Sheep - Cost of production o.s.

THE NORTH OF SCOTLAND COLLEGE OF AGRICULTURE

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EWE FLOCK COSTS IN CAITHNESS 1957-9

by

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EWE FLOCK COSTS IN CAITHNESS - (1957-9)

INTRODUCTION

This report concerns the costing of an identical sample of seventeen ewe flocks in the county of Caithness over the three year period ending 1st December, 1959.

Section A: Economic Background

The County

Caithness is a county of small farms and in the 4th June, 1958 returns the number of holdings over thirty acres were given as:-

Acres Arable	No. of Holdings
30-50	226 (3)
50-75	214 (3)
75-100	108 (2)
100-150	97 (3)
150-300	90 (5)
Over 300	33 (1)

The figures in brackets indicate the number of farms in the sample of farms costed in each size group and show that is was weighted towards the larger farms. This was almost inevitable since a large number of the smaller holdings are not full-time units.

Acreage

The total acreage of agricultural land in the county was given as 388,000 acres in 1958. Of this, 294,000 (76%) was rough grazing and a further 23,500 (6%) was "Permanent Grass" much of which is land that has not been ploughed within living memory.

Of the land classified as arable, the 1958 June returns showed the following details:-

Oats	21,000	
Roots	7,500	
Rape	500	
Barley	500	
Potatoes	500	
Miscellaneous	500	
TOTAL CROPS	30,500	Acres
Hay	8,000	
Silage and dried grass	500	
Total temporary grass grazing	31,500	
	40,000	Acres

In simple proportions the figures are Oats 2-3; Roots 1; Hay 1; Grazing 4 which indicates the ubiquity of rotations of the types Oats-Oats-Roots-Oats-Grass-3-4 years grazing and Oats-Roots-Oats-Hay-3-4 years grazing.

Livestock

The county is given over to breeding cattle and ewe flocks and Graph I shows that sheep numbers increased steadily from 110,000 in 1894 to 243,000 in 1938. Numbers fell back to 192,000 following the severe winter of 1947 but since that time remained between 220,000 and 240,000 reaching a new peak of 245,000 in 1959.

In the same period, cattle numbers moved from 22,000 in 1894 to 30,000 in 1958 the percentage increase in the period being 36% as compared with an increase of 121% in sheep numbers. Ewe flocks occur on almost every holding and since many of the lambs are sold to buyers in the South and East of Scotland, it is interesting to note the change in sheep numbers for all Scotland (Graph II). Numbers of sheep for Scotland as a whole are now the highest for 70 years and the danger of market saturation is likely to arise in some years (e.g. 1959) when farmers in remote areas, like Caithness, are faced with low sale prices for store lambs.

Section B: Sheep Costs on 17 Farms - 1957/58/59

Farm Type

The breeding ewe flock and a breeding (beef) cow herd were the main enterprises on all these farms. Poultry flocks for commercial egg production came third in importance on most of the farms, whilst sales of crops were restricted to a little oats on a few of the farms. The sample is thus representative of Caithness as regards type of enterprise, but the units are larger in size than the average of all the farms in the county, the average size of farm being 120 acres arable and 344 acres rough grazing.

Size of Farm

The range in size of farm is shown in Table I.

Table I

Size of Farm: 17 Farms Costed 1957/59

Size	0-50 acres	50-100 acres	100-150 acres	150-200 acres	Over 200 acres
Arable Acres No. of Farms	3	5	3	4	2
Rough Grazing No. of Farms	9	-	3	-	5

FARM CROPPING

As might be expected from the acreage figures considered in Section A, the commonest rotations were:-

7 or 8 Course	8 or 9 Course
Oats	Oats
Roots	Oats
Oats	Roots
4 or 5 yr. Grass	Oats
	4 or 5 yr. Grass
(6 Farms)	(7 Farms)

During the years of the survey, all the farms obtained a Marginal Land Grant and the cropped land and first year's grass usually received fertilisers.

It was not, however, usual practice to manure the older grass. Shell sand or magnesium limestone was applied once in the rotation on all the farms in the sample.

Farm Livestock

The stocking of sheep and cattle on each farm was calculated on a scale of livestock units and the average results are shown in Table II.

