

2 J.P.M.
Not for Publication

H.F.R.O. 195

HILL FARMING RESEARCH ORGANISATION

FARM REPORTS AND SUMMARY OF FLOCK RECORDS

1972

I FARM REPORTS - 1972

A. GLENSAUGH

Weather

Although snow lay for only 10 days during the winter of 72, the very wet dull weather made January and February very unpleasant. It became brighter and drier by the second week in March and continued to be so until the end of April. May and June were cold, wet and windy with sunny periods. Apart from the first 10 days of August which were wet the summer months of July, August and September were dry sunny warm, with the rainfall during September the lowest for over 10 years. It continued to be dry but cool in October. The last two months of the year were dull and wet.

Weather Records: January - December 1972

Month	Rainfall (Ins) (m.m.)		Sunshine (hours)	Mean Daily Air Temp °C
January	6.56	166.5	26.5	2.4
February	4.67	118.5	28.5	2.9
March	1.93	49.1	95.1	4.2
April	2.04	51.9	127.8	6.6
May	3.61	91.8	133.2	7.9
June	3.77	95.7	134.9	10.0
July	1.11	28.2	224.2	13.2
August	2.93	74.3	130.5	12.3
September	0.28	7.0	123.9	10.1
October	1.13	28.6	80.1	8.8
November	3.93	99.7	55.9	3.9
December	2.23	56.7	28.1	3.5
Total	34.17	868.0	1188.7	
1971	32.62	828.5	1258.2	

SHEEP

The rams were put out with the hill ewes on the 16th. and 17th November 1971. The weather at that time was poor with strong winds and snow blizzards but mating seemed to go well despite these conditions.

Texel rams were used for the first time on part of the West Finella ewe stock as part of the research programme.

January and February were cold and very wet with 275 mm. rain and this had a bad effect on all outside stock.

Feeding regimes were as in previous years, beginning on the 10th March with an average ration of 8 oz. concentrate per head and building up to approx 1 lb. as lambing approached and continuing well into May, once more, twin bearing ewes were given 4 ozs. extra where this was possible. Lambing went reasonably well and most ewes had an adequate supply of milk. Throughout the Summer the lambs continued to do well and were well up to usual weights at weaning.

As in 1971 trouble was experienced over a period of 5 to 6 weeks from early September onwards caused by some form of mineral deficiency. As in 1971 several of these lambs, both living and dead, were taken to the Veterinary Investigation Centre and a cobalt deficiency was indicated. The symptoms were very similar to those of 1971 and obviously some form of dosing or grassland top dressing will have to be carried out in the future over the period

of risk. Oral dosing with a prescribed Cobalt Chloride solution was carried out but with only limited success. A further 4 lambs died after dosing but perhaps the damage was already done. In all, between these taken to the V.I.O. The local Veterinary Surgeon, and deaths, 27 lambs were lost.

The general treatment of the ewes throughout the year was as in previous years. All ewes were dipped pre-lambing against tick and lice and a summer dipping against fly strike was carried out. Once more Head Fly attack was considerable, particularly in the lambs and it does not appear that it is in any way controlled by present day dips. Routine dosing for worms and Liver Fluke was carried out at the usual times.

The intensive system was continued on Finella but research requirements on the two B.F. stocks made it difficult to interpret results except to say in a general way that performance figures were much the same as in the past.

Generally speaking 1972 was a good year for sheep with a good lamb crop sold at very satisfactory prices.

Of the 1160 lambs marked (1153 in 1971), 1118 were weaned (1118 in 1971). These figures include lambs transferred to research work at H.Q. and also those supplied to the Hannah Research Institute in connection with their work.

Disposal of Lambs

Ewe lambs retained for stock	257
Lambs for research purposes	107
Lambs sold store	556
Lambs sold fat	135
Deaths since weaning	33
Lambs still on hand (9/1/73)	<u>30</u>
	<u>1,118</u>

Prices

Prices this year were very satisfactory and the details are as follows- 400 B.F. lambs sold store averaged £7.00 with a top of £8.00 for weather lambs and £7.60 for ewe lambs. The 156 Cheviot and Cross lambs averaged £8.66 with a top of £8.85 for Cheviot wethers, £9.05 for Cheviot/Dorset wethers and £9.25 for Cheviot ewe lambs. Lambs sold fat numbered 135 and averaged £8.00.

Wool

The wool clip was slightly up on last year at £1,507.

<u>Values:-</u>	1972	£1,507
	1971	£1,380
	1970	£1,272
	1969	£1,058

Sheep (General)

1972 has seen the start of systems development on Big Hill which is now divided in two with a self contained stock on each area. The system will become fully operational in 1973.

One further feature is the establishment of an upland Greyface flock and to make way for this the Forestry Park ewes have been dispersed and 97 Greyface ewes and gimmers purchased. It is hoped to increase this to 250 in 1973.

