

NOT FOR PUBLICATION

HFRO 233

HILL FARMING RESEARCH ORGANISATION

Farm reports and summary of flock records

1982

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### II. Summary of flock records

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GLENSAUGH FARM1. Weather

Heavy snowfalls and the most severe frosts experienced in this area within living memory started in early December and lasted until mid-January. Thereafter the weather was open and often mild. Spring was early, warm, sunny and with occasional showers providing the best lambing weather in April for many years.

The summer was dry and sunny and severe drought conditions in July became serious by mid-August. Rain eventually came in late August and September with torrential rainfalls in October causing widespread flooding. The weather was better in November, with less rain and open sunny days with slight frosts.

Snow fell on land above 300 m in early December and frosts became severe, however weather was generally good for this time of the year especially in late December when days were often mild and sunny.

2. SHEEP

(a) Tupping 1981. The 1981 tupping went reasonably well considering the atrocious weather experienced over the second half of the period. The ewes were in good condition but grass growth on the inbye was disappointing and no doubt contributed to the lack of twins born in April 1982. The sheep wintered well after the severe weather ended in mid-January. Some 1122 ewes were put to the tup.

(b) Winterfeeding. Winter feeding commenced while ewes were being mated. Hay consumption was considerably higher than last year. The times and amount fed are shown in Table 1 below.

TABLE 1  
Winter feeding of sheepstocks

Flock	<u>Hay</u>		<u>Concentrates</u>				Per ewe Total cost £
	Dates fed	Per ewe Amount kg	Cost £	Dates fed	Per ewe Amount kg	Cost £	
<u>Ewes</u>							
Cairn	1.12.81- 7.3.82	55.8	3.35	4.2.82-4.5.82	32.0	5.18 *	8.53
Birnie	1.12.81-20.1.82	42.5	2.55	21.1.82-4.5.82	27.4	4.91 *	7.46
East Finella	9.12.81-13.4.82	70.1	4.20	22.1.82-4.5.82	29.5	4.84 *	9.04
Mid Finella	9.12.81- 3.4.82	55.2	3.31	22.1.82-4.5.82	28.5	4.67 *	7.98
West Finella	9.12.81- 3.4.82	59.9	3.59	22.1.82-4.5.82	26.6	4.36 *	7.95
<u>Hoggs</u>							
Cairn	8.12.81-10.4.82	98.9	5.93	10.12.81-30.4.82	34.9	5.45	11.38
Birnie	8.12.81- 2.4.82	91.5	5.49	10.12.81-30.4.82	34.9	5.45	10.94
East Finella	8.12.81-11.4.82	86.1	5.17	14.12.81-19.4.82	34.1	4.88	10.05
Mid Finella	8.12.81-11.4.82	86.1	5.17	14.12.81-19.4.82	34.1	4.88	10.05
West Finella	8.12.81-11.4.82	86.1	5.17	14.12.81-19.4.82	34.1	4.88	10.05

Feed costed at - Hay £65 per tonne, Concentrate Ewemax £156 per tonne, and Rumevite blocks (22.5 kg) £4.35 per block

\* see over

\* Cost of concentrate feed includes Rumevite blocks fed as follows -

Cairn	4th Feb to 2nd March
Birnie	21st Jan to 7th April
East Finella)	
Mid Finella)	29th Jan to 28th February
West Finella)	

(c) Lambing. Ewes came to lambing in good condition, grass growth was early and weather excellent. There was a shortage of twin lambs on most hefts and the percentage of lambs born was well down on last year (see Table 2).

TABLE 2

Weaning percentages and lamb weaning weights

Flock	Ewe breed	Ewes to tup	Lambs weaned			Weaning weights	
			No.	1982 %	1981 %	Singles	Twins
Cairn	Blackface	263	239	90.9	102.5	25.8	23.3
Birnie	Blackface	202	207	102.9	101.9	28.1	22.9
East Fin	NCC	183	216	118.0	131.4	31.8	25.5
	EF x NCC	59	84	142.4	130.3	35.8	31.3
	Total	242	300	124.0	131.3	32.4	27.7
Mid Fin	Blackface	80	102	127.5	111.6	32.8	26.7
	Texel x BF	41	41	100.0	144.1	34.2	27.3
	BL x BF	38	39	102.6	122.9	32.7	28.7
	Total	159	182	114.5	121.3	33.2	27.2
West Fin	Blackface	77	92	119.5	97.3	27.5	26.7
	Texel x BF	37	36	97.3	108.6	29.5	26.0
	BL x BF	33	26	78.8	135.3	30.8	23.8
	Total	147	154	104.8	109.1	28.5	26.0
Drafts	Blackface	59	63	106.8	-	-	-
	NCC	50	44	88.0	-	-	-

(d) Wool crop. The wool crop was similar in total weight, being 3,723 kg, to that of last year but had a higher proportion of Blackface wool than in previous years. Overall the price obtained was 80.5 pence per kg.

(e) Weaning. (i) Performance : The performance of the flocks is detailed in Table 2. Weaning percentages were mostly down on last year and liveweights of the lambs were similar overall. Lamb losses were similar to last year and are shown in Table 3.

TABLE 3  
Lamb mortality

Flock	<u>Born Alive</u>	Birth to mark	<u>Deaths</u>		%
			Mark to wean	Total	
Cairn	289	27 (262)*	23	50	17.3
Birnie	235	28 (207)	-	28	11.9
East Finella	321	15 (306)	6	21	6.5
Mid Finella	195	12 (183)	1	13	6.7
West Finella	163	9 (154)	-	9	5.5
Draft flock	127	20 (107)	-	20	15.7
Total	1330	111(1219)	30	141	11.5

\* figures in brackets refer to number of lambs marked

(ii) Disposal and price. Fewer lambs were sold this year but more ewe lambs were retained for stock. Lambs were sold store or fat at auction or were sold to Hartwood for finishing. The disposal of the lamb crop is shown in Table 4.

TABLE 4  
Lamb disposal

Breed	Fat	Store	To Hartwood	Deaths from Wean-Disposal	Total
Blackface	2	112	194	-	308
GF x Texel x	2	50	31	-	83
Dorset x	26	49	136	3	214
NCC	-	85	78	-	163
EF x NCC	-	16	-	-	16
Dor x EF x	-	83	-	1	84
Totals	30	395	439	4	868

Prices for those sold store, fat and to Hartwood are shown in Table 5.

TABLE 5

Lamb sale prices

	Estimated carcass Weight	Price at market	Subsidy	Total price
<u>Sold fat</u>	kg	£	£	£
Dorset x	17.0	20.40	13.27	33.67
Greyface	16.5	19.30	12.02	31.32
Blackface	15.0	18.10	10.92	29.02
Dorset x	16.5	20.90	12.02	32.92
<u>Sold store</u>		Liveweight	Price/kg	Price
To	78 NCC	28.6	92.0	26.31
Hartwood	57 BF	25.9	85.0	22.01
for	31 Texel x	29.9	92.0	27.50
finishing	136 Dorset x	26.8	92.0	24.65
	137 BF	25.0	85.0	21.25
Laurence-	NCC	32.0	93.4	29.90
kirk	Dorset x	32.0	93.4	29.90
market	Dor x EF	32.0	94.06	30.10
	Texel x	27.0	93.0	25.10

(f) Cast ewes. As many as possible of the draft age ewes which were barren, aborted or had lost their lambs were sold fat in the springtime at good prices. The remainder were sold in September at the annual draft sale as breeders or feeders. The prices obtained are detailed in Table 6.

TABLE 6

Cast ewe prices

Breed	Lowest price/hd	Top price	Av. price
<u>Sold fat</u>			
Blackface	£13.90	£21.70	£18.00
North Country Cheviots	17.10	27.50	23.85
Greyface x Texel Cross	24.40	31.10	27.40
 <u>Sold store</u>			
Blackface	£15.80	£15.80	£15.80
North Country Cheviots	14.00	19.00	16.62
Greyface x Texel Cross	20.00	20.00	20.00

(g) Death rates. The overall death rate was 4.6%.

(h) Tupping 1982. The ewes came to the tup in poorer condition than last year but grass growth was excellent over the period and was the best for some years. Thus the ewes tupped well and in general there were fewer returns to the first service. The weather during late November and early December although frosty at night was often mild and sunny during the day.

### 3. CATTLE

(a) Cows. A suckler herd is being re-established at Glensaugh. In September 1982 28 Luing cows, 2 bulling heifers and 30 weaned suckled calves were transferred from Lephinmore. One of the two bulls also transferred, and one old Luing cow were sold fat at Laurencekirk market as detailed in Table 7.

Twenty Blue-grey in-calf heifers were purchased in November. All are in-calf to a Hereford bull and calving started in December.

Both cows and in-calf heifers are being fed silage, hay and cobs and are being outwintered in two separate lots.