Table II

Intensity of Stocking: Sheep and Cattle

Type	"Cattle Dominant"	No Dominance	"Sheep Dominant"
No. of Farms	2	8	7
Av. L.S.U.+ per Farm	40 L.S.U. Cattle	26 L.S.U. Cattle	42 L.S.U. Cattle
	23 L.S.U. Sheep	30 L.S.U. Sheep	71 L.S.U. Sheep
Acreage	111a Arable 34a Rough	82a Arable 29a Rough	154a Arable 695a Rough

The four farms with the greatest proportion of rough grazing were "Sheep Dominant" and carried pure bred North Country Cheviot flocks. For the other 13 farms, the choice of proportion between cattle and sheep was largely a managerial one on the part of the farmer.

Using the figures given in Table I, average standards of stocking for farms without much rough grazing would be:-

Cattle: 1 Cow (or equivalent) to $3\frac{1}{2}$-$4\frac{1}{2}$ acres

together with

Sheep: 1 Ewe (or equivalent) to $\frac{3}{4}$-$1\frac{1}{4}$ acres

In this calculation "total acreage" has been used and the rough grazing figure has not been adjusted in any way.

Type of Flock

All the ewes were of the North Country Cheviot breed and on six farms they were crossed with a Border Leicester ram, whilst on nine farms they were pure bred. On two farms rams of both breeds were used.

Size of Flock

The average size of flock was 139 ewes, the range being:-

0-50 ewes	4 flocks
50-100 ewes	5 flocks
100-150 ewes	2 flocks
150-200 ewes	2 flocks
Over 200 ewes	4 flocks

+ For L.S.U. standards: See Appendix II.

Seasons

Climatic variations have a considerable effect on the progress of the sheep enterprise and in this series of costings the middle year (1958) proved to be more difficult than 1957 or 1959.

1956/7: Crop yields had been good in 1956 and the winter 1956/57 was mild and short. The summer of 1957 was exceptionally cool and wet so that grazing was plentiful on all the farms.

1957/8: A difficult year since crop yields in 1957 were poor - particularly of grain. The winter was long and the late spring was succeeded by a wet summer.

1958/9: Crop yields for 1958 were better than the previous year and the winter was shorter so that it was a much easier year from the point of view of feeding the livestock.

Despite the warm dry summer of 1959 there was no shortage of grass.

Time of Lambing

The first lambs were born towards the end of March with the vast majority coming in the first three weeks of April. No attempt was made to get earlier lambs on any of these farms.

Lambing Percentage

This is here defined as:-

$$\frac{\text{No. of Lambs Weaned}}{\text{No. of Ewes put to the Ram}} \times 100$$

The average figures were:-

Year	1957	1958	1959	Three year average
%	142	130	132	134

The range is shown in Table III.

Table III

Lambing Percentage

Lambing Percentage	100-115	115-130	130-145	145-160
No. of Farms	3	3	6	5

A rough check on these figures was possible by considering the 4th June return figures for the whole county and determining from them:-

$$\frac{\text{No. of Sheep under 1 year (= lambs)}}{\text{No. of Breeding Ewes}} \times 100$$

Results of this calculation for 1950-59 were:-

1950	120%	1955	111%
1951	105%	1956	120%
1952	119%	1957	127%
1953	116%	1958	120%
1954	121%	1959	127%

This figure came out lower than that for the costed farms because there are some true hill flocks in Caithness with a lambing percentage well under 100%.

Comparison of the two sets of figures leads to two comments:-

1. The sample of farms costed appear to have had a relatively poorer performance in 1959 compared with the flocks of the county as a whole.

2. 1957 was an exceptionally good year, whilst neither 1958 nor 1959 were poor years.

Ewe Death Rate

This is here defined as:-

$$\frac{\text{No. of Ewes Died}}{\text{No. of Ewes put to the Ram}} \times 100$$

It was much lower in 1957 than in the two succeeding years.

Year	1957	1958	1959	Three year average
%	4.8	7.0	7.9	6.6

Size of flock had no discernable effect on ewe losses and over the three year period losses in the six largest flocks were insignificantly lower than those in the six smallest.

Cost per Ewe per Year

The average results for the three year period and the mean of the three years' results are shown in Table IV.