CATTLE

The herd at Glensaugh is now fully accredited, the final test being passed in June.

It was discovered in January that one of the bulls had injured itself and was unable to serve the heifers. The other bull was given a run over these

heifers and a good number were settled. It was decided, however, that the bull be withdrawn before all were sure to be in calf as it was more important that we should have an even calving in 1973 as all animals would be involved in the research programme and a delay in the 1972 calving would almost certainly upset this and mean a spread in mating dates.

During the year, work has proceeded very slowly on the new cattle shed and it was only in late December that it was possible to put cows and calves in the shed. All cows and calves are now housed although there is a considerable amount of work still to be carried out. Several physical difficulties have cropped up but they are slowly being resolved as time goes past.

It has been decided to use A.I. on the herd this year and one nominated polled He reford sire has been selected. Insemination has in fact just started and a vasectomised bull is being used to detect oestrus.

Sales

The cattle purchased to eat surplus hay and silage in the winter of 1971/72 did exceptionally well and left a substantial margin over feed and labour costs.

As yet only 24 of the homebred calves of the new herd have been sold and prices have been very good. Details are as follow-

Date of Sale	Centre	No.	Sex	Pre-sale Wt. (lb)	Price
4/11/72	Laurencekirk	7	F	552	£ 88.90
4/11/72	Laurencekirk	5	M	578	£102.30
6/1/73	Laurencekirk	7	F	568	£122.30
6/1/73	Laurencekirk	5	M	690	£121.50

Cropping 1972

<u>Roots and Green Crops</u>		<u>Grass</u>	
Kale	10	Hay	93.0
Rape	17	Silage	25.5
Fodder Radish	7	Grazing	181.5
	<u>34</u>		<u>300.0</u>

This year a Lister Hay Drier was transferred from H.Q. and extensively overhauled. As a consequence of this, the emphasis was on Hay rather than Silage. Approximately 9,000 bales of Hay were made and some 7,000 dried with the blower.

Silage was about average in terms of quantity and quality.

A new crop in the form of Fodder Radish was sown in September but the very dry weather before and after sowing prevented a good germination and the crop could only be classed as a failure. One late sow out in the end of August may well come into the same category but this will not be certain until Spring Time.

Heather Burning

No burning was carried out on Finella because of unsuitable weather

conditions when assistance was available from the Forestry Commission. On Big Hill approximately 60 to 70 acres were burned in connection with the new grazing systems.

Fencing

A real attack on fences was launched in 1972 and during the year some 5,700 yards of new high tensile fencing was erected to replace existing fencing which was beyond reasonable repair.

In addition to this a further 2,000 yards of existing fencing was rewired and posted where necessary and droppers fitted between the existing posts.

Shelter Belts

No tree planting was carried out in 1972 due to adverse weather conditions.

Red Deer Project

This project is progressing in a satisfactory manner. More young calves were obtained in 1972 and reared at Glensaugh, these are now out on the hill.

Farm Buildings

As was stated before the work on the new cattle shed progressed slowly and it is hoped it will be completed in 1973. Some £700 to £800 were spent improving three cottages, the East and West Lodges and the shepherd's house at the Bows.

Farm Hostel

The hostel is now unoccupied and it is proposed to have some plans drawn up by our local architect with a view to examining the possibility of converting the old building into two flats to accommodate permanent staff involved in the future research programme.

B. LEPHINMOREWeather

January began mild and dry but a good first week was followed by a very wet spell with occasional sleet and snow. A dry frosty spell at the end of the month continued into February but in the main the month was wet and mild with odd days of snow and sleet. March was dry and sunny with slight night frosts followed by a mild dry period with a return to colder weather with snow and sleet at the end of the month. The first half of April was very wet but lambing commenced in excellent conditions. May was cold with little growth throughout the month and unsettled cold weather persisted until mid-July. The second half of July was a complete contrast with the temperature rising into the low 80's. The first half of August was mainly cloudy and wet but thereafter until the third week in October the weather was exceptionally dry and fine. Heavy rain thereafter was followed by a mixed November with snow and frost mid-month. December was characterised by periods of heavy rain and high winds, relieved only by a settled mild spell in the last week.

Rainfall - January 1972 - December 1972

	<u>Inches</u>	<u>Mill.</u>
January	9.35	237.5
February	5.06	128.5
March	4.19	106.4
April	7.96	202.2
May	6.30	160.0
June	6.54	166.1
July	3.52	89.4
August	3.55	90.2
September	1.23	31.2
October	5.26	133.6
November	7.45	189.2
December	7.97	202.4
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	68.38	1736.7
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1971	54.13	1374.9

SHEEP

The ewe stock came through the winter well although at lambing the Midhill ewes were again, as in 1971, slightly disappointing in view of the mild winter conditions. Barnacarry ewes were in strong condition at lambing and an unusually high number (12%) gave birth to twins. For the first time a proprietary pre-lambing supplement in block form was fed to the Barnacarry ewes on the hill at a cost of 32p. per ewe with good result. Both ewe recovery and lamb growth were retarded by the adverse weather conditions up to mid-summer, however all stock responded well to the dry, sunny late summer and autumn and at present are in excellent condition. The overall lamb weaning percentage was 97.

