died or were sold. The sale price of any calves sold young and a proportion of the cost of any house (milk) cows included in the herd is then deducted to give the net herd cost which divided by the number of calves reared gives a cost per calf reared to weaning. The results for the four groups are shown in Table XI.

Table XI

Costs per Cow and per Calf

Group	Cost Per Cow	No. of Full Time Cows	Cost Per Calf	No. of Calves Reared	Range of Costs per Calf: Under £20	£20-£25	£25-£30	£30-£35	Over £35
Caithness	30: 9: 3	224	31:12: 6	214	-	2	2	8	3
Upland	30:15: 4	184	29:18: 8	184	-	2	6	1	3
Lowland	27: -: 2	115	23:12: -	144	2	2	3	-	-
Outwintered	16:11: 5	410	19:11: 7	308	4	1	1	-	-

The calving percentage in Group IV was 86%, which is a satisfactory figure considering the type of animal and the conditions under which they are kept. The average results differ very little from those of last year and it is worth while extracting from the Groups I - III the herds in which some or all the calves were double suckled to illustrate the reduction in costs using that method.

Table XII

Effect of Rearing more than one Calf per Cow

GROUP	Rearing one calf per Cow		Rearing one or two calves per cow		Rearing two calves per cow	
	Cost p.Cow	Cost p.Calf	Cost p.Cow	Cost p.Calf	Cost p.Cow	Cost p.Calf
Caithness Herds	30: 8: 7 (13 Herds)	32: 8: 3	30:13: 8 (2 Herds)	26: -: 5	-	-
Upland Herds	31: 5:11 (10 Herds)	31: 9:10	28: 2: 5 (2 Herds)	22: 2:10	-	-
Lowland Herds	26:11: - (2 Herds)	27:14: -	26:10: 8 (2 Herds)	24: 6: -	27:12: 7 (3 Herds)	20: 8: -

The considerable reduction in costs from £2 - £9 per calf is also associated with more intensive production since at the end of the day the man rearing two calves on a cow has two animals to sell instead of one; on the debit side however, must be placed the slightly lower quality of animals reared by double suckling.

RETURNS PER CALF REARED

Although most of the animals were retained on the farms, it is interesting to value them in the light of the market prices ruling in the Autumn Sales of 1953 to get an idea of the profitability of these enterprises.

In Table XIII the average results for the four groups are shown in detail.

Table XIII

Average Valuations - Returns per Weaned Calf - Autumn 1953

	Group 1 Caithness	Group 2 Upland	Group 3 Lowland	Group 4 Outwintered
Valuation or Sale price	30:12: -	32:17: 6	31: 8: 7	27:10: -
Net Cost	31:12: 6	29:18: 8	23:12: -	19:11: 7
Margin	-£1: -: 6	+£2:18:10	+£7:16: 7	+£7:18: 5

Generally where a valuation was made it was rather conservative and actual sale prices appeared in:

4 Caithness herds	Average Loss	17/1
3 Upland herds	Average Profit	£3: 9:11
1 Outwintered herd	Average Profit	£2: -: 1

Positive margins occurred in all the farms of Group 3 and 4, 8 of the farms in Group 2 and 5 of the farms in Group 1.

If the influence of the Hill Cattle Subsidy and Marginal Land Payments[H] are considered then the results are:

Table XIV

Influence of Producer Subsidies on the Margin per Weaned Calf

Average Results

	Group 1 Caithness	Group 2 Upland	Group 3 Lowland	Group 4 Outwintered
Net Margin per Calf	-£1: -: 6	+£2:18:10	+£7:16: 7	+£7:18: 5
Hill Cattle Subsidy	8: 8: 1	9: 9: 2	-: -: -	8: 6: 8
Expected influence of Marginal Land Payment	1: 4: 4	1: 1:11	-: -: -	-:12:11
Margin including Subsidies	+£8:11:11	+13: 9:11	+7:16: 7	+16:18: -

The margins are very much higher than those of 1951/52 mainly because the weaned calf market for both steers and heifers was very good and high prices were obtained in all the sale centres.

None of the herds suckling more than one calf to the cow sold many of their calves but the valuation figures showed that increased margins were likely to accrue from that method. The figures for Group III are shown in Table XV.

[H]Through reducing the food costs to the cows.

Table XV

Group III Margin per Calf: Effect of Double Suckling

	Margin per Calf (Valuation less Costs)	Margin per Cow
One calf reared per cow	£6:11: 6	£6:11: 6
More than one calf reared per cow	£5:14: -	£7:13: 4
Two calves reared per cow	£9:18: 8	£18:19: 2

The greatest advantage of the more intensive systems shows up in the increased returns per cow and there is no doubt that the decrease in quality of the eventual product can be more than compensated by the returns, provided increased care and attention is given to the animals and that the cows used are capable of rearing the two calves well.