Table IV

Average Cost per Ewe per Year

Year	1957	1958	1959	Mean of 3 years Cost	%
Foods	£1:15	£2: -	£1:18	£1:18	28
Grazing	1: 3	1: 1	1: -	1: 1	15
Labour	1: 5	1: 9	1: 8	1: 7	20
Ewe depreciation	-:19	1: 4	1:13	1: 5	19
Ram depreciation	-: 6	-: 6	-: 5	-: 6	4
Dip, medicines, etc.	-: 3	-: 3	-: 4	-: 3	2
Other expenses	-: 2	-: 2	-: 2	-: 2	2
Share of Farm Overheads	-:12	-:12	-:14	-:13	10
	£6: 5	£6:17	£7: 4	£6:15	100
Average number of Ewes	139	138	140	139	

Details of the standards used in the costing are shown in Appendix II.

The range in cost per ewe was:-

	£4-6	£6-8	£8-10	Over £10
1957	11 flocks	3 flocks	1 flock	2 flocks
1958	6 "	8 "	3 "	1 "
1959	5 "	8 "	2 "	2 "

Main Items of Cost

Foods The average amounts of food fed are shown in Table V, together with the average length of feeding period (the latter refers only to the farms on which the food was used).

Table V

Amounts of Food Used and Length of Feeding Period

	1957 Amount per Ewe (cwts.)	Period Used (days)	1958 Amount per Ewe (cwts.)	Period Used (days)	1959 Amount per Ewe (cwts.)	Period Used (days)
Turnips and Swedes	5.6	71	4.4	69	7.5	69
Hay	0.8	94	0.7	110	0.7	75
Oats	0.9	133	0.8	140	0.9	123
Concentrates	0.1	59	0.2	90	0.1	50

All four types of food were normally fed on most farms but in 1958 roots were poor on some of the farms and four farmers used none for the ewe flock and several others used them sparingly.

The average crop yields for the three years were:-

Crop Yields Per Acre

	1957	1958	1959
Roots	25 tons	21 tons	24 tons
Hay	20 cwts.	24 cwts.	25 cwts.
Oats	18 cwts.	14 cwts.	17 cwts.

From these figures, the average acreage requirement of winter feeding per ewe can be determined:-

	Roots	Hay	Oats	Total
1957	0.01 acres	0.03 acres	0.05 acres	0.09 acres
1958	0.01 "	0.02 "	0.06 "	0.09 "
1959	0.02 "	0.02 "	0.05 "	0.09 "

Hence just under 1/10 acre winter food per ewe is a normal requirement for this sample of farms.

Total Acreage Required Per Ewe

The total acreage used per ewe cannot be worked out directly since rough grazings vary so greatly in value and use, but it can be calculated indirectly from the feed acres (crops and grass; rough grazings ignored) used per livestock unit.

The farms were divided into two categories according to the proportion of rough grazing and the results are shown in Table VI.

Table VI

Feed Acres (crops and grass) per L.S.U. and per Ewe

	9 Farms with small acreage of rough grazing	8 Farms with large acreage of rough grazing
Feed Acres/L.S.U.: Range:	1.2-2.4 acres	0.8-1.7 acres
Modal group	1.6-1.8 acres (5 farms)	1.1-1.3 acres (5 farms)
Feed acres (crops/grass) used per ewe + lambs	0.46	0.34
No. of ewes (+ lambs) kept per acre Crops/Grass	2.2	2.9

On the farms with a small proportion of rough grazing, a ewe used just under $\frac{1}{2}$ acre of land and since the winter food requirement is 1/10 acre (as above) there remains just over $\frac{1}{3}$ acre of grazing.

On the farms with a large acreage of rough grazing, $\frac{1}{3}$ acre of land was used per ewe and this can similarly be divided into 1/10 acre for winter foods and $\frac{1}{4}$ acre grazing. In addition, of course, the ewes had a share of the rough grazings.

Cost of Grazing

Summer grazing costs per ewe per week varied between 4d. and 10d., with eight of the costs in the range of 7-8d. per ewe per week. In the winter (cattle not grazing) the average allocation was 3d. per ewe per week (Range 2-4$\frac{1}{2}$d.).

Labour

On all the farms, except one, the labour was mainly that of the farmer and his family. Labour was inevitably lower on the larger farms as Table VII indicates.