Figures for previous years were:-

1971	96
1970	82
1969	87
1968	70
1967	80

Store lamb prices were again up on previous years. 143 Midhill and Low-End wether lambs were sold at Stirling on 9th August averaging £5.65 to a top of £6.55, a rise of 92p. per head over the same sale last year.

65 wether lambs were sold on 16th August averaging £4.90 per head and 51 ewe lambs averaging £4.35 per head. 63 wether and rigg lambs were sold on 23rd August averaging £4.42 per head and a further 30 wether lambs were sold on 30th August at £2.91 per head. 57 Barnacarry wether lambs were sold on 30th August averaging £5.12 per head to a top of £5.55 and 15 ewe lambs at £4.20 per head. A further 83 ewe and wether lambs were sold at Dalmally on 7th October averaging £2.88 per head. 77 draft ewes were sold privately in September - 67 $6\frac{1}{2}$ year olds at £6 per head and 10 $7\frac{1}{2}$ year olds at £4.50. A further 47 cast ewes were sold in October at Stirling averaging £4.35.

Wool sales realised £1,100 as opposed to £1,000 in 1971.

Sheep Prices

Store Lambs

Year	<u>Wether Lambs</u>		<u>Ewe Lambs</u>	
	No.	Price	No.	Price
1966	253	60/3d	59	43/-
1967	313	70/-	51	48/-
1968	255	82/9d	58	65/-
1969	258	71/9d	86	51/3d
1970	286	69/4d	76	48/6d
1971	315	£4.30	106	£3.71
1972	402	£4.77	105	£3.74

Draft Ewe Prices

Year	No.	Price per head
1966	53	47/-
1967	61	61/-
1968	79	80/-
1969	86	80/-
1970	67	80/-
1971	53	£5.00
1972	67	£6.00

Hogg Wintering

Barnacarry ewe hogs were again wintered at Point Farm, Ardlamont. Midhill hogs were again home wintered at grass with a supplementary feed cost of approximately 90p. per head. The Low-End hogs were home wintered and housed from 3rd December until 12th April, on a ration of $1\frac{1}{2}$ lbs. hay and 4 oz. concentrates per day at a cost of £1.94 per head. (Hay charged at £15 per ton, concentrates at £43.10 per ton).

Sheep Disease

In February 1972 an outbreak of contagious ophthalmia occurred in the Low-End ewe stock in the sheep house and again in November 1972, when at grass. The first outbreak was relatively easily controlled using Aureomycin powder, the second persisted despite treatment throughout tugging time, with approximately 40 ewes being affected. Infection spread to the Mid-hill hogs wintering on the low ground fields, almost 50% being treated for varying degrees of blindness. All cases responded to treatment but further outbreaks are likely with the presence of 'carrier' animals.

In March 1972 the sudden death of 4 Midhill ewe hogs was subsequently diagnosed as 'Louping Ill' and as a result all the sheep stock have been

inoculated with the new improved Moredun vaccine.

HILL CATTLE

Winter feeding began on 18th November and continued until 27th May. Hay feeding stopped on 11th May. A total of 23 cwts. of hay and straw, $3\frac{1}{4}$ cwts. concentrates and 5 cwts. potatoes was fed per cow at a cost of approximately £25 per head. (Hay valued at £15 per ton, straw £8 per ton, potatoes £7 per ton, concentrates £37 per ton).

Of 19 cows put to the bull, 2 were barren. 10 three year old heifers calving for the first time all reared calves, making a total of 27 reared to weaning. Of 15 $2\frac{1}{2}$ year old heifers calved in August 1972, 3 were barren and 9 are rearing calves. 3 calves died at birth. 11 heifer calves sold at Dalnally in September averaged £55.50 and 2 bullocks £69 per head. 14 bullock calves were sold at Dalnally on 4th November averaging £75 per head to a top of £89. The late sale calves were fed concentrates from weaning on 21st September at a cost of £1.15 per head. 8 aged first cross cows were sold privately for £115 per head and 1 marketed at £100.

A Luig bull was purchased at Oban in January at 450 guineas.

