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H.F.R.O. 230

HILL FARMING RESEARCH ORGANISATION

FARM REPORTS

AND

SUMMARY OF FLOCK RECORDS

1981

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I. FARM REPORTS - 1931

A. SOURHOPE

WEATHER

Snow fell on the hills during the first half of November, thereafter it turned mild until the 25th when snow fell at the station and lay until the end of the month. During December light snowfalls occurred on several occasions but in all cases were quickly followed by thawing. Precipitation was light throughout January and February, consisting mainly of sleet and snow. Frost occurred periodically but there was no prolonged spell. March opened with two days of heavy rain turning to sleet and snow. Thereafter it became milder with rain falling on most days. The first half of April was very open with little rain, turning colder during the second half of the month with a severe blizzard on the 24th, during the busiest time of lambing. The first week of May was cold, frost alternating with rain and sleet, but the remainder of the month was on the whole warm and mainly dry. June provided broken weather, the rainfall being about average for the month. July continued even more unsettled and wet until the last week which was warm and dry. This warm dry weather continued for most of August and the first week of September; the remainder of the month was wet and frequently windy. The unsettled weather continued into October, the first week being particularly wet. There followed a period of fairly dry weather with overnight frosts, turning milder towards the end of the month.

Rainfall

		<u>Rainfall</u> (mm)
<u>1980</u>	November	120.5
	December	77.3
<u>1981</u>	January	35.1
	February	32.5
	March	169.5
	April	67.8
	May	61.7
	June	65.0
	July	113.4
	August	25.1
	September	119.9
	October	109.7
		<u>997.5</u>

SHEEP

All ewe stock came to the tup in good body condition in November 1980. The tupping period commenced with mild wet weather, this turning to snow towards the end of November. Snow also fell on several occasions in December, the falls in all cases being light and followed by thawing. Hay was fed to the ewe stock as required during February and March in periods of snow cover, and continued to be fed in the lambing areas through April and early May, particular attention being paid to all stock during and after the blizzard of 24th April. Feed blocks were introduced in the middle of January and sugar beet pulp cubes in the middle of February, changing to 13.5% protein cobs at the end of March. Concentrate feeding continued through lambing, ewes nursing twins being fed pencils or cobs until the end of May. Outwintered hoggs were introduced to feed at the beginning of December and fed until their return to their respective hills during the first half of April.

A total of 42.6 kg dry matter (hay, S.B.P., concentrates, and feed blocks combined) was fed on average to all outwintered ewes at a cost of £4.90 per head. This compares with 52.6 kg dry matter at a cost of £5.91 per head during the winter of 1979-80.

With the average feed costs for 1603 outwintered ewes and gimmers at £4.90, the range for individual hefts was from £6.05 to £3.92.

The average feed cost for all outwintered ewe hoggs was £3.79 compared to £4.06 the previous year.

Rigg and Gairs stock was again inwintered, all ewe hoggs being housed on 12th January, Rigg ewes and gimmers on 13th January, and Gairs ewes and gimmers on 23rd January. One hundred and twelve Gairs ewes were involved in a winter shearing experiment in conjunction with Dr A.J.F. Russel, 56 of the ewes being shorn on 27th January, the remaining 56 left unshorn and used as a basis for comparison. This experiment will be more fully reported in the Annual Report.

A total of 121.0 kg dry matter on average was fed to inwintered ewes and gimmers at a cost of £10.24 per head compared with 106.2 kg dry matter at a cost of £8.91 per head in 1979-80.

For the inwintered ewe hoggs, feed costs were £5.40 per head compared with £5.41 in 1979-80.

Some feed data for both inwintered and outwintered sheep are shown in the following tables, the feed items being costed as follows (1979-80 prices in parenthesis): Hay £57/tonne (£66/tonne); Sugar beet pulp cubes £106.53/tonne (£97.48/tonne); Ewebol cobs* £139.52/tonne (£131.58/tonne); Ewebol pencils* £135.40/tonne (£127.40/tonne); Grass nuts £120/tonne (£92/tonne); Ewe and lamb food £159.37/tonne (£149.50/tonne); Barley £111.01/tonne (£119.44/tonne); Uvoblocks £140/tonne (£150/tonne); Colborn feed blocks £188/tonne (£192.86/tonne); Green keil £120/tonne** (£116.80/tonne).

Total expenditure on feed for all outwintered sheep, including ewes, gimmers, ewe hoggs, wethers and tups, expressed per outwintered ewe to the tup, was £7.36 compared to £8.37 for the previous year.

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

** Comprises mixture of dried molasses, sugar beet pulp and dried grass, with added minerals, in cube form.

Hogg Feed Data

	Hay (kg)	Green Keil (kg)	Ewe Cobs or Pencils (kg)	Ewe and Lamb Food (kg)	Average Cost per Hogg
Outwintered Hoggs	12.5	24.4	0.5	0.4	£3.79 (£4.06)*
Inwintered Hoggs	36.5	27.2	-	0.3	£5.40 (£5.41)*

Total Weight DM Fed : Outwintered 37.8 kg
Inwintered 64.0 kg

* 1979-80 costs

Ewe Feed Data

Period		Hay (kg)	Feed Blocks (kg)	Sugar Beet Pulp Cubes (kg)	Concen- trates (kg)	Green Keil (kg)	Average Cost per Ewe
Outwintered Ewes and Gimmers	Storm Feed (i