Table VII

Labour Cost and Size of Flock
(1957-59)

Size of Flock	Under 50 Ewes	50-100 Ewes	100-150 Ewes	150-200 Ewes	Over 200 Ewes
Cost of Labour	47/-	30/-	21/-	22/-	14/-
No. of Farms	3	5	2	3	4

The man labour requirement per ewe per year averaged six with a modal group of seven farms using 4-6 man hours per ewe per year.

Ewe Depreciation

Where there is a large acreage of rough grazing, the sheep are to some extent acclimatised and a self contained flock is essential, whereas farmers with a small proportion of rough grazing can choose whether to keep a self contained or a "flying" flock. Ewe depreciation is inevitably lower in the former since the sale price of whole mouthed ewes is high, but this advantage is offset by the fact that the breeding flock has to be smaller. Over the three year period, there was a considerable increase in ewe depreciation and in 1959 it displaced labour as the second biggest item in the cost per ewe per year. The proportion of the flock replaced varied considerably from year to year in all except the largest flocks. The average replacement per year, over the three year period, worked out at:-

6 Flying flocks:	32%	(Range 18-42%)
11 Self contained flocks:	27½%	(Range 17½-33%)

Ram Depreciation

The average purchase price of Border Leicester rams was £42 (Range £17 - £82), whilst that of North Country Cheviot rams was £28 (Range £11 - £62).

Normally rams were purchased with an expected use of 3 - 4 seasons, but in practice it was rather less since there was a heavy wastage due to deaths (just under 10% per year). Rams are valuable animals and on some farms deserve rather better treatment than they are apt to be given in the winter and spring.

Miscellaneous Costs

These can be divided into:-

(a) Commission on Sales. In some cases this had already been deducted.

(b) Carriage

(c) Dip. Ewes and hoggs were normally dipped once in late autumn, whilst the lambs were dipped in the summer.

(d) Worms. All farms, except one, used drenches or capsules against fluke and/or worms, either for the ewes or lambs, or both.

Expenses in 1959 were higher than in the two previous years since in that year a number of farmers decided (at considerable expense) to drench the flock against Nematodirus infection.

(e) Vaccines. Protection against Black Disease was taken on five farms and against Pulpy Kidney on four farms. Other veterinary treatment recorded was against Lamb Dysentery (1 farm) and Abortion (1 farm). Treatment of Foot Rot occurred more frequently in 1959 than in the previous two years.

Income

Almost all the lambs were sold in the store market and very few (about 1.5% in 1959) were graded fat. In calculating the returns, wether lambs unsold were valued at the price they would have made had they been sold in the store lamb sales, whilst ewe lambs retained for breeding were valued at cost of production.

Table VIII

Costs and Returns per Ewe

	1957	1958	1959	Three Year Average
Cost per Ewe per Year	£6. 5.	£6.17.	£7. 4.	£6.15.
Lamb Grazing Cost	-. 3.	-. 2.	-. 1.	-. 2.
TOTAL COSTS	£6. 8.	£6.19.	£7. 5.	£6.17.
Sales: Lambs	9.10.	8.19.	8. 5.	8.18.
PROFIT, excl. Wool	£3. 2.	£2. -.	£1. -.	£2. 1.
Wool	1.11.	1. 9.	1. 8.	1. 9.
PROFIT, incl. Wool	4.13.	3. 9.	2. 8.	3.10
PROFIT/LAMB	£3. -	£2. 8.	£1.11.	£2. 6.

The range of results was:-

Year		1957	1958	1959
Margin per Ewe:	LOSS	1	1	4
Profit	£0 - 2	1	3	2
	£2 - 4	5	6	5
	£4 - 6	4	3	5
	£6 - 8	5	4	1
	£8.10.	1	-	-

The level of profits has fallen since 1957 which appears to have been an exceptionally good year with a high lambing percentage and low ewe deaths linked with high sale prices.

Main Factors Affecting Profit

Lambing percentage had a significant effect on profits in 1957 and 1958, but in 1959 ewe depreciation was of relatively greater importance.

The average price received for the lambs is a useful figure which helps a farmer to see the trend of prices from year to year, but in any particular year its effect on the ultimate level of profits tended to be less than that of the lambing percentage and ewe depreciation.