Calf Weaning Weights

	October 1971			September 1972		
	No.	Wt.		No.	Wt.	
		lbs	kg		lbs	kg
Heifers	8	396	180	11	431	196
Bullocks	7	434	197	16	464	211

Hill Cows Sh.x Sh.x High

	October 1971			October 1972		
	No.	Wt.		No.	Wt.	
		lbs	kg		lbs	kg
	10	891	405	20	988	449

Cattle Reconciliation

Cows	<u>Oct. 1971</u>			Deaths	Sales	<u>Oct. 1972</u>		Total
	In-calf heifers	Bulling heifers				Cows	Calving heifers	
19	10	15	-	9	20	15	35	

Arable Ground

Due to the cold wet weather in early summer and the policy of summering the suckler herd on the low ground, only Field 3 was cut for hay. Approximately 10 tons of hay was made and barn dried at a cost of 70p. per ton (electricity only). Field 5 north was directly re-seeded on 15th August with a general purpose mixture.

Heather Burning and Regeneration

Due to adverse weather no heather burning was possible within the prescribed period. An extension was obtained and on 20th April the 20 acre Low-End paddock limed and slagged the previous December was burned in preparation for re-seeding, which took place on 15th June. 2 cwts. per acre compound fertiliser ($15\frac{1}{2}$ - $15\frac{1}{2}$ -21) was applied on 6th July. Approximately 17 acres of the 20 acre paddock was re-seeded.

Water Supply

The existing water supply drawn mainly from surface run-off from the

Midhill downfall was replaced by the outflow from three hill springs. A holding tank of 11,000 gallons ensures a reserve supply of 7 - 10 days and no contamination by stock is now possible. The supply can be said to be perfect apart from a tendency to turn blue-green on the addition of soap, reported after analysis to be due to traces of copper emanating from the domestic supply pipes. Analysis by Department of Agriculture officials indicates that no health hazard exists.

Handling Pens

To facilitate handling on the Low-End hirsel a sheep fank comprising holding areas, shedder, two pens and drafting and weighing race was erected at the roadside on the 'control' hill. Additionally the downfall common to both Low-End areas was divided using rylock netting and a simple shedder erected at the bottom end. This arrangement simplifies the return after lanbing of the 'control' and 'treatment' groups to their respective areas.

Buildings

The internal electrical wiring in the steading, hostel, laboratory and workers cottages along with all obsolete switches and fuse boxes was renewed.

Fencing

The stone dyke on the shore side of Field 2 was renovated and rewired; Unfortunately an exceptionally high tide at the beginning of December in conjunction with gale force winds breached the dyke and caused considerable damage.

Approximately two acres of the wooded area lying between the main road and the Forestry Commission Low-End plantation was fenced off to provide shelter during rough weather for the cattle herd which normally winter on the adjacent exposed fore-shore.

C SOURHOPEWeather

The weather this past year overall, whilst not quite up to that of the previous year with respect to Summer temperatures has nevertheless been good. An open winter with only the most infrequent of snow showers was followed by good weather at lambing and the months of May, June and July were characterised by an overall lack of sunshine which was reflected in the lower growth rates of all hill lambs. The most noteworthy feature has been the prolonged dry period in the autumn. This extended from the end of the first week in August until the close of October and resulted in a marked curtailment of autumn pasture regrowth.

Weather Records 1971-72

Month	Rainfall		Sunshine (hours)	Mean Daily Air Temp. °C
	(Ins)	(m.m.)		
<u>1971</u>				
November	3.61	91.6	37.2	4.22
December	1.41	35.8	24.7	4.93
<u>1972</u>				
January	6.37	161.7	37.4	1.87
February	4.95	125.8	46.4	2.18
March	2.76	70.2	116.4	4.70
April	5.63	143.0	127.8	6.34
May	3.48	88.3	119.0	8.49
June	1.56	39.5	159.8	9.91
July	2.30	58.3	155.4	13.89
August	1.17	29.8	156.6	12.87
September	1.05	26.7	109.4	10.10
October	0.80	20.3	106.3	9.43
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1971/72	35.09	891.0	1196.0	

SHEEP

Although the winter was open and spring fairly early, more winter feed was required for the outwintered sheep than in the previous season, on average a total of 73.7 lbs (hay, beet pulp and concentrates combined) being fed at a cost of £1.10, compared with 56.5 lbs fed in 1970-71 at a cost of £0.77. Whilst the average feed cost of the outwintered ewes, numbering 1380 in total was £1.10 per ewe, the range for individual hefts was from £1.41 to £0.99 per ewe.

The entire Rigg & Gairs ewe stock was inwintered with no problems being encountered, the hogs coming into the shed on the 17th January followed by the ewes a day later. A feed cost of £2.29 per inwintered ewe compared with £2.46 for the previous year.

For the outwintered ewe hogs the average feed cost was £0.57 per head, and for the inwintered hogs the figure was £1.30 per head.