(b) Calves 1981. Some 60 of the calves and store cattle transferred from Hartwood in 1981 were employed in the experiment on levels of first winter feeding and subsequent performance at grass. They were fed in the winter of 1981/2 to make three levels of gain and their subsequent summer growth was measured. The results will be given in the 1982 Annual Report. Eleven heifers were sold fat from this group in August and the remainder sold store. A further 42 calves were overwintered in the courts on silage, straw, oats and some barley. They gained at between 0.50 and 0.57 kg/hd/day. Twenty-six were sold at the end of the winter and the remaining 16 were sold in August, having gained at some 1.10 kg/hd/day at grass.

The main reason for disposing of these stock in August was a severe shortage of grass from the drought.

Prices are given in Table Table 7.

TABLE 7

Cattle sale prices

Date	No.	Breed	Sex	Av. Lwt. kg	Price per kg	Price per head
<u>Store cattle</u>						
17.4.82	12	Charolais x	Hfr	369	103.0	£380.33
17.4.82	14	Charolais x	Blk	371	108.5	£402.28
17.8.82	11	Charolais x (fat)	Hfr	469	90.5 + 1.4 BP	£424.76
21.8.82	29	Charolais x	Hfr	421	97.1	£409.08
21.8.82	36	Charolais x	Blk	429	106.7	£457.76
<u>Bulls</u>	1	Luing	Bull	850	70.5	£600.00
<u>Cows</u>	1	Hereford x	Cow	380	115.7	£440.00
	1	Very old Luing	Cow	305	61.6	£188.00
<u>Calves</u>	1	Hereford x	Hfr	300	89.6	£269.00

(b) Calves 1982. This autumn (1982) 64 stirks were purchased from Hartwood for experimental work in the cubicle shed, along similar lines to that of last year, with different levels of barley feeding over a basic 16 kg of silage to achieve liveweight gains of 200, 500 and 800 g per day.

Another 25 weaned heifer calves were purchased from Hartwood and are being inwintered in the courts with the Lephinmore calves on silage, hay and oats.

One Luing cow died as a result of having a badly twisted gut which could not be treated.

4. LAND USE

(a) Silage. Some 400 tonnes were made on the farm.

(b) Reseeding. The Bows field was ploughed in late June, given one tonne lime, 2 cwt compound fertiliser and the grass seed was sown on 20th August. A good establishment was achieved and this was lightly grazed in the late autumn.

5. BUILDINGS

(a) Office. The polyurathene varnish on the office block was removed and the cedar walls were treated with Red Cedar Cuprinol which has greatly improved the appearance of the building.

(b) Houses 4 and 5. Both houses were extensively renovated and have been brought up to a high standard.

(c) Silage pit. The existing silage pit was extended to provide storage for another 100 tons.

(d) Cattle cubicle shed. After the severe conditions of last winter when water supplies were frozen solid for several weeks, it was decided to instal immerser heaters in the header tanks and to hot wire wrap some of the more exposed pipes. This work was done in the latter half of the winter period.

The trough and water bowl holding divisions in the cubicles were all moved to shorten the length of the standings and make them more suitable for the smaller stirks now using the shed.

(e) Amenity. Several tubular steel gates were erected in the steading area to provide a system to restrict the movement of livestock to certain areas and preserve the amenity areas around the office and staff houses.

## 6. EQUIPMENT

A new Wedgewik weed wiping machine was purchased to tackle the rushes on the reseeded areas of Cairn, Birnie and Finella.

## 7. STAFF

Mr John Black moved from Lephinmore to take up the vacant post of grieve, and started work at Glensaugh in October.

SOURHOPE FARM1. Weather

November was a mild month with a few light frosts recorded. The picture changed dramatically in December with very hard frosts for the first two weeks and then heavy overnight snow on the 13th. After more severe frosts there was a severe blizzard with drifting snow on 21st and again on 22nd and 23rd. Again more severe frosts followed with a slight thaw towards the end of the month. January was an equally inclement month with more blizzards and very hard frosts during the first half, with a slow thaw starting about the middle of the month. February and March were more normal with average precipitation and only occasional frosts. April and May were mainly dry with excellent weather during the lambing period, apart from a few blustery and wet days at the beginning of May. June was a mixed month with rainfall being about average. July was mainly very warm and sunny and this continued well into August. However, it became much cooler and duller towards the end of August, with this type of weather continuing through September. October was very dull and unsettled with heavy rainfall accompanied by strong winds.

## RAINFALL (mm)

1981	November	75.2	
	December	58.9	
1982	January	45.2	
	February	25.7	
	March	63.1	
	April	18.5	
	May	48.1	
	June	66.9	
	July	50.1	
	August	50.5	
	September	63.2	
	October	183.0	
		<u>748.4</u>	<u>29.5 in</u>
	Ten year mean	<u>911.1</u>	<u>35.9 in</u>

2. SHEEP

(a) Tupping 1981. The ewe stock came to the tup in good body condition in November 1981. The tupping period started in good weather but soon changed to severe weather which necessitated the feeding of hay, sugar beet pulp and feed blocks from the middle of December onwards. Feeding continued almost without a break through to lambing with protein cobs being introduced at the end of March. Concentrate feeding continued through lambing, ewes nursing twins being fed cobs or pencils until the end of May. Outwintered hogs were introduced to feed at the beginning of December and fed until returned to their hefts during the first half of April.

(b) Winter feeding. The severity of the early winter necessitated the feeding on average of 74.1 kg dry matter (hay, sugar beet pulp, concentrates and feed blocks combined) to all outwintered ewes at a cost of £8.23 per head. During the winter of 1980/1 42.6 kg dry matter was fed at a cost of £4.90 per ewe. With the average feed cost for 1,645 outwintered ewes and gimmers at £8.23, the range for individual hefts was from £7.29 to £9.74.

The average feed costs for all outwintered hogs was £5.52 compared with £3.79 the previous year.

All stock from Rigg and Gairs was again inwintered, Rigg ewes being housed on 15th January and Gairs ewes on 18th January. The hogs from these hefts were not housed until the 26th January, the delay being occasioned by underground freezing of the water supply pipe within the shed. The shearing experiment was continued and expanded on ewes of the Gairs heft, 56 ewes being shorn on 26th January with 56 controls and another 50 shorn on 2nd February, again with 50 control ewes.

The dry matter fed to 542 inwintered ewes was on average 141.8 kg per head at a cost of £11.96 per head compared with 121.0 kg dry matter and £10.24 the previous year.

For the inwintered hogs feed costs were £7.43 compared with £5.40 in 1980-81.

Feed data for both inwintered and outwintered sheep are shown in the following tables, the feed items being costed as follows, 1980-81 prices in parenthesis.

	Per tonne	Per tonne
Hay	£51	(£57)
Green keil **	£133	(£120)
Ewebol cobs *	£144.83	(£139.52)
Ewebol pencils *	£139	(£135.40)
Super ewebol pencils ***	£153.50	-
Sugar beet pulp cubes	£118.95	(£106.58)
Ewe and lamb food	£165	(£159.37)
Lamb supplement pencils	£147.43	-
Barley	£132.28	(£111.01)
Colborn feed blocks	£195.83	(£188)
Rumevite H.E. blocks	£182.75	-
Grass nuts	£117.50	(£120)
High protein mix	£138	-
Low protein mix	£128	-

\* Concentrates fed to outwintered ewes in cob form, to inwintered ewes in pencil form

\*\* Mixture of dried molasses, sugar beet pulp and dried grass with added minerals, in cube form

\*\*\* Super ewebol pencils fed to twin-nursing ewes, post lambing



(c) Lambing. As was to be expected the ewes lost some bodyweight and condition through the winter and early spring, but they responded well to the pre-lambing feed and entered the lambing fields in reasonable condition. The early lambing ewes of the inwintered hefts of Rigg and Gairs were again lambled in the inwintering sheds.

(d) Wool Crop. Ewe and hogg fleeces were lighter than in 1981 resulting in the total weight of graded wool from the station showing a fall of 6.9% to 5,389 kg (including 163.0 kg of winter shorn fleeces). The average prices were 78p/kg for the January wool (81.5p/kg in 1981) and 94p/kg for the summer clip (97p/kg in 1981). Total wool receipts showed a fall of £536 or 9.6% from the previous year.

(e) Weaning (i) Performance. Marking and weaning weights were on average similar to those of 1981 but numbers were considerably increased. Grass keep was tight throughout the spring and summer periods due to the low rainfall, and to the large numbers of twin-nursing ewes.

Weaning percentages for South Country Cheviot, North Country Cheviot (including NCC x SCC) and Blackface ewes were 110, 122.5 and 120.7 respectively, to give an overall weaning percentage of 120.4. This compares with the 1981 weaning percentage of 112.8, and is the highest ever recorded for Sourhope.

A detailed breakdown, by heft, of weaning percentages and weaning weights is given in Table 3.