Flying V. Self-contained Flocks

During the three year period the trend of profits moved away from the flying flocks. The figures in Table IX are worked out per ewe and also per acre. The latter is necessary since the self-contained flocks use more land (approximately .28 arable acres are used per hogg and three hoggs are kept for every ten ewes).

Table IX

Profits of Self-Contained and Flying Flocks

Average Profit per Ewe	1957	1958	1959
6 Flying Flocks	£5.17.	£4. 3.	£2. -.
11 Self-contained flocks	4. 1.	3. 4.	2.16.
Average Profit per Acre	**1957**	**1958**	**1959**
6 Flying Flocks	£12.14.	£9. -.	£4. 7.
11 Self-contained flocks	7.10.	5.18.	5. 3.

An analysis of the main factors is shown in Table IX which indicates that whilst the fall in lambing percentage exaggerates the difference between the two types of flock for this particular sample yet there was a real decline in income and that it was due to rising ewe depreciation coupled with a lower sale price of the lambs. In the self-contained flocks, prices of Cheviot

ewe lambs remained high and compensated for the drop in wether lamb prices.

Table X

Comparison of Results of Flying and Self-contained Flocks (1959 and 1957)

Difference 1959 compared with 1957	Flying Flocks	Self-contained Flocks
Change in Lambing %	- 14%	- 8%
Cost per Ewe	+ £1. 8.	+ £-.15.
Ewe Depreciation Cost	+ £1. 4.	+ £-. 7.
Income per Ewe	- £2. 9.	- £-.14.
Sale prices per head:		
Wether lambs	- £1. 1.	- £1. 3.
Ewe lambs	- £1	+ £1
Cast ewes (fattening)	- £1	- £-.12.
Whole mouthed ewes	-	- £-.14.

Sale Prices

Average prices for the different categories of lambs are given in Table XI. In working out these averages equal weight was given to each flock.

Table XI

Prices recorded 1957-59

	1957	1958	1959
Lambs			
Half bred wether	£6.14.	£6. 2.	£5.14.
Half bred ewe	£8. 6.	£8.18.	£7. 4.
Cheviot wether	£6. 4.	£6. 2.	£5. 1.
Cheviot ewe	£6. 1.	£6.13.	£7. 1.
Ewes			
Feeding	£4.12.	£4.10.	£3.19.
Whole mouthed	£8. 3.	£8. 2.	£7. 9.

The trend of prices is close to that of Wick and Thurso markets as a whole. Comparative prices for the first Thurso sale for the three years (Table XII) illustrates this, allowing for the fact that lambs sold in later sales were of poorer quality and that in 1959 the demand for Half bred ewe lambs was very irregular.

Table XII

Lamb Sale Prices: First Sale Thurso 1957 - 1959

Lambs	1957	1958	1959
Half bred wether	£7. 2.	£6. 9.	£6. -.
Half bred ewe	£8.18.	£9.10.	£9. 3.
Cheviot wether	£6. 4.	£6. 4.	£4.17.
Cheviot ewe	£7. 3.	£7.15.	£8. 5.

Wool

Income from wool formed 11% of the total income in the Flying Flocks and 18% in the self-contained flocks. Weights of wool sold were split between ewes and hoggs on six farms and showed an average of 4.75 lbs. per ewe clipped and 5.2 lbs. per hogg.

Acknowledgment

The Economics Department of the North of Scotland College of Agriculture wish to acknowledge with thanks the farmers who so willingly co-operated by providing the costing information used in this report and also the auctioneers who gave details of average prices.

Appendix I

Cost of Rearing Ewe Hoggs

In addition to the eleven self-contained flocks, there were three flying flocks in which ewe lambs were purchased for breeding so that in all records were obtained for fourteen groups of ewe lambs over the three year period. Average costs are shown in Table XIII.

Table XIII

Average Cost of Rearing Ewe Hoggs
(12 month period) 1957-59

Foods	Cost per Hogg
Hay (0.1 cwt.)	-. 2. -
Roots (20.2 cwt.)	1. 6. -
Oats (0.6 cwt.)	-.12. -
TOTAL FOODS	2. -. -
Grazing	-.17. -
Labour	1. -. -
Overheads	-. 9. -
Miscellaneous	-. 2. -
	£4. 8. -

The average size of flock was 48 hoggs and costs ranged from £3 - £7.