Some feed data for both outwintered and inwintered ewes and hogs is shown in the following table, the feed items concerned being costed as follows (1970-71 figures in parenthesis) Hay - £16/ton (£17); Sugar Beet pulp cubes - £29/ton (£28); Concentrates - £42/ton (£41); Grass cubes - £37/ton (£30); Ewe & Lamb food - £51/ton (£48).

Ewe Feed Data

	Period	Hay (lb)	Sugar-beet Pulp Cubes (lb)	Concentrates (lb)	Average Cost/Ewe
	Storm feed (ie feed to 17.3incl)	5.2	25.6	-	£0.36(£0.25)*
Outwintered Ewes & Gimmers	Pre-lamb feed (ie feed 18.3 to 17.4incl)	-	10.2	18.1	£0.47(£0.31)
	Post-lamb feed (ie feed from 17.4incl that fed to twins)	-	1.5	13.1	£0.27(£0.21)
	TOTAL	5.2	37.3	31.2	£1.10(£0.77)
Inwintered Ewes & Gimmers	Pre-lamb feed (ie feed to 17.4)	126.5	45.3	31.8	£2.09(£2.19)*
	Post-lamb feed (ie feed after 17.4 incl twin feed)	1.0	1.3	9.2	£0.20(£0.27)*
	TOTAL	127.5	46.6	41.0	£2.29(£2.46)

Hogg Feed Data

	Hay (lb)	Sugar-beet Pulp cubes (lb)	Grass cubes (lb)	Ewe & Lamb food (lb)	Average Cost/Hogg
Outwintered Hoggs	6.0	15.4	17.5	1.8	£0.57(£0.53)*
Inwintered Hoggs	103.0	30.1	-	-	£1.30(£1.49)

* The figures in parenthesis are for 1970-71.

Total Expenditure on sheep feed for all outwintered sheep including ewes, ewe hoggs, wethers and tups, expressed per outwintered ewe to the tup is £1.42 compared with £0.94 for the previous year.

Little trouble was experienced in maintaining the ewes in good body condition throughout the twelvemonth, with all outwintered ewes being dosed immediately before lambing using either a combined fluke and worm drench, or simply a worm drench, according to heft. Two specific hefts of sheep received additional fluke and worm drench in early June. Inwintered ewes were fluke and worm drenched some ten days after going into the inwintering sheds, this being the only drench given to these ewes throughout the year,

unless the ewes were subsequently nursing twin lambs, for all twin nursing ewes on the station are worm drenched in late June, whilst running on "inbye" fields. Last years report made reference to a condition resembling ORF and characterised by ugly running sores which subsequently 'scabbed' over, which had run its course through the entire sheep stock. In the main the trouble has completely subsided though on one particular heft some further cases of infected hoggs have occurred, & treatment is being continued with chloromycetin.

The overall weaning percentages for South Country Cheviot, North Country Cheviot and Blackface ewes were 95, 104 and 102 respectively, to give an overall farm weaning percentage of 100 compared with 98 the previous year. The main feature of weaning was the improved performance of the South Country Cheviot ewes, largely arising through the improved figure for the Rigg heft.

Weaning weights of single lambs were down by from 1.5 to 2 kg per lamb on average, reflecting the poorer late spring and early summer conditions.

Fleece weights were little changed from last year and with yet again a further record total weight of wool being graded, resulted in a clip which in the words of the grader "was above average for most clips of this type". An average price per lb of wool of £0.24 was realised. Wool from the inwintered sheep was again graded separately and compared with the clip from all outwintered sheep of the same breed (S.C.C.), and the graders report was as follows:- "The inwintered fleeces were much cleaner, lighter in grease and showed a big reduction in Kemp and Mycotic Dermatitis faults, over the outwintered fleeces. The lighter fleeces will mean less money, but this will probably be largely offset by having more wool in a better grade, due to a decrease in Mycotic-Kemp faults. The results are surprising as one would have expected to find more grease on the inwintered fleeces"

Disposal of Lambs

The bulk of the lamb crop was sold through the store market, with Cheviot lambs making £0.135 to £0.145 per lb liveweight, and Blackface lambs £0.10 to £0.105 per lb liveweight. A total of 467 North Country Cheviot lambs (+ N.C.C. x S.C.C.) averaged £7.44 per head, 433 South Country Cheviot lambs averaged £7.64 per head and 371 Blackface lambs averaged £5.60 to give an overall average for 1271 lambs sold of £6.97 (£5.74 in 1971).

Details of the disposal of the 1972 lamb crop are as follows:-

Ewe lambs retained as stock replacements	553
Wether lambs retained as wether stock replacements	35
Tup lambs retained for breeding	4
Lambs sold store	<u>1271</u>
Total	1863

Cheviot draft ewes sold to a top of £8.30 and an average price of £7.87 per head, whilst Blackface draft ewes sold to a top of £5.00 and an average price of £4.84 per head.