TABLE 3

Weaning percentages and lamb liveweights

<u>Heft</u>	<u>Ewes</u>	<u>Lambs weaned</u>		<u>Weaning weights</u>		
	<u>to</u>	Total	Percentage		Singles	Twins
	<u>tup</u>	number	1981	1982	kg	kg
Fasset SCC	200	220	91.9	110.0		
*NEHL/Auchope NCC x SCC	674	811	104.0	120.3	25.0	24.6
Park Law NCC	152	201	116.5	132.3	30.7	24.4
Total NC (+NCC x SCC)	826	1012	106.5	122.5	25.9	24.6
Alderhope BF	275	360	127.1	130.9	29.7	26.3
Banks BF	344	421	116.9	122.4	-	-
Rigg BF	261	305	118.4	116.9	28.0	31.5
Gairs BF	281	315	121.7	112.1	30.5	28.9
Total BF	1161	1401	120.8	120.7	29.4	28.4
Station Total	2187	2633	112.8	120.4	-	-

\*NEHL = Near end Hairney Law

(ii) Disposal of lambs. 1,570 lambs were sold store (652 Blackface, 758 NCC x SCC, 40 BF x Cheviot, 120 South Country Cheviot.

Average prices realised for these lambs were -

Blackface :£25.13 per head at an average of £0.828 per kg liveweight (£24.79 and £0.750 per kg in 1981)

North Country:£27.29 per head at an average of £0.984 per kg Cheviot liveweight (£27.64 and £0.969 per kg in 1981)

BF x Cheviot :£26.19 per head at an average of £0.930 per kg liveweight (£26.13 and £0.873 per kg in 1981)

South Country:£25.06 per head at an average of £0.880 per kg Cheviot liveweight

Fifty-one lambs were sold fat off grass averaging £26.61 per head. In addition 100 Blackface breeding ewe lambs were sold to Glensaugh at a cost of £27.00 per head. Five orphan lambs were sent to headquarters and 10 SCC wether lambs were transferred for work on copper deficiency.

In 1982 it was decided to continue studies concerning indoor finishing of Blackface lambs. These lambs were introduced to concentrate during October and housed on 9th November. Two hundred and fifty-one were housed in the hogg shed, 176 of these being fed green keil and hay ad lib, the remaining 75 receiving green keil and straw ad lib.

Also 45 tup and chaser lambs were housed in the sheep shed and fed green keil and hay.

The overall average for 1,685 lambs sold (excluding fat lambs) is £26.20 which compares with an average of £24.78 for comparable lambs in 1981.

A summary of the disposal of the 1982 lamb crops is as follows -

Ewe lambs retained as stock replacements	552
Wether lambs retained as stock replacements	32
Tup lambs for breeding	13
Lambs sold for experimental purposes	15
Breeding ewe lambs to Glensaugh	100
Lambs sold fat	51
Lambs sold store	1570
Lambs as yet unsold	296
	<hr/>
	2629
	<hr/>

(f) Draft and cast ewes. One hundred and two warranted draft Cheviot (NCC x SCC) ewes were sold for an average price of £25.20 per head and 21 warranted draft Blackface ewes made £26.00 average per head. Thirty-three Blackface feeding ewes realised £17.50 per head and 60 Blackface draft ewes were transferred to the Animal Production Department at £24.00 per head. In addition

158 draft and cast Cheviot and Blackface ewes were sold at an average of £20.11 per head. Forty draft and cast ewes remain to be sold.

(g) Death rates, veterinary treatment. The overall death rate of the sheep stock in 1981-82 has been 3.1%, with the death rate of ewes, gimmers and hoggs being 3.5%, 2% and 3.2% respectively.

The overall death rate in 1981 was 3.0%.

All ewes, gimmers and hoggs were worm drenched in the autumn, inwintered stock being re-dosed at housing. The outwintered stock were again dosed before lambing. Twin lambs were dosed at marking and then at three-weekly intervals throughout the summer until weaning. Single lambs were dosed in mid-July and at weaning.

Liver fluke in the ewe stock continued to be monitored and no dosing was found to be necessary except among the goats and wethers grazing the wetter paddocks. However, all lambs transferred to other HFRO farms for experimental purposes were worm and fluke drenched as a preventative measure.

All outwintered sheep were dipped with tick dip in late March. The entire sheep stock were dipped with a scab approved dip in August, and all breeding stock and experimental wethers were dipped in late September / early October.

All Blackface lambs (except Rigg twins) were treated regularly throughout the summer to prevent headfly attack. The Animal Diseases Research Institute were given access to the Blackface twins of the Rigg hirsle in their study of headfly control, with half the lambs being sprayed with deltamethrin and the other half acting as controls.

In October all ewe and wether hoggs and three-year old ewes received a cobalt bullet. Lambs were dosed with Panacur S.C. throughout the season and this eliminated the need to give a cobalt chloride drench in July.

All retained stock ewe and wether lambs received an initial 5 ml anti-clostridial vaccination at weaning and a 2 ml booster dose six weeks later. All sale lambs received a 2 ml anti-clostridial vaccination at weaning and a 2 ml booster dose six weeks later, unless sold before this time. The lambs housed for fattening in autumn 1982 were vaccinated against pasteurella pneumonia and dosed when they entered the shed.

Investigation into induced copper deficiency were this year carried out on the South Country Cheviot sheep, twenty pairs of Cheviot twins being used and grazed on the Fasset and Park Law re-seeds.

(h) Tupping 1982. The autumn has been mainly wet, mild and windy with only short periods of frost. Light coverings of snow fell on the hills on the 9th and 16th December. The breeding stock have come to the tup in reasonably good condition but with weights and condition scores slightly lower than in autumn 1981. The hill grazings were noticeably barer in August and September as a result of the dry weather experienced in late summer and early autumn, and as a result the ewe stock were slow to recover body condition after weaning. It is not anticipated, at the time of writing, that the lamb crop in 1983 will be as heavy as in 1982.

(i) Goats. With the acquisition of a small herd of goats by the Organisation a number have been summered at Sourhope and are to be overwintered before moving to a permanent situation at another station.

### 3. CATTLE

The suckler herd comprised 33 cows, 8 in-calf heifers and 15 bulling heifers in November 1981. The suckler herd has been managed in the usual manner, giving a means of grazing control on the Development Projects and other areas.

(a) Winter feeding. High magnesium cow cobs were again introduced in early December and fed at 0.9 kg per head per day until early June. After an initial period of straw feeding hay was introduced prior to the herd being fed completely on silage from mid-January onwards.

#### Total feed costs (56)

Hay	19.90 tonnes at	£ 51.00/tonne	-	£1014.39
Cow cobs	9.35	"	£151.46	" - £1416.15
Calf pencils	0.35	"	£147.00	" - £ 51.74
Straw	1.44	"	£ 20.32	" - £ 29.26
Green keil	0.10	"	£133.00	" - £ 12.70
				£2524.24

Cost per cow excluding silage = £45.08

(b) Calving performance and calf growth. All but one heifer proved in calf, the only deaths being a set of twins from a Shorthorn x Hereford cow (a purchased calf was successfully fostered on this cow). Another cow produced live twins and reared them, making a total of 41 calves weaned.

Over the last four weeks prior to weaning and sale, all calves were offered creep feed.

Some calf performance data for 1982 are given in Table 4.

TABLE 4

	No.	Average birth weight kg	Average weaning weight kg	Aver. live-weight gain birth - weaning kg	Aver. daily live-wt gain kg
Bullock	21	38.0	270	232	1.00
Heifer	19	35.0	253	218	0.93
All calves	40*	36.5	261.5	225	0.96

\* Weight data for purchased Friesan calf omitted

(c) Calf disposal. Thirty-six calves were sold at the October sales to average £275.06, a rise of £7.72 on 1981. Prices and weights are shown in Table 5.

TABLE 5

	No. sold		Weights * (kg)		Price per head		Price per kg	
	1982	1981	1982	1981	1982	1981	1982	1981
Hereford 'x' bullocks	18	13	272	282	300.39	303.00	1.10	107.6
Hereford 'x' heifers	18	19	253	268	249.72	242.95	0.99	90.5
Overall	36	32	262	274	275.06	267.34	1.05	97.7

\* Weights given are those at sale ring entrance

Five calves are being overwintered

(d) Replacements, etc. In August six Aberdeen-Angus x Friesian bulling heifers were purchased. Seven nursing cows were held off the bull in the spring of 82 (these cows to be culled on age grounds), and four of these have been sold to date. Also one in-calf Aberdeen Angus x Friesian heifer aborted during October and has been sold fat. Thus the herd at the close of the year comprises 36 cows (including 3 held off the bull), 14 in-calf heifers and 6 bulling heifers.

#### 4. LAND USE

(a) Conservation. The effect of the relatively dry weather of late spring and summer with its restriction on grass growth, combined with the need to graze fields subsequently to be conserved for longer periods than desirable because of the large number of twin-nursing ewes (in excess of 600), resulted in only light to moderate crops of grass being available for conservation. A total of 20.4 hectares of grass conserved as silage has been estimated to have yielded little more than 220 tonnes of silage. No hay was made.

(b) Reseeding. Four hectares of Fassethill has been directly reseeded, to augment the 3.2 ha which had been reseeded in 1981. In addition reseeded was carried out on a 1.2 ha paddock on Park Law, which had been cleared of whin bushes and levelled the previous year.