Deaths of ewe hoggs were low and averaged 2.6% (1957); 1.7% (1958); and 3.2% (1959).

Foods

The hoggs were folded on roots in most cases and the mean period of root feeding was just over four months. Oats were fed to each group and the average duration of feeding was just over four months. On the basis of these figures the acreage of winter foods used per hogg was .081 acres (i.e. 12 hoggs per acre of winter food).

Cost on Entering the Flock

The three flocks in which ewe hoggs were purchased are shown separately in Table XIV which gives the total costs per hogg up to the time they enter the breeding ewe flock.

Table XIV

Average Cost on Entering the Ewe Flock

	11 Self-contained Flocks	3 Purchased Lamb Flocks
Rearing cost of lambs	£4.12.	£-. -.
Purchase price of lambs	-. -.	7. 5.
Cost of rearing hoggs	4. 8.	4. 8.
Cost on Entering Flock	£9. -.	£11.13.

Appendix II

Method of Costing

Man Labour

1956/57	3/7d. - 3/10d. per hour
1957/58	4/1d. per hour
1958/59	4/1d. per hour

Tractor Costs

1956/57	3/9d. per hour
1957/58 and 1958/59	4/3d. per hour

Overhead Costs (standardised for three year period)

(a) 6/9d. per £ man labour
(b) 24/6d. per stock unit

Livestock Units

(a) For overhead calculations or L.S.U. calculation (Table I) Rearing cows 1; Cattle under 1 year $\frac{3}{8}$; Cattle, 1-2 years $\frac{2}{3}$; Ewes 1/5th; Rams $\frac{1}{4}$; Ewe hoggs 1/10th; Lambs 1/16th.

(b) For grazing (Caithness conditions) - Rearing Cows 1; Cattle, 1-2 years $\frac{3}{4}$; 6 months-1 year Cattle $\frac{1}{2}$; Ewes $\frac{1}{4}$; Rams $\frac{1}{4}$; Ewe hoggs 1/7th; Lambs 1/14th.

Grazing Costs

The standard method used divides the total L.S.U. weeks grazing into the total cost. It is described in detail in Milk Cost Report No. 34 (page 8).

Subsidies

No account has been taken of the effect of Marginal Land grant in lowering the cost of production of crops. Lime and fertilisers have, however, been charged net (i.e. with the fertiliser subsidy deducted).

Foods

Purchased foods were charged at purchase price.

Home grown foods were charged at average cost of production figures adjusted for crop yield at each individual farm.