The overall death rate of the sheep stock in the 12 month period covered by this report was 2.9 per cent, with the percentage death rate of ewes, gimmers and hoggs being 3.4, 2.8 and 1.6 respectively.

Sheep Stock Autumn 1972

After a relatively open autumn the sheep stock has gone into the

good condition. The build up in stock numbers required by the Development Programme has continued without any recourse to the purchase of additional stock ewe lambs. Including breeding stock, tups and wethers a total of 2,853 sheep to being overwintered at Sourhope this year, a figure which makes interesting comparison with the overwintering of a total of 1626 sheep in 1951-52.

CATTLE

Cattle Stocks

Forty eight suckler cows were wintered at an estimated £22.96 per head, each cow receiving on average 3.2 tons of silage, $4\frac{1}{2}$ cwt hay and $2\frac{1}{2}$ cwt of feeding straw, together with 373 lbs magnesium fortified hill cow cobs and 27 lbs of beet pulp. Calving started on 1st February, and proved straight forward, with a preponderance of heifer calves being born (Ratio 2:1). Two cows were eild, and a third which calved normally had to be run eild following a serious attack of mastitis. One 5-month old calf died suddenly, hypomagnasania being suspected as the cause of death; support for this diagnosis emerged from a determination of the Calcium-Magnesium ratio in the rib bone of the calf.

The management of the suckler cows from April to the end of the year was again dictated by their use as grazing tools. That the weight gain of the calves was satisfactory is indicated by the prices realised for the weaned calves, all of which were sold at the autumn calf sales. Twenty-four Hereford "X" calves averaged £81 a head, and twenty Aberdeen-Angus "X" calves made £69 a head. Creep feed was offered to the calves over the last 7 weeks before weaning, each calf consuming on average 100 lbs calf weaning pencils at a cost of £1.87.

The sixteen calves of the previous year which had been overwintered at an individual feed cost of £20.40, were sold in the spring of 1972 to average £91 per head.

Muirburn.

No muirburn was carried out in the spring of 1972.

Cropping

Twenty seven acres of grass were conserved as silage and eleven acres of hay made.

The 29 acres of Schilgreen, which it will be recalled had received its second dressing of lime and slag the previous year was divided into two by fencing down the slope, to provide two lambing paddocks for the Blackface ewes. The paddock encompassing the Auchope sheep yards of approximately 16 acres was oversown with 12 lbs of grass and clover seed per acre in July, in an attempt to upgrade the largely molinia and Nardus dominant sward by introduction of improved pasture species. After hard grazing that part of the ground which was accessible to tractors was oversown using a grass seed barrow, the steep slopes being sown by hand. No attempt was made either to suppress the growth of the existing herbage by an appropriate herbicide, or to lightly rotovate the ground before sowing. It was left to stock to trample the seed into the ground.

With the seed being oversown only in July, it is too early to say how effective has been the procedure but results are being closely watched. It is intended to upgrade the adjacent 13 acre lamb paddock this coming year, in the light of experience gained this past year.

The only area of ground which was top dressed with cobalt this year,

was the 24 acre reseed of last year on the Gairs. This area (E2) was sprayed with $2\frac{1}{2}$ lbs of cobaltous sulphate in early June.

Buildings

An additional water storage tank was built at the site of the spring from which the research station water supply is obtained, the opportunity being taken to incorporate extensive filtration facilities aimed at improving the purity of the water. This work is in the final stages of completion.

Development Work

Good progress has again been maintained in the Development Projects. An additional fence length of 250 yds was erected from the top corner of existing Paddock P2 across to the Auchope boundary fence, thereby providing two additional paddocks designated P5 & P6, in project 1

Within Project II the attempt (recorded in last years report) to introduce non indigenous clover into parts of the Gairs enclosure E1 by a direct oversowing technique has not proved successful. Whilst initial germination of the clover seed was good, the seedlings failed to establish in the face of considerable grazing pressure by the sheep stock in the Autumn and early winter of 1971-72.

In connection with Project III, an 8 acre area within the 30 acre of hill ground which was limed and slagged the previous autumn, was fenced off and has been reseeded, the existing sward being first sprayed with 3 pints per acre of Grammoxone in early July, lightly rotovated after 14 days and then direct reseeded, the seed being sown along with $2\frac{1}{2}$ cwt per acre of high phosphate compound. The opportunity was taken to establish small plots of a range of individual grass species within the reseeded area, so that their performance could be observed against the background of the grazing management system to be imposed. In spite of a prolonged dry period in autumn, a satisfactory take of seeds has been achieved.

D. HOUSE O' MUIRWeather

The winter started rather wet and wild, with snow cover during the third week of November. This gave way to comparatively mild weather interspersed with periods of frost, and apart from slight snowfalls for the last few days of January, the weather could be described as kind and open. Cold wet conditions in March continued well into April giving a very late spring. This eventually turned to more summer-like weather with some real heat in July. It then continued generally mild and very dry for about four months, giving rise to severe drought conditions. Some changeable weather in November eventually brought some much needed rain.