(c) Fertiliser, lime etc. Over and above routine fertiliser usage, and on the basis of soil analysis data, the following treatments were applied.

A. Ground magnesium limestone applied to a total of -

24 ha of previously reseeded hill ground - average dressing 6.7t/ha and 8 ha of 'inbye' ground which received 3.7t/ha

B. Scotphos G (30% P<sub>2</sub>O<sub>5</sub>) applied to a total of -

20 ha of 'inbye' ground at rate of 495 kg/ha

C. Muriate of potash (60% K<sub>2</sub>O) applied to a total of -

15 ha of previously reseeded hill ground - average dressing	150kg/ha
14.6 ha of Hill Park	124kg/ha
6.9 ha of 'inbye' ground	185kg/ha

(d) Drainage. Further work to complete the comprehensive drainage plan for the 11.3 ha of potential 'inbye' on Park Law has been carried out, and an extension of the piped field water supply to three new points in the area completed. Existing field drains have required their usual routine attention.

## 5. BUILDINGS

An overhead electricity supply line to one of the buildings in the main steading complex, which was in need of major repairs, has been replaced by an underground cable.

In accordance with the planned programme of routine 'paintwork' the exterior cladding of the main sheephouse and the hogg inwintering house have been re-treated with a mixture of creosote and black bitumen.

Work is in hand to replace the flat roof of the extension to the cedar-wood office building with a more permanent pitched roof, and the opportunity is being taken to effect certain internal improvements.

Routine building repairs have been carried out as required, including repairs to a septic tank, and the redirection of a main sewage pipe.

Two replacement hay storage sheds for the hill have been ordered and a new dipper unit is to be installed at the Auchope sheep yard complex.

The partial replacement of some part of the slatted floor in the main sheep house complex, which is showing signs of increasing wear after thirteen years is under consideration. The use of alternative types of material to the larch slats which form the existing floor is being actively pursued.

## 6. EQUIPMENT

A new Ford 3600 tractor has replaced the seventeen-year old B275 International tractor.

The purchase of a Claas T25B Forage wagon - the only model of forage wagon especially designed for use in silage making on steep ground - has proved of inestimable value, not only because of the increased ease with which the silage crop can be gathered in and handled, but from a safety point of view.

A new Howard HE80 Rotavator has been purchased as a replacement and a fork lift attachment for the fore-end loader.

This report cannot be concluded without paying a sincere tribute to the efforts of all the research station staff, who throughout the year, and most particularly in the very difficult weather conditions of the early part of last winter, spared no effort to ensure that stock were properly administered to, and the work of the station continued unchecked.

HOUSE O' MUIR1. Weather

It was extremely wet and cold when the tups were put out in November 1981. Very severe frost followed by a series of heavy snowfalls before Christmas made the winter of 1981-2 the most severe for some years. Snow and frost persisted until the end of January but the remainder of the winter was generally mild and wet.

The period over lambing was somewhat wetter than usual.

The summer was very mixed, with very hot and dry weather in May and early June and cool and wet thereafter. Haymaking was possible in a spell of good weather though later in the season than usual.

## RAINFALL

1981	December	47.0 mm
1982	January	131.1
	February	40.2
	March	72.8
	April	25.6
	May	63.5
	June	136.1
	July	45.0
	August	62.4
	September	97.8
	October	117.1
	November	151.1
		<hr/>
		989.6
		<hr/>
	Ten year mean	865.3
		<hr/>

2. SHEEP

(a) Tupping 1981. Five-hundred and thirty-one ewes were put to the ram in November 1981. Of these 84 ewes in the Market Park heft were mated with East Friesland rams to provide EF x BF ewe lambs for breeding and to provide EF x BF wether lambs for experimental purposes.

(b) Winter feeding. More hay was fed to the ewes than in the previous year. Amounts of hay and concentrates, and costs were as follows -

Concentrate	35 kg/head at £145 tonne	£5.07
Hay	40 kg/head at £60 tonne	£2.40
	Total cost/head	<hr/> £7.47

As in previous years the hoggs were away wintered until February and then brought home to House o' Muir to be trained to eat concentrates.

The cost of hay and concentrates was £3.20 /head.

(c) Lambing. A total of 630 lambs were marked, a highly successful result in the light of the weather at tupping time.

(e) Weaning. (i) Performance. A total of 626 lambs were weaned. Details are given in Table 1.

TABLE 1

Weaning percentages

Group	Ewes to ram Nov. 1981	Lambs weaned			
		1982		1981	
		No.	%	No.	%
Normal hill	447	521	116.5	579	116.7
Mill Park	84	105	125.0		
All groups	531	626	117.8	628	119.4

(ii) Disposal. Lambs were disposed of as follows -

Sold store	220
Transferred for research purposes	106
Sold fat	131
Retained for stock	132
On hand 20th December	25
Deaths - Swayback	5
Other	7
	<hr/>
	626
	<hr/>

The prices obtained for lambs were as follows -

Blackface wethers	Top	£28.50
	Bottom	£24.60
	Average	£26.55

EF x BF wethers	Top	£28.00
	Bottom	£25.60
	Average	£26.80
Blackface ewe lambs		£22.00
The average price obtained for fat lambs was		£29.51

(f) Draft and cast ewes. A total of 169 ewes were cast and disposed of as follows -

Transferred for research purposes	52
Sold fat	4
Sold as feeding ewes	113
	<hr/>
	169
	<hr/>
The average price obtained for feeding ewes was	£13.70

### 3. CATTLE

A major change of policy for House o' Muir is in the process of being implemented. This farm will in future accommodate the beef cow replacements for Hartwood. These will be purchased either as bulling heifers or as in-calf heifers. Ultimately they will be transferred to Hartwood at an appropriate stage in their second pregnancy. The bulling heifers are all put to an Aberdeen Angus bull at their first mating.

Eighteen Blue-Grey and 18 Hereford-Friesian bulling heifers were purchased in Autumn 1981 and joined with an Aberdeen Angus bull on 1st December 1981. In March 1982 15 Blue-Grey in-calf heifers due to calf in autumn 1982 were purchased.

Of the original 51 autumn calvers 26 are retained at House o' Muir and will be mated with a Charolais bull purchased at Perth and the remainder were transferred to Hartwood during the summer.

A further 9 Blue-Grey in-calf heifers were purchased in October. These were calved at House o' Muir during December and will join the spring calving herd.

Twelve Hereford-Friesian and 15 Blue-Grey in-calf heifers were purchased in March 1982 and calved at House o' Muir and transferred to Hartwood with calves at foot during the summer.

Eighteen bulling heifers (9 Blue-Grey and 9 Hereford-Friesian) were purchased at Haltwhistle in November and mated with the Aberdeen Angus bull.

The bulling heifers were overwintered in the 'Daisy Dell' until mid-January when they were brought in and housed until early May. They were fed hay only for the early part of the winter and later hay and hill cow cobs. Some barley straw was fed when available to reduce hay costs.

Cost of hay /head	£65
Cost of conc/head	£13
	<hr/>
Total	£78
	<hr/>

The spring calving in-calf heifers which were purchased in March were kept in 'Daisy Dell' until early summer. The average cost/head was £43.35.

#### 4. LAND USE

(a) Land improvement. Eighty acres of old pasture has been limed and phosphated during 1982 and a further 17 acres limed and phosphated in 1979 has been ploughed and reseeded and a good sward established. Seven acres of Eastraw at Bush were also ploughed and reseeded.

(b) Fodder conservation. Some 15 ha were conserved and some 48 tonnes of good quality hay made by contract labour and farm staff.

(c) Additional land. By agreement among HFRO, the East of Scotland College of Agriculture and the Edinburgh Centre of Rural Economy the 7 ha 'Field across the road' was allocated to HFRO. This provides extra scope for fodder conservation.

#### 5. BUILDINGS

No major building work was carried out during 1982 but a silage pit has been proposed for 1983. The area has been surveyed and the project put out to tender.

Fencing. Some 180 m of new fencing has been erected by contracted labour on old pasture at Turnhouse and approximately 180 m of dyke restored to provide a new paddock for controlled grazing.

Approximately 900 m of fencing on the hill reseed was replaced or repaired by farm staff. The March-dyke between House o' Muir and Penicuik Estate is currently under repair by contract labour and nearing completion.

HARTWOOD FARM1. Weather

1982 was a year of extremes. The winter months were very cold with snow and extremely low temperatures resulting in very considerable problems with water supplies to stock both inside and out. When the thaw came burst pipes were the order of the day.

Over the lambing period the weather was mainly good. During the early summer there was a considerable amount of rain then this gave way to a long dry spell and some pastures and crops suffered slightly.

From then on autumn was extremely wet making all work on the land impossible and flooding was prevalent causing erosion to roads and fields.

From mid-November to date there have been long periods of hard frost with occasional snow.

2. SHEEP

(a) Tupping of previous year. Weather at mating was open and drier than average. Towards the end of the second cycle (beginning December) the severe frosts commenced, which affected the conception rate of an experimental flock (90 GF ewes and gimmers) whose mating commenced at the end of November, the 'normal' time being 26th October.