Illustration

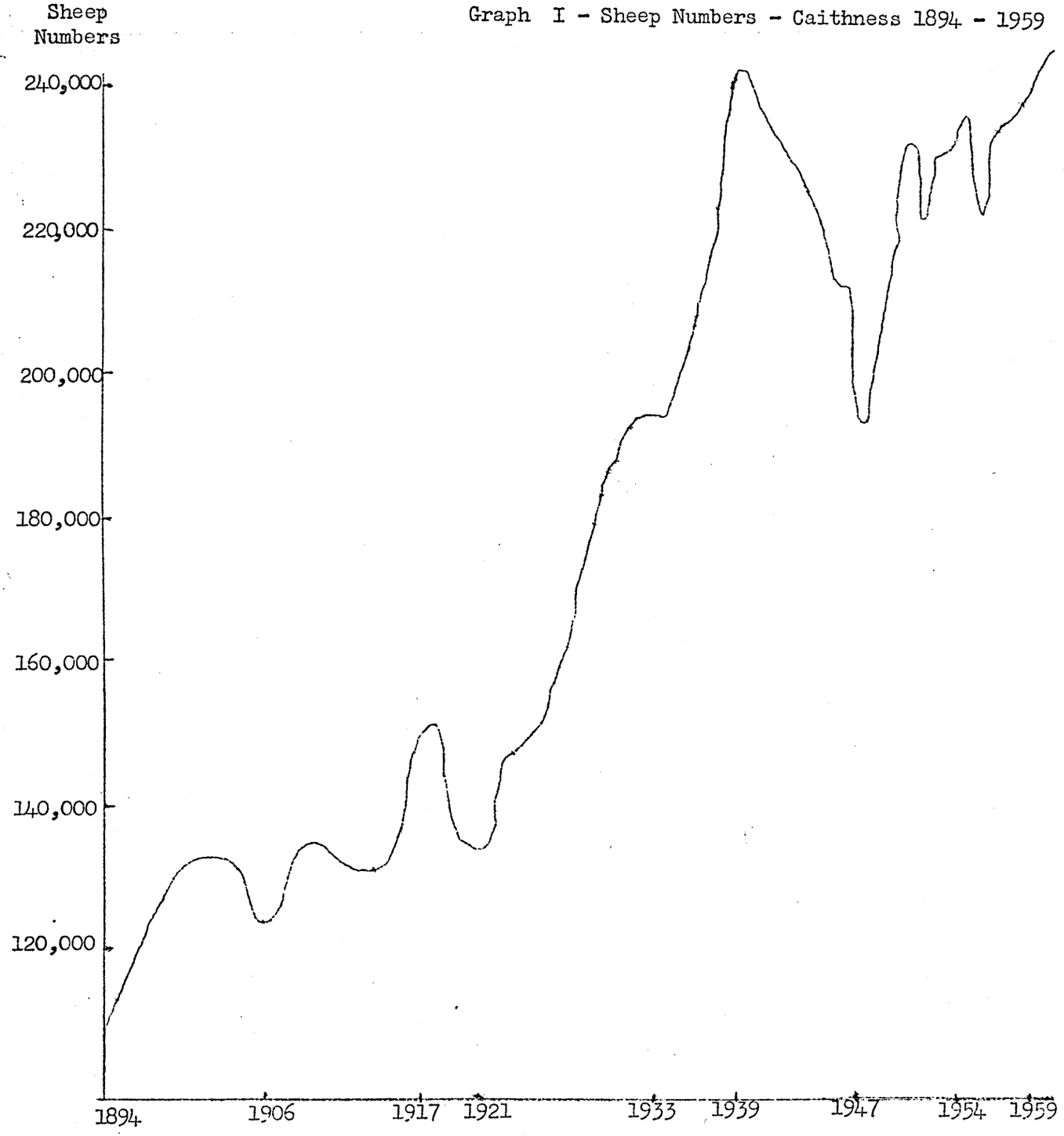
1959:	Roots carted	2/- per cwt. (Yield 24 tons)
	folded	1/3 per cwt. (Yield 24 tons)
	Oats	19/- per cwt. (Yield 18 cwt.)
	Hay	8/9 per cwt. (Yield 25 cwt.)

Appendix III

Rainfall and Sunshine - 1957/59 - Wick

Rainfall	January - April	May - August	September - December	TOTAL
1957	8.78 inches	13.51 inches	11.46 inches	33.75 inches
1958	12.60 inches	9.49 inches	9.10 inches	31.19 inches
1959	11.53 inches	7.67 inches	12.45 inches	31.65 inches
Average 1916 - 1950	8.77 inches	9.05 inches	12.15 inches	29.97 inches
Sunshine Hours				
1957	409.2 hours	565.4 hours	279.5 hours	1254.1 hours
1958	358.3 hours	637.5 hours	334.7 hours	1330.5 hours
1959	416.5 hours	571.4 hours	335.9 hours	1323.8 hours
Average 1946 - 1959	402.3 hours	639.1 hours	295.4 hours	1336.8 hours