SHEEP

The ewes approached mating in good condition, and as a result of the open weather, very little feeding was used. About 12 lbs. of hay per head were fed during the winter with 12 lbs. of concentrates each as a pre-lambing supplement.

In spite of the cold and wet spring, the ewes lambed well with one third of the flock nursing twins. There were very few lamb losses at this time, although there were 3.5% ewe losses due mainly to an acute pneumonia. Allowing that 5% of the ewes were barren the lambs marked well at 126%. With the warm dry summer both ewes and lambs did well and again with very few lamb losses a weaning of 124% was achieved.

During September, while the ewes were still putting on condition after nursing, a chronic pneumonia was diagnosed which gradually spread through two of the three hefts. During the period covered by this report no treatment was considered necessary. As a result of the pneumonia, and some ewes returning to the hill in lean condition after experimental use, the ewes generally are not approaching this winter in as good a condition as last year.

Disposal of Lambs.

To increase flock numbers while providing sheep for experimental purposes, 125 ewe lambs have been kept for stock from the 457 lambs weaned. A top draw of 85 wethers were sold in two lots to average £8. The second draw of wethers plus some 'tail-enders' were put to rape with the Animal Diseases Research Association who used the lambs experimentally. Of these, 109 were sold fat at £8.64. With 12 wethers retained for experimental purposes, and all other lambs sold through the store market, a final average of £7.35 was realised.

General

This year has seen the completion of new sheep handling faults with a Sourhope type footpath incorporated, which were much needed and make for much easier handling of stock.

II SUMMARY OF FLOCK RECORDS FOR 1971-1972

A. GLENSAUGH

Table I

Reconciliation of Ewe Numbers 1971-1972

Heft	Ewes & Gimmers at Nov. 1971	Draft & Cast Ewes	Transfers		Deaths	Gimmers Brought in	Purchases	Ewes & Gimmers at Nov. 1972
			OUT	IN				
<u>Finella</u>								
(a) East Finella	152	41	-	-	8	43	-	146
(b) Mid Finella	113	100	-	97	9	46	-	147
(c) West Finella	132	60	-	-	8	42	17	123
<u>Forestry Park</u>	49	77 (includes 12 Gimmers)	16	30	5	19	-	-
<u>Big Hill</u>								
(a) Cairn Hill	448	90	-	-	21	54	-	232
(b) Birnie Hill						59	-	218
<u>Greyface Flock</u>	-	1	-	-	1	-	98	96
<u>Lactation Ewes</u>	122	-	118	-	4	-	-	-
TOTALS	1016	369	134	127	56	263	115	962

Table 2

Weaning Percentages and Lamb Weights

Heft	Ewes to Ram Nov. 1971	Lambs Weaned			Weaning Weights	
		Number	%1972	%1971	kg	lbs
<u>Finella</u>						
(a) East Finella	152	190	125	129.5	30.3	66.6
(b) Mid Fenella	203	215	109.5	122.2	29.8	65.5
(c) West Finella	132	154	116.7	131.0	BF30.1 BF X Texel 29.2	66.2 64.2
<u>Forestry Park</u>	81	95	117.3	131.7	30.1	66.2
<u>Big Hill</u>						
(a) Cairn Hill	448	464	103.6	104.5	26.0	57.2
(b) Birnie Hill						
<u>Lactation Ewes</u>	All ewes returned to various hefts from this study and figures are included in the several lots.					
TOTALS	1016	1118	1100.0	117.1	-	-

Research work on Mid Finella and Forestry Park resulted in a much greater number of eild ewes than is usual and this together with the fact that cast ewes were bought to make up numbers on Mid Finella and West Finella because of research requirements resulted in a lower weaning percentage.

Weights of Ewes and Gimmers (kg)

Once more ewes were removed from various hefts and where this occurred only gimmer weights are given.

Table 3

Heft	Ewes		Gimmers	
	Nov.1971	Nov.1972	Nov.1971	Nov.1972
<u>Finella</u>				
(a) East Finella	-	68.5	64.4	65.4
(b) Mid Finella	-	-	51.5	56.5
(c) West Finella	-	-	52.9	53.1
<u>Big Hill</u>				
(a) Cairn Hill	-	54.7	43.2	46.3
(b) Birnie Hill	-	51.6		45.1
<u>Greyface Flock</u>	-	73.9	-	67.8