(b) Winter feeding. The winter was intensely cold, but this did not adversely affect ewe performance except to exacerbate those losses due to pneumonia.

(i) 195 BF draft ewes

Hay at 1 kg/hd/day during January & February, then -

Sugar beet pulp cubes	250g/hd/day	10th Mch - 1st Apr
" " " "	400g/hd/day	2nd Apr - 13th Apr

Barley (balanced)	200g/hd/day	10th Mch - 17th Apr
" "	700g/hd/day	18th Mch - 1st Apr
" "	800g/hd/day	2nd Apr - 5th Apr
" "	1000g/hd/day	6th Apr - 13th Apr

Proprietary concentrate	500g/hd/day	14th Apr - (during lambing on grassy field)
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(ii) Late lambing in-wintered Greyfaces (90) housed mid-January

Hay	1000g/hd/day	15th Jan - 28th Jan
"	1400g/hd/day	29th Jan - 15th Apr
Experimental concentrate	200g/hd/day	11th Mch - 17th Mch
	500g/hd/day	18th Mch -

(This flock was put to grass at beginning of April and lambed in paddocks)

(iii) Remainder of Greyface ewes & gimmers (approx 350) outwintered

Silage *	5000g/hd/day	14th Dec - 23rd Feb
Hay	750g/hd/day	24th Feb - 23rd Mch (thereafter reduced as required)
Sugar beet pulp cubes	500g/hd/day	24th Feb - 23rd Mch (thereafter reduced as required)
Barley (balanced)	250g/hd/day	8th Feb - 1st Mch
	400g/hd/day	2nd Mch - 9th Mch
	600g/hd/day	10th Mch - 17th Mch
	650g/hd/day	18th Mch - 25th Mch
	850g/hd/day	26th Mch - (while in lambing paddock)

\* Due to breakdown of forage box it was necessary to replace silage with hay on occasion

Until allocation for experimental requirements all ewes were fed at 850g balanced barley with hay and beet cubes sustained by available pasture.

(c) Lambing. Weather conditions were sufficiently good in March to prevent serious damage to the lambing paddocks and the weather was very dry during April for the late lambing Greyfaces and Blackfaces. The Blackfaces were bought in as cast ewes and on the farm for one year only. All ewes were in good condition at lambing time.

Lambing performance

	<u>Lambs born</u>	<u>% lambs marked</u>
Late lambing Greyfaces	142.2	-
Main flock	179.3	-
Late lambing Blackfaces		118.0

(d) Wool crop

	<u>Mean wool wt (kg)</u>
Greyface ewes and gimmers	2.58
Blackface ewes	1.80

(e) Weaning

(i) <u>Performance</u>	<u>% lambs weaned</u>	<u>Weaning date</u>
Late lambing (Greyfaces)	120.1	6th Aug
Main flocks (Greyfaces)	158.7	14th July
Late lambing (Blackfaces)	114.8	2nd Aug
(ii) <u>Disposal of lamb crop to date</u>		<u>Av. price/hd</u>
Dorset Down cross lambs (658 weaned)		
288 fat to abattoir		£35.65
227 sold store		£33.51
Suffolk x Blackface lambs (224 weaned)		
123 fat to abattoir		£32.42
58 fat to abattoir		No return yet

All remaining lambs are on brassica crops

- (f) Draft and cast ewes. A decision was made to take only four crops of lambs from the Systems flock (242 ewes). There was also a requirement by the Animal Production Department for 70 draft Greyface ewes. The opportunity was thus taken to reduce the number of ages in each flock to four.

Disposal

Greyface ewes	<u>Mean price/hd</u>	<u>To</u>
Cast & cull (sales)	£23.15	Fat and store
Draft	£24.25	An Prod Dept
Blackface ewes		
Cast for age (176)	£17.83	Fat and store

- (g) Death rates. Although generally low in adults, losses to Jaegsiekte occurred throughout the year as well as those due to pasteurellosis. Wildly fluctuating weather conditions in Lanarkshire seem to encourage all types of pneumonia. Use was made this autumn of the new pasteurellosis vaccine to apparently good effect.

(h) Tupping 1982

<u>Ewe breed</u>	<u>No.</u>	<u>Ram</u>	<u>Mating date</u>	<u>Synchronised</u>
GF	242	Dorset Down	26th Oct	No
GF	160	Dorset Down	3rd Nov	Yes
GF	100	Dorset Down	22nd Nov	Yes
GF	330	Suffolk Down	29th Oct	No
GF	31	Dorset Down	28th Oct	No
GF	30	Finn x	15th Dec	Yes

Weather during this long mating period was mixed but no apparent upset to ewe or ram has occurred as the pattern of mating is normal.

3. CATTLE(a) Winter feeding

With the completion of the basic shell of the Indescon shed, it was possible to house all cattle stock during the winter of 1981/2. A total of 163 breeding cattle were accommodated in both sheds at the start of 1982. Due to exceptionally severe weather at this time, very considerable problems arose as water supplies froze for long periods. The individually tied cattle in the Atcost shed were fed hay over a range of experimentally determined levels. Those in the new shed were loose-housed and fed a silage-based diet at two levels prior to turnout and summer grazing experimentation. Feeding data is presented in Table 1.

TABLE 1

Feeding levels, 1st January 1982 - Turnout

<u>Nutrition Studies Herd</u> (Autumn/Winter calving)		<u>Silage</u> kg/day	<u>Barley</u> kg/day
Calved cows	1st - 31st Jan	42	2.5
During mating	1st Feb - 31st Mar	42	3.5
Post mating	1st Apr - turnout		
High		42	4.5
Low		42	1.25
<u>Grazing Studies Herd</u> (Spring calving)			
Precalving	1st Jan - calving		
High		42	2.5
Low		30	-
Postcalving	calving - turnout		
High		42	4.5
Low		42	1.25

(b) Rebreeding

Bulling of autumn calvers was carried out in one half of the Indescon shed and in a temporary pen in the Atcost shed. An attempt was made to hasten the onset of oestrus by shutting off all calves more than one month old from their mothers for 23½ hours per day until the dams were seen to be coming into heat.

Spring bulling began at turnout on 13th May and continued till 22nd July. For experimental reasons, five bulling groups were needed and two extra bulls were hired to make up requirements. The summer weather ensured a good supply of grass and no difficulty was experienced during most of the season keeping cattle on reasonable

pasture. Milligans and Aitchesons fields were again used for cattle grazing studies.

Although certain experimental stock re-entered the Atcost shed during August 1982, the bulk did not come in until the end of September and October. At present, 30 calved heifers remain outdoors in the well sheltered RH/Sanitorium complex. All other stock is now housed, including 11 spring-born calves which remain unsold. It is envisaged that all cattle will be indoors by mid-winter.

(c) Calving

Calving in the autumn/winter herd began in early November 1981 and spring calving ended in May 1982 with a peak of 62 calves born during March. All calves were born indoors during this period and their birth weights are shown in Table 2. Ninety-two calves were born per 100 cows mated.

TABLE 2

Calf birth weights (kg)

<u>Breed</u>	<u>Heifers</u>	<u>Bullocks</u>
Charolais x Hereford Friesian	40.5	45.1
Charolais x Blue Grey	35.6	39.9

So far this autumn, 39 heifers have calved in addition to 37 of the nutrition experiment cows, one of which gave birth to a perfectly healthy three-legged calf.

(d) Weaning weights and disposals etc

During the year a total of 161 calves were sold from Hartwood. At the beginning of October, 64 selected Charolais cross calves went to Glensauigh for a nutrition experiment. A further 25 smaller calves were also sent to Glensauigh some four weeks later. These calves were Aberdeen-Angus, and Hereford crosses. Five calves were sold at Lanark market earlier in the year and a total of 67 head was sold in two lots at Lanark on 5th October and 23rd November 1982. Details of these sales at Lanark and to Glensauigh are given in Tables 3 and 4 respectively and calf weaning weights are shown in Table 5.

TABLE 3

Calves sold at Lanark market during 1982

<u>Breed</u>	<u>Sex</u>	<u>Number</u>	<u>Av. price</u>	
Charolais cross	Male	32	£264	
" "	Female	33	£240	
Hereford cross	Male	2	£278 )	
" "	Female	1	£183 )	Bought
Friesian	Male	3	£232 )	in
Murray-Grey cross	Female	1	£218 )	

TABLE 4

Calves sold to Glensaugh during 1982

<u>Breed</u>	<u>Sex</u>	<u>Number</u>	<u>Av. price</u>
Charolais cross	Male	32	£317
" "	Female	32	£263
Aberdeen Angus & Hereford cross	Male	15	£178
(heifers calves)	Female	10	£164

TABLE 5

Calf weaning weights (kg)

	<u>Breed</u>	<u>Heifers</u>	<u>Bullocks</u>
Autumn born	(Charolais x Hereford/Friesan	279	308
	(Charolais x Blue/Grey	233	264
Spring born	(Charolais x Hereford/Friesan	207	222
	(Charolais x Blue/Grey	207	205

(e) Replacements etc

During the year, several drafts of replacement heifers were added to the stock at Hartwood. At the beginning of April, 19 Hereford x Friesan heifers due to calve in the autumn arrived from Balfron. During July and August, these numbers were augmented by a further 18 autumn calving Blue-Grey and Hereford x Friesan heifers. Twenty-seven Blue-Grey and Hereford x Friesan heifers with calves at foot were transferred from House o' Muir in mid-May for spring bulling at Hartwood, and a further 29 Hereford x Friesan heifers due to calve either late 1982 or early 1983 came to Hartwood at the end of October. Seventeen of this last mentioned group have since left for observation at the Moredun Institute. A Charolais bull was purchased in October and is presently at House o' Muir. Thirty-six adult cast cows have been sent to slaughterhouse or market or to other HFRO departments.