MULTIPLE REARING

Two sets of results were collected from farmers experimenting with the multiple rearing of calves. In both cases 2 or 3 batches of calves were purchased during the period January to June 1953 and as it is usually considered that autumn born calves do better, these results may not show multiple rearing in its best circumstances. On Farm A the calves were mainly of Friesian type and on Farm B Dairy Shorthorn Crosses. Table XVI indicates the programme of feeding adopted and shows that the calves on farm B were reared rather more expensively.

Table XVI

Multiple Rearing: Physical Data per Calf to 6 months old

	Farm A	Farm B
No. of Calves reared	18	8
No. of Cows	1	2/3
Foods fed per Calf		
Milk	19 gallons	45 gallons
Milk Equivalent	1¼ cwts.	-
Oats	1/7 "	1 cwt.
Hay	3 "	-
Turnips	¾ "	-
Concentrates	1/7 "	1¼ "
Labour (Early Stages)	1.6 hrs. per week	1.2 hrs. per week

On Farm B the calves were put out to grass as soon as possible but on Farm A there was very little grazing accruing before the age of 6 months. The cost per calf up to 6 months old for the two systems is shown in Table XVII.

Table XVII

Costs per Calf to 6 months old

		Farm A	Farm B
Foods:	Fresh Milk	2: 4: 1	4: -: -
	Milk Equiv.	3:14:10	-: -: -
	Oats	-: 1: 9	1: 3:11
	Concentrates	-: 6: 4	2: 8: 9
	Hay	-:14: 6	-: -: -
	Turnips	-: 1: 1	-: -: -
	Net Foods	7: 2: 7	7:12: 8
	Grazing	-: -: -	1: 6:11
	Miscellaneous	-: 2: 6	-: -: -
	Labour	3: 3: 3	2:17:10
	Overheads	1: 2: 2	-:18: -
Cost of Rearing		11:10: 6	12:15: 5
Purchased Price		5:15: -	10:10: -
Net Cost to 6 months		17: 5: 6	23: 5: 5

All the calves on Farm B were due to receive the calf subsidy but on Farm A only a few of the calves were eligible. It is not possible to give a valuation comparison between these results and those of the less intensive systems but it can be said that the quality of the calves on Farm B was quite good and those of Farm A fair. Production per cow is of course very much higher than with any other method.

CONCLUSIONS

The results of the cost of rearing calves born in the spring of 1953 showed that there was very little difference in the costs from those of the previous year. The higher value of the calves in the autumn meant however that there was a reasonable difference between returns and costs in all the groups provided current subsidies are taken into account. The lowering of costs on the farms on which more than one calf was reared to the cow appeared to outbalance the slightly lower quality of stock obtained through double suckling.

Good results were secured from the outwintered herds but it should be borne in mind that greater risks attend this method and the profits of good years must cover the losses of a year of storm, and feeding must always be ample. Silage seems assured of a place in the feeding of outwintered stock and was used on 5 of the 6 outwintered herds, but on only 2 of the 34 herds kept inside in the winter.

The cost of two groups of calves 'multiple reared' showed that the cost per calf at 6 months old was low at £17 and £23 respectively but the quality, especially of the former, was not as good as that of the other calves considered in this report.

THE FUTURE

The cry for greater production which has been repeated, by all and sundry since 1947 is now passing, and is being replaced by a call to lower costs and to increase the efficiency of production. Is this possible as far as the breeding cattle enterprise on these farms is concerned? Leaving aside the outwintered herds where an attempt to economise might be foolhardy, the position seems to be that the demand for the high quality but expensively produced single suckled calves is likely to remain good, and most of the farmers fear that the very methods which might reduce costs will produce inferior calves for which there will be little demand.

Past results indicate however that the use of silage, an extended grazing season, and/or a limited amount of double suckling are by no means incompatible with good quality calves provided the breeding cow has a good constitution and milks well. More attention should be paid to the cows making up the herd and culling can be rigid as long as good prices are paid for cast cows.

Some of the smaller farms in the North of Scotland seem however to be inherently dependant on subsidies. Their small size is usually the root of the trouble and coupled with a hard climate, thin soil and isolated location they are ever likely to have relatively high production costs.

ACKNOWLEDGMENT

To the farmers who have provided the data used in this report, the Economics Department of the North of Scotland College of Agriculture wish to record their grateful thanks. It is intended that this series of costings will be continued for the year 1953/54.