B. LEPHINMORE.

Table 1

Reconciliation of Ewe Numbers 1971/72

Hirsel	Ewes and Gimmers Nov 1971	Draft and Cast Ewes	Deaths*	Gimmers brought in	Ewes and gimmers Nov 1972
Barnacarry	166	21	9 (4)	49	185
Midhill	384	62	10 (0)	110	422
Low-End C	143	24	7 (0)	54)***	166
T	137	19**	8 (3)	50)	160

- * inclusive of black loss noted in brackets
 ** includes 20 $6\frac{1}{2}$ year old ewes, remainder retained
 *** includes 25 purchased as hogs

Table 2

Weaning Percentage 1971/72

Hirsel	Ewes to Ram	<u>Lambs Weaned</u>			<u>Weaning Weights</u>	
		<u>Total</u>	<u>Percentage</u>		<u>Singles</u>	<u>Twins</u>
			1972	1971	kg	kg
Barnacarry	166	128	77.1	76	27.9	30.5
Midhill	384	398	103.6	103.5	25.8	23.7
Low End C	143	148	103.5	93.0	26.4	24.4
T	137	133	97.1	104.5	27.3	25.0

Table 3

Weights of ewes, gimmers and hogs (kg.) 1971/72

Hirsel	Ewes		Gimmers		Hogs	
	Nov. 71	Nov. 72	Nov. 71	Nov. 72	Nov. 71	Apr. 72
Barnacarry	49.1	46.2	42.8	-	-	27.5
Midhill	52.6	51.7	46.7	44.7	28.8	28.1
Low End C	51.0	49.0	43.3	45.5	30.3)	33.4)
T	51.3	50.8	43.9	47.6	31.1)*	34.8)*

- * includes 25 purchased as hogs

C = control

T = treatment

Table 1

Reconciliation of Ewe Numbers 1971-72

Heft	Ewes & Gimmers Nov. 71	Draft & Cast Ewes	Deaths	Transfers Out	In	Gimmers brought in	Purchases Ewes	HoEES Nov. 72	Ewes & Gimmers Nov. 72
<u>S.C.C.</u>									
Fasset	217	25	3	1	-	40	-	47	228
Rigg	238	39	1	1	-	81	-	74	278
Gairs	233	40	8	-	1	74	-	75	260
Park Law	15	15	-	-	-	-	-	-	-
Total S.C.C.	703	119	12	2	1	195	-	196	766
<u>H.C.C. X S.C.C.</u>									
Auchope	260	50	12	-	-	75	-	86	273
<u>N.C.C.</u>									
Hairney Law	269	41	8	-	-	80	-	82	300
Park Law	114	14	3	-	1	60	-	43	158
Total N.C.C.	383	55	11	-	1	140	-	125	458
<u>Blackface</u>									
Alderhope	216	44	10	-	-	55	-	59	217
Banks	292	33	3	-	-	85	-	87	341
B.F. Total	508	77	13	-	-	140	-	146	558
Flock Total	1854	301	48	2	2	550	-	553	2055

SOURHOPE

Table 2

Weaning Percentages and Lamb Weights 1972

Heft	Ewes to Tup	Lambs weaned			Weaning Weights	
		Total No.	Percentage		Singles kg	Twins kg
			1972	1971		
Rigg S.C.C.	238	240	101	87	23.7	24.1
Gairs S.C.C.	233	212	91	96	25.0	22.5
Total	471	452	96	91	24.3	23.3
Fasset S.C.C.	217	202	93	84		
Auchope N.C.C. X S.C.C.	260	283	109	99	26.5	25.2
Hairney Law N.C.C.	269	270	100	108	25.6	24.2
Total	529	553	105	103	26.0	24.7
Park Law N.C.C.	129	129	100	112		
Schil-Alderhope B.F.	216	219	101	89		
Banks B.F.	292	305	105	110		
Total	508	524	103	101		
S.C.C. Total	688	654	95	89		
N.C.C. Total(+N.C.C. X S.C.C.)	658	682	104	105		
B.F. Total	508	524	103	101		
Farm Total	1854	1860	100	98		

SOURHOPE

Table 3

Weights of Ewes, Gimmers and Hogs (kg)

Heft	Ewes		Gimmers		Hogs	
	Nov'71	Nov'72	Nov'71	Nov'72	Nov'71	April'72
Rigg S.C.C.	54.4	53.2	45.0	46.4	32.0	30.2
Gairs S.C.C.	54.9	55.7	45.0	47.6	33.0	30.4
Auchope N.C.C. X S.C.C.	57.8	60.1	48.7	53.2	34.9	31.2
Hairney Law N.C.C.	61.2	62.3	52.1	54.7	35.9	32.7
Park Law N.C.C.	61.1	62.9	54.2	55.8	35.2	32.2

Table 4

Wether Stock at November 1972

Year of Birth	1967	1968	1969	1970	1971	1972
<u>Breed</u>						
S.C.C.				29	34	35
N.C.C.	25					
N.C.C. X S.C.C.		21	25			