(f) Veterinary treatment etc

While being fed indoors, all cattle were given mineral and vitamin supplements. Cows were dosed twice with Systamex, once during the grazing season and again at housing, while calves were treated at regular intervals. At birth, all calves were treated with iodine navel dip. Routine dry cow therapy was practised and cattle were fly-sprayed and udders tarred on occasion, which helped to reduce the incidence of mastitis to a very low level. Among younger stock, scour, pneumonia, navel and joint ill, and lungworm problems were infrequent. However, during much of the grazing season and even after housing, New Forest disease continued to be troublesome among young and adult stock although individuals normally responded well to veterinary treatment.

At the critical points around turnout and at the end of the grazing season, all cattle were fed high magnesium cow cobs. In addition, all stock have constant access to high magnesium minerals, while those on grazing experimental work were also supplied with magnesium acetate through their drinking water. There has been no occurrence of hypomagnesaemia this year.

Brucellosis and tuberculosis tests were made on 2nd, 3rd and 5th November and no reactor was found.

#### 4. LAND USE

<u>Cropping summary (1982)</u>	<u>ha</u>	<u>ac</u>
Barley	22.0	54.3
Arable silage	13.0	32.1
Grass silage	30.1	74.3
Hay	10.1	24.9
Rape	24.3	60.0
Tyfon	3.0	7.4
Cabbage	1.6	4.0
Swede turnip	1.3	3.3

In addition, silage was made on areas within the Greyface Systems Project area and a late crop of rape was sown after the arable silage was cut.

Barley crops were generally good in 1982 with a top yield of over 47cwt/ac and an average of 38cwt/ac. Some of the rape crops suffered from very dry weather and two fields in particular had only a moderate crop. Hay and silage gave good crops.

Some 60 tonnes hay and 1000 tonnes silage were made, including some 400 big bales of silage off the Greyface Systems Project area. In addition to the above cropping some 30.7 ha (75.8 ac) were directly reseeded.

Spraying for grassland weeds was carried out where necessary.

#### 5. BUILDINGS

(a) Building maintenance. Following the water problems of the 1981/2 winter, improvements and renewals were carried out to the water supply in the Atcost cattle shed. Cubicles were also improved and completed and proper weighing facilities installed. Gates in the gables of the loose-housed cattle shed were fitted.

The development of the sheep handling facilities in the old piggery and the dipping tank was continued throughout the year thus resolving many of the problems previously encountered in

handling sheep.

A number of roofs have been overhauled and missing flashings replaced.

(b) Development of buildings etc. Work has now been virtually completed on the development of the Metabolism Unit in the middle of the old steading and this area should be ready for use in the very near future.

A new combined hay and feed store has been erected adjacent to the cattle complex to deal with all cattle feed requirements and this will save a considerable amount of time and labour when fully operational.

A new three-bay plastic sheep house has been erected. This will hold about 300 ewes, where controlled group feeding can be carried out. Internal fittings are almost complete and the sheep house is expected to be occupied by the beginning of January 1983.

Two new offices have been created for staff and another bedroom added to the hostel accommodation.

## 6. EQUIPMENT

Equipment acquisitions. Four very useful items of equipment have been purchased in the form of a round baler, a precision chop forage harvester, a dung spreader with additional silage delivery attachment, and a mechanical rotary yard brush. All have proved to be of immense value. In addition to this two new tractors have been leased under the College hire scheme.

The large deep freeze room has been completed and is operational and the grinding room has been fitted out.

## 7. OTHER MATTERS OF SIGNIFICANCE

A determined effort has been made this year to try to get stock off the land during the winter months. In addition to the new sheep house previously mentioned, four areas of woodland have been cleaned up, water laid on, fenced and silage barriers built. This should provide 'off land' winter accommodation for some 500 sheep. Two areas are presently operational and seem to be working well and, of course, the woodlands also provide a considerable degree of shelter for the stock.

LEPHINMORE1. Weather

The snow and hard frost of December 1981 gave way to mild conditions at the beginning of January, but the respite was short lived with a return to snow and record low temperatures which persisted to mid-month; milder weather followed with heavy rain until mid-February. The second half saw a return to cooler conditions and March began stormy with snow and heavy rain. From mid-March there was a gradual improvement through to lambing which was mainly warm and dry with sufficient rain for good growth. This pattern continued through May with only a short cold spell mid-month and June was mainly sunny with temperatures well above average. July was an exceptional month - rain on St Swithin's day was followed by a long hot spell with no rain until the beginning of August. The remainder of the year was uneventful being mainly mild and wet with 48" rainfall from 1st August to 31st December.

## RAINFALL

January	226.1 mm
February	170.2
March	200.6
April	59.0
May	61.2
June	49.5
July	55.1
August	186.7
September	313.7
October	199.9
November	262.1
December	262.9
	<hr/>
	2047.0
	<hr/>

2. SHEEP

(a) Tupping 1981. Snow and hard frost combined to make this the most difficult tupping period for many years. Sheep came to the tup in only moderate condition.

Winter conditions -

Exceptionally severe winter conditions put the ewe stock under severe stress. All ewes came through to lambing in lean condition and 132 Midhill ewes were drawn off on 25th March for preferential treatment in-bye.

(b) Winter feeding. Storm feeding in snow was a much more prominent feature than is usual at Lephinmore. The details are given in Table 1.

TABLE 1

		<u>Winter feeding</u>						<u>Cost/</u>
<u>Hirsel</u>	<u>Stock(Nos)</u>	<u>Hay</u>		<u>Blocks</u>		<u>Conc.</u>		<u>ewe or</u>
		<u>Amt</u>	<u>Cost</u>	<u>Amt</u>	<u>Cost</u>	<u>Amt</u>	<u>Cost</u>	<u>hogg</u>
		<u>(t)</u>	<u>(£)</u>	<u>(t)</u>	<u>(£)</u>	<u>(t)</u>	<u>(£)</u>	<u>(£)</u>
Barnacarry/ Feorline	Ewes (242)	2.6	130	2.15	380	-	-	2.11
	Hoggs( 60)	6.0	300	-	-	1.2	175	7.92
Mid hill	Ewes (449)	7.2	360	2.22	400	4.3	628	3.09
	Hoggs(115)	10.7	545	-	-	2.2	321	7.53
Low end	Ewes (343)	8.7	438	-	-	9.3	1355	5.23
	Hoggs( 80)	7.6	379	-	-	1.5	219	7.48

(c) Lambing. Gimmer lamb losses were high as a result of an unusually high number of 'hung' lambs. This factor combined with fewer twin births in the older age groups and a higher number of barren ewes, many of them thought to be early abortions brought about by the severe stress conditions, resulted in a low lambing percentage.

(e) Weaning. (i) Performance. Weaning percentages by heft are given in Table 2.

TABLE 2

<u>Weaning percentage</u>					
<u>Hirsel</u>	<u>Ewes</u>	<u>to</u>	<u>Total</u>	<u>Weaning %</u>	
				<u>weaned</u>	
	<u>tup</u>		<u>1982</u>	<u>1982</u>	<u>1981</u>
Barnacarry/ Feorline	242		151	62.4	80.0
Mid hill	449		342	76.2	87.2
Low end	343		204	59.5	92.8
Total	1034		697	67.4	89.0

Overall weaning percentage was 67.4. Figures for previous years were -

1981	89.0
1980	78.0
1979	84.0
1978	86.0
1977	80.0
1976	88.0
1975	85.0

(ii) Disposal of lamb crop. Seventy-eight shott wether and ewe lambs housed in December 1981 were fattened on a concentrate containing sugar beet pulp and dried grass and averaged £23.50 in January 1982. The disposal of the lamb crop of 1982 is detailed in Table 3. One hundred and eighty ewe lambs were retained for stock.