Appendix I

Summary of Results - 1952/53 Calf Costs

Average Results:

	15 Caithness Herds	12 Upland Herds	7 Lowland Herds	6 Outwintered Herds
Size of Farm	122 ac. Arable 216 ac. Rough	90 ac. Arable 435 ac. Rough	207 ac. Arable -	285 ac. Arable 4200 ac. Rough
Hill Cattle Subsidy	14 Herds	All Herds	Nil.	5 Herds
Marginal Land Payments	12 Herds	11 Herds	Nil.	5 Herds
Size of Herd	14 Cows	16 Cows	16 Cows	66 Cows
Calves per Cow	13 herds one calf per cow. 2 herds 1½ calves per cow	10 herds one calf per cow. 2 herds 1½ calves per cow	2 herds one calf. 2 herds 1½ calves per cow. 3 herds 2 calves per cow.	One calf per cow.
Winter				
Man hours per animal week	1.35	1.17	0.93	0.44
Food: Turnips	94.2 cwt.	117.5 cwt.	115.6 cwt.	12.6 cwt.
Straw Eaten	11.7	12.2	18.3	9.1
Hay	3.0	2.0	0.7	3.0
Oats	4.2	1.6	1.0	0.9
Silage	-	0.5	6.6	25.0
Other	0.2	1.8	0.6	0.2
Summer				
Grass Cost per Week	2/4¾	3/11	4/10½	1/8
Cost per Cow per Year				
Winter Food	16:10: 7	15: 8: 5	13: 7: 6	7:19: 1
Labour & Power	6: -: 2	5:14: 8	4: 1: 3	3: 1: 2
Grazing	3: 2:11	5: 1: 3	6: -: 8	‡2: 6:11
Bull Charge	1: 2: 8	1: 8: 4	1:11: 9	1: 3: 7
Cow Depreciation	1: 6: 7	-:16: 8	-: 5: 1	-: 1: 4
Other Costs	2: 6: 4	2: 6: -	1:13:11	1:19: 4
TOTAL	30: 9: 3	30:15: 4	27: -: 2	16:11: 5
Autumn 1953 (Weaned Calves)				
Valuation or Sale Price	30:12: -	32:17: 6	31: 8: 7	27:10: -
Cost per Calf	31:12: 6	29:18: 8	23:12: -	19:11: 7
Margin	-£1: -: 6	+£2:18:10	+£7:16: 7	+£7:18: 5
Profit per Calf including Hill Cattle Subsidy and effect of M.A.P.	+£8:11:11	+£13: 9:11	+£7:16: 7	+£16:18: -

‡Includes Winter Grazing

Appendix II

Actual Foods fed per Cow in cwts./cow

Groups	Caithness	Upland	Lowland
Turnips	100.9	117.6	115.6
Straw	11.7	12.2	18.2
Hay	5.0	3.4	5.0
Oats	4.2	1.7	2.3
Draff	-	6.5	4.1
Purchased Concentrates	0.9	-	-

Appendix III

Method of Costing - Standards Used

HOME GROWN FOODS have been charged at cost of production. A sliding scale was used so that on farms with low yields the cost per cwt. or ton was higher. The figures were based on the cost of production statements contained in Economic Report No. 35 of this Department.

PURCHASED FOODS have been charged at purchase price.

LABOUR has been charged at the rates recommended by the Conference of Scottish Agricultural Economists.

These were -	Man	2/9 per hour
	Horse	1/6 " "
	Tractor	4/6 " "

OVERHEAD COSTS have also been charged at the recommended rates which were -

7/- per £ Direct Manual Labour
4/6 per Tractor Hour or 4 Horse Hours
15/3 per Acre

MANURIAL RESIDUES of foods have been calculated using the tables contained in Advisory Leaflet No. 24 (New Series) of the Department of Agriculture for Scotland whilst the Residual Value of Manures was calculated from Table A in the Advisory Leaflet.

GRAZING COST The cost of the grass for each field is first obtained, the items making up the cost being - a) Rent, b) Labour on the grass, c) Manures applied, d) Manurial residues, e) Overhead Costs, f) Sowing down charge. The latter is obtained by dividing the average cost of establishing the grass by the total year's duration of the lea plus one.

If hay or silage have been made, a proportion of the total grass cost is deducted. Usually the deduction is 2/3rds for the acreage made into hay and ½ or 2/3rds for one or two cuts of silage respectively.

The field costs are then added together to give a grass cost per farm and from this 1/6th is deducted to allow for winter grazing. The remaining sum is the summer grazing cost which is divided by the number of livestock units grazing the grass to give a grazing cost per livestock unit.

The table of livestock units used was -

1 Horse, Bull, Cow or Cattle over 2 years old	=	1 unit
1 - 2 year old Cattle	=	.75 "
Young Horses, Cattle 6 months - 1 year old	=	.50 "
Sheep over 6 months	=	.25 "
Sheep 3-6 months	=	.07 "
Lambs under 3 months Calves Suckling	}	No Charge