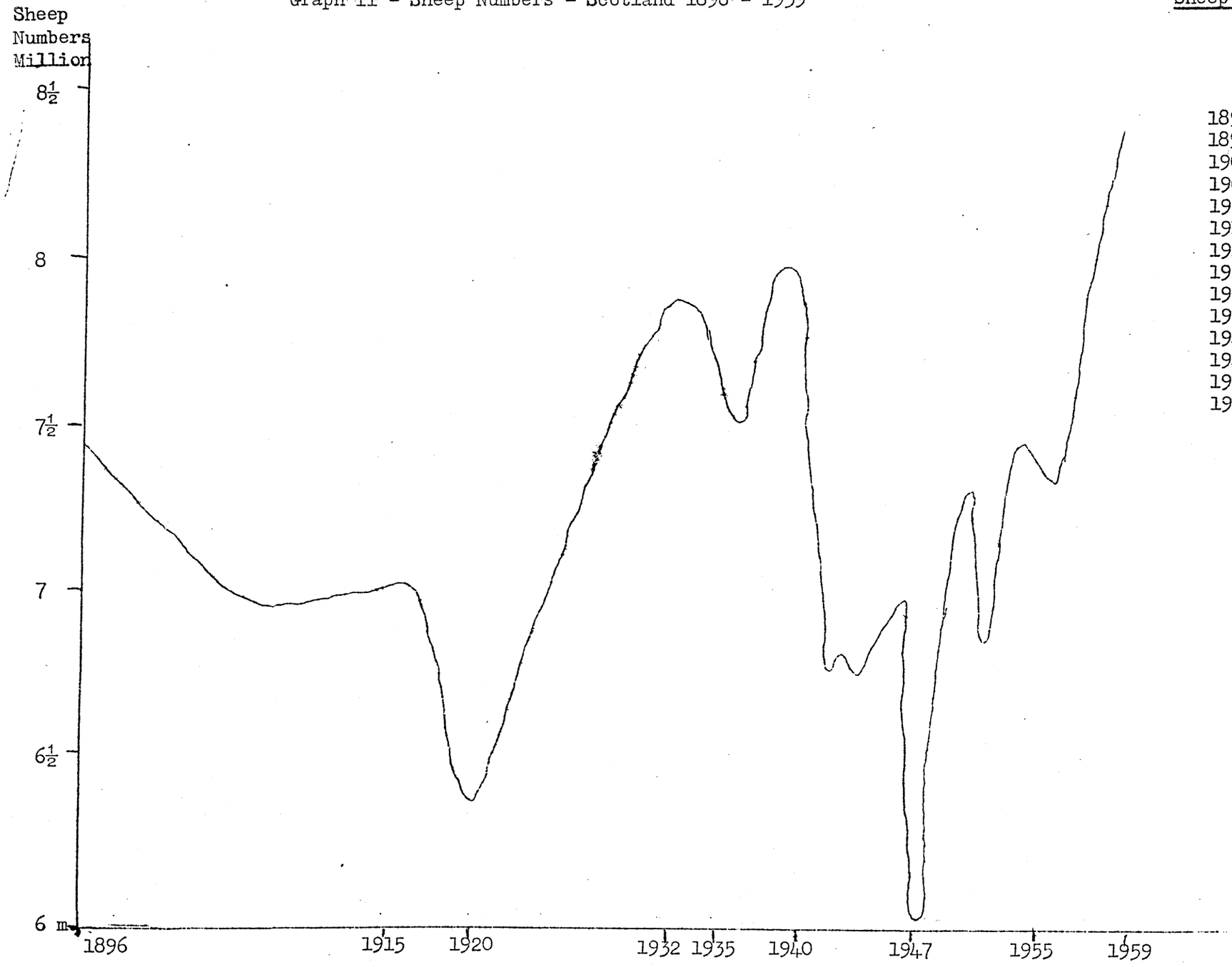
Graph I - Sheep Numbers - Caithness 1894 - 1959



Sheep Numbers over Five Year Intervals

	CAITHNESS	
	Sheep Total	Propn. (1894 = 100)
1894	109,000	100
1899	130,000	119
1904	133,000	122
1909	134,000	123
1914	132,000	121
1919	136,000	125
1924	149,000	133
1929	188,000	172
1934	201,000	184
1939	243,000	223
1944	222,000	204
1949	226,000	207
1954	237,000	217
1959	245,000	225

Graph II - Sheep Numbers - Scotland 1896 - 1959



Sheep Numbers over Five Year Intervals

SCOTLAND

	Sheep Total	Propn.(1894=100)
1894	7,273,000	100
1899	7,561,000	104
1904	7,227,000	99
1909	7,439,000	102
1914	7,025,000	97
1919	6,411,000	88
1924	6,886,000	95
1929	7,556,000	104
1934	7,656,000	105
1939	8,007,000	110
1944	6,833,000	94
1949	7,103,000	98
1954	7,429,000	102
1959	8,384,000	115