TABLE 3

Lamb sales and dates 1982

<u>Date</u>	<u>Destination</u>	<u>Ewe</u>	<u>Lambs</u> <u>Wether</u>	<u>Riggs</u>	<u>Price/</u> <u>head</u>
23.8	Hartwood	-	156	-	£18.60
25.8	Stirling Mart	-	101	-	18.20
"	"	13	-	-	12.00
8.9	"	69	-	-	15.60
"	"	-	15	-	25.00
"	"	-	-	16	12.40
"	"	-	1	-	10.20
15.9	"	-	59	-	13.90
"	"	-	-	9	14.20
"	"	-	-	10	14.00
29.9	"	15	-	-	16.00
"	"	14	-	-	6.80
"	"	-	9	-	14.20
"	"	-	-	1	20.00
25.10	Paisley Mart	7	7	-	6.40
"	"	-	6	-	16.80
"	"	-	-	2	12.80
10.11	Stirling Mart	2	-	2	16.00
15.11	Balure Farm	-	3	-	12.00

(f) Disposal of draft and cast ewes. In preparation for the sale of the farm in November 1982 the ewe stock was thoroughly inspected. A rigorous cull was instigated with the intention of leaving around 650 to 700 sound and fit ewes on the appropriate hirsels, i.e. on Mid hill and Low end. In the event 655 ewes

were left after the cull. The Barnacarry/Feorline hirsels were purchased by the Forestry Commission in March 1982. The ewe stock remains on the ground with the agreement of the Forestry Commission. They will be transferred to Glensaugh in March 1983.

Details of ewe disposals, prices, etc. are given in Table 4.

TABLE 4

Disposal of cast and cull ewes

<u>Date</u>	<u>Destination</u>	<u>Ewes</u>	<u>Gimmers</u>	<u>Price/ head</u>
23.8	Paisley Mart	40	-	£11.40
1.9	Feorline Farm	12	-	12.00
13.9	Paisley Mart	8	-	9.00
"	"	32	-	9.50
"	"	18	-	11.00
"	"	12	-	16.00
21.10	Balure Farm	25	-	23.00
"	"	-	6	22.00
"	"	-	6	17.00
25.10	Paisley Mart	13	-	14.40
30.10	Dalmelly Mart	60	-	14.60
10.11	Stirling Mart	10	-	23.00
"	"	-	4	21.25
"	"	1	-	15.50
"	"	23	-	14.00
"	Feorline Farm	9	4	25.00
"	Stone Croft	7	-	13.00
15.11	Balure Farm	-	30	23.00

A further 24 three-year old and four-year old ewes were consigned to Glensaugh per Dr J Doney. Three feeding gimmers and 5 wether lambs remain on the farm for sale.

3. CATTLE

(a) Winter 1981/82. The 30 cows and 5 heifers were inwintered mainly on silage, hay and cobs. The total amounts fed were -

Hay	2 tonnes
Silage	105 tonnes
Cobs	2.7 tonnes

Thirty calves were born including two sets of twins. All calves were reared successfully. Of the calves 17 were by a Luing bull and 13 were by a Charolais.

(b) Summer. Half the cows were summered on the Barnacarry hirsel, and half were run on the inbye land with occasional access to the Low end reseeds.

(c) Disposal. One cow was sold in Oban in April (£458). Two bulling heifers were sold at £378 per head, and 2 eild cows were disposed of in July (£690 for the two).

Thirty Luing cows and heifers were transferred to Glensaugh in October. The Luing and Charolais cross calves were also taken to Glensaugh. The Luing bulls were transferred at the same time.

4. LAND USE

(a) Fodder conservation. Approximately 100 tonnes of silage were made in late June. Dry conditions on the vulnerable 'raised beach' arable fields in July precluded the taking of a second cut this year.

(b) Drainage. All the low ground ditches were cleaned, and the low ground tile drainage system repaired.

RED DEER FARM1. Weather

Winter weather was severe with complete snow cover from early December until the end of January. Thereafter the weather was open and mild. Spring was early, sunny and mild. Drought conditions prevailed for the rest of the year until late August. Heavy rainfalls in September and October caused flooding with damage to fences and water gates. Snow fell on the high ground in early December but had gone by the middle of the month. The latter half of December was open, often mild and sunny.

2. RED DEER

(a) 1981 rut. Stags were out on all hefts by 24th September 1981. Stags started to rut very early; two adult stags escaped from the stag holding paddock into the Goyle and Birnie areas and were in full rut by mid-September. Both stags were holding hinds and calves and had to be shot to allow the September weaning gatherings to proceed. The weather at rutting was windy and very wet with little or no fog. Hinds came to the stag in very good condition and appeared to settle early. The rut was well through by the end of October. A total of 211 hinds were put to the stag.

(b) Winter feeding. The winter weather was extremely severe and all outwintered deer were fed full maintenance requirements until mid-January, thereafter the hay requirement was reduced and the deer grazed well on the open hill. The deer wintered well as can be seen from their March liveweights (Table 2, p48) and came to the calving in good order. The amounts of hay and concentrates fed over winter are shown in Table 1.

TABLE 1

Hinds and stags winter feed and costs

Group	Period	Hay		Concentrate		Total cost/hd £
		Wt.(t)	Cost £	Wt.(t)	Cost £	
Hill	7.12-24.3	11.0	715	3.9	596	9.25
	1. 5-15.6					
All stags	25.12-24.3	2.6	169			6.76
Yearlings	25.12-24.3	3.3	214.50	1.57	240	11.96
	8. 2-25.3)					
	1. 5-15.6)					
Lochhills A	20.12-13.4	3.8	247	0.38	58	8.96
	15. 4-10.5					
Lochhills B	24.11-26.4	10.0	650	0.87	134	23.05
	15. 3-10.5					

(c) Calving. The weather was excellent and calving again started early, the first calf arrived on 16th May. By the first day of June 111 calves had been born, more than half of the total number born. Nine hinds were yeld, and one hind aborted in March.

(d) Weaning. In all 186 calves were weaned giving an overall weaning percentage of 88. The detailed results are shown in Table 2.

TABLE 2

Red deer reproductive performance

<u>Herd</u>	To stag	<u>Hinds</u>				<u>Calves</u>			
		Died	Yeld	Born	Born dead	A/R	Died B-W	No. Weaned	% Weaned
Main farm (A B C F cohorts)	86	1	2	84	3	1	1	80	93
Upper farm and Lochhills (H J K M cohorts)	98	1	5	93	4	1	1	87	89
Young hinds	27	2	3 *	24	1	-	4	19	73
All hinds	211	4	10	201	8	2	6	186	88

\* Includes one abortion in March 1982

Weaning weights of calves are given in Table 3.

TABLE 3

Weaning weights of hill calves (No. in brackets)

Sex	Liveweight (kg)	
	Sept 81	Sept 82
Stag calves	41.7 (35)	41.0 (40)
Hind calves	37.5 (13)	39.0 (42)

(e) Disposal of calves.

12 calves were sold at auction  
 12 calves were sold to Moredun Institute  
 40 female calves were sold to farmers in Devon  
 1 calf was sold to a farm in Deeside  
 12 calves died (mostly from a serious outbreak of yersiniosis in November  
 while on grass pasture)  
 101 calves are housed at the stading  
 8 calves are still on the hill grazings  
186

Details of calf sales are given in Table 4, and sales and prices for sixteen-month old stags for venison in Table 5.

TABLE 4  
Calf sales and prices

<u>Date</u>	<u>No.</u>	<u>Stock</u>	<u>Buyer</u>	<u>Price</u>	
				head	kg LW
November	6	Hind calves	Auction	£115.00	£2.42
"	2	Stag calves	"	£75.00	£1.42
"	2	Stag calves	"	£78.00	£1.47
"	2	Stag calves	"	£80.00	£1.48
October	12	Stag calves	Moredun	£72.50	£1.42
December	30	Hind calves	Devon frm	£100.00	£2.50
"	10	Hind calves	" "	£90.00	£2.48

TABLE 5  
Sales of sixteen-month old stags for venison

<u>Date</u>	<u>No.</u>	<u>Stock</u>	<u>Buyer</u>	<u>Price</u>	
				head	kg
September/ October	49	16 m stags	Buchan Meat	£98.00	£2.42 *
	4	16 m stags	Mitchell	£56.00	£1.32 **
	1	Adult stag	Mitchell	£96.00	£1.32 **

\* Dead carcass weight      \*\* Larder weight

(f) Replacements. Forty-two calves have been retained for breeding. They are being wintered on hay and concentrates.

(g) Stag disposals. One adult stag was sold to the Rowett Research Institute for £165.

(h) Hind deaths. Two mature hinds died, one while calving. One young hind died while calving. Another young hind died during the summer after aborting in March.

(i) Rut of 1982. The weather was extremely wet throughout the period of late September to end of October. The hinds were mostly in excellent condition and similar in weight to the previous year. Stags were placed with the hinds as early as possible after the calves were weaned. Stags were placed with the Lochhills hinds on 16th September and with the yearlings on 22nd and with the remainder of the hind stock on 24th September.

3. BUILDINGS

The farm office and laboratory at the main deer farm was painted throughout during September and the roof was repaired and made watertight.

## II. SUMMARY OF FLOCK RECORDS 1981/82

Glensaugh

TABLE 1

Reconciliation of ewe numbers 1981/82

Flock		Ewes & gimmers Nov 81	Draft and cast ewes	Deaths No. %	Gimmers brought in Nov 82	Ewes & gimmers Nov 82	Hoggs kept Nov 82
Cairn	Blackface	263	59	12 4.6	68	260	73
Birnie	Blackface	202	44	9 4.5	53	202	74
	Total	465	103	21 4.5	121	462	147
East Finella	NCC	183	62	5 2.7	67	183	52
	EF x NCC	59	2	2 3.4	-	55	22
	Total	242	64	7 2.9	67	238	74
Mid Finella	Blackface	80	9	6 7.5	23	88	-
	Texel x BF	41	7	2 4.9	7	39	19
	BLEic x BF	38	11	2 5.3	13	38	13
	Total	159	27	10 6.3	43	165	32
West Finella	Blackface	77	12	2 2.6	17	80	-
	Texel x BF	37	8	1 2.7	7	35	9
	BLEic x BF	33	8	2 6.1	12	35	8
	Total	147	28	5 3.4	36	150	17
Draft flock	Blackface) NCC ) Greyface )	165	112	12 7.3	44	85	-
Retained for Mid & West Finella	Blackface	-	-	-	-	-	147 *
Station Totals		1178	334	55 4.6	311	1100	417

\* includes 100 Blackface ewe hoggs purchased from Sourhope

N.B. There are 150 Blackface ewes, 56 Blackface gimmers, and 54 Blackface ewe lambs running on the Barnacarry hirsle at Lephinmore which will be transferred to Glensaugh in March 1983. These are not included in table.

## Glensaugh

TABLE 2

Pretupping weights of ewes, gimmers and hoggs - November 1981 & November 1982

Flock		Ewes		Gimmers		Hoggs	
		1981 kg	1982 kg	1981 kg	1982 kg	1981 kg	1982 kg
Cairn	Blackface	51.2	51.2	43.7	43.5	26.2	29.1
Birnie	Blackface	56.6	54.8	47.0	43.8	26.8	32.8
East Finella	NCC	66.9	66.0	57.5	52.0	29.4	30.8
	EF X NCC	62.5	59.8	59.0	-	-	27.8
Mid Finella	Blackface	58.8	53.2	50.3	44.7	29.3	-
	Texel x BF	58.0	58.8	51.5	45.1	27.4	27.9
	BLeic x BF	63.1	60.1	53.1	44.0	36.7	31.6
West Finella	Blackface	52.3	49.1	41.2	40.3	28.3	-
	Texel x BF	55.1	53.9	47.6	43.2	28.5	27.2
	BLeic x BF	56.0	53.6	43.5	44.3	34.5	28.8

Sourhope

TABLE 1

Reconciliation of ewe numbers 1981/2

Flock		Ewes & gimmers Nov 81	Draft and cast ewes	Deaths	Gimmers brought in	Ewes & gimmers Nov 82	Hoggs Nov 82
Fasset	SCC	200	35	12	48	201	40
*NEHL/ Auchope	NCC x SCC	674	119	16	144	683	174
Park Law	NCC	152	37	6	42	151	38
Rigg	Blackface	261	43	7	63	274	66
Gairs	Blackface	281	55	7	64	283	76
Alderhope	Blackface	275	57	8	71	281	80
Banks	Blackface	344	64	12	75	343	78
Total Blackface		1161	219	34	273	1181	300
Station total		2187	410	68	507	2216	552

\* near end Hairney Law

## Sourhope

TABLE 2

Pretupping weights of ewes, gimmers and hoggs - November 1981 & November 1982

Flock		Ewes		Gimmers		Hoggs	
		1981 kg	1982 kg	1981 kg	1982 kg	1981 kg	1982 kg
Rigg	Blackface	59.1	57.1	50.7	50.3	36.2	38.2
Gairs	Blackface	58.7	56.8	51.5	49.1	34.8	36.3
Alderhope	Blackface	61.1	60.0	56.6	51.8	36.6	35.4
*NEHL/ Auchope	NCC x SCC	62.1	60.3	52.1	49.4	35.6	32.2
Park Law	NCC	62.4	64.0	56.9	56.2	36.7	36.8

\* near end Hairney Law

TABLE 3

Wether stock November 1982

Year of Birth	1977	1978	1979	1980	1981	1982
SCC	19	27	30	31	35	32

HOUSE O' MUIR

TABLE 1

Reconciliation of ewe numbers

Ewes and Gimmers Nov 81	Cast	Deaths	Gimmers in	Ewes and Gimmers Nov 82
531	169	9	126	479

TABLE 2

Reconciliation of cattle numbers

## (i) Autumn calvers

	<u>Transferred in</u>			<u>Transferred out</u>			Deaths	Nov 82
	Nov 81	Pur- chases	From spring calvers	To spring calvers	To Hart- wood	To Grazing Ecology		
Hereford/ Friesian	18	9	3	-	5	1	1	33
Blue-Grey	18	24	1	5	17	1	-	20
Totals	36	33	4	5	22	2	1	53

## (ii) Spring calvers

	<u>Transferred in</u>			<u>Transferred out</u>			Deaths	Nov 82
	Nov	Pur- chases	From autumn calvers	To autumn calvers	To Hart- wood	To Grazing Ecology		
Hereford/ Friesian	-	12	-	3	9	-	-	-
Blue-Grey	-	24	5	1	13	1	-	14
Totals	-	36	5	4	22	1	-	14

Hartwood

TABLE 1

Reconciliation of ewe numbers-December 1981 to December 1982

Breed	Ewes and gimmers Dec 1981	Purchases and transfers	Deaths	Sales & transfers to research account	Ewes and gimmers Dec 1982
Blackface	195	60	19	176	60
Greyface	443	649	21	148	923
Total	638	709	40	324	983

TABLE 2

Pretupping weights of ewes and gimmers (kg)

Breed		October 1981	October 1982
Greyface	Ewes	78.2	72.4
	Gimmers	67.3	63.9

TABLE 3

Reconciliation of cattle numbers-1st January to 15th December 1982

	At 1st Jan	Births	Purchases	From HFRO farms	Deaths	Sales	To HFRO other farms	Other loss	At 15.12.82
Cows	164	-	-	-	4	22	5	-	133
Heifers + 2 yo	4	-	48	44	-	5	17	-	73
Bulls	4	-	-	-	-	-	-	-	4
Calves	52	177	6	25	11	72	89	1*	87
Total	224	177	54	69	15	99	111	1	297

\* three-legged calf

## Lephinmore

TABLE 1

Reconciliation of ewe numbers 1981/2

Hirsel	Ewes and gimmers Nov. 1981	Trans- ferred to Glen- saugh	Cast	Death and black loss	Gimmers in	Ewes and gimmers Nov. 1982
Barnacarry/ Feorline	242	18	65	7	56	208
Mid hill	449	-	128	14	96	403
Low end	343	6	132	20	67	252
Totals	1034	24	325	41	219	863

TABLE 2

Reconciliation of cattle numbers 1981/2

	Dec. 1981	Sold	Death	Oct. 1982
Cows	30	3	-	27
Heifers	5	2	-	3 (1 calved)

Red Deer

TABLE 1

Reconciliation of stock numbers 1981-82

	At 1.11. 81	Age trans- fer	Calves born	Purch- ases	Deaths	Sales	Age trans fer	Other losses	At 1.12.82
Aged stags	16	4	-	-	-	1	-	-	19
Prickets	4	5	-	-	-	1	4	-	4
Young stags	5	58	-	1	2	53	5	-	4
Stag calves	62	-	101	-	19	22	58	-	64 **
Mature hinds	185	1	-	-	2	10	-	2*	172
Jinnocks	1	36	-	-	-	-	1	-	36
Young hinds	38	56	-	-	2	-	36	-	56
Hind calves	59	-	100	-	11	47	56	-	45***
Total	370	160	201	1	36	134	160	2	400

\* two hinds missing since the severe weather in December 1981

\*\* includes five unweaned calves on the hill

\*\*\* includes three unweaned calves on the hill

TABLE 2

Liveweight of breeding hinds (No. in brackets)

Hinds born (cohort)	Liveweight(kg) Sept 81	Liveweight(kg) March 82	Liveweight(kg) Sept 82
A 1970	92.2 ( 4)	87.5 ( 4)	91.2 ( 4)
B 1971	87.9 (41)	83.9 (42)	88.4 (42)
C 1972	89.9 (19)	86.2 (20)	89.2 (21)
F 1973	83.7 (16)	77.4 (19)	79.2 (16)
H (1) 1974	83.6 (17)	78.8 (20)	83.4 (20)
H (2) 1974	90.2 (24)	87.1 (25)	90.3 (25)
J (1) 1975	90.0 (16)	85.7 (16)	89.9 (16)
J (2) 1975	87.6 (16)	83.1 (16)	87.2 (16)
K 1978	81.6 (14)	78.2 (15)	83.2 (15)
P 1980	69.3 (28)	70.2 (28)	73.8 (25)
R 1981	-	-	63.0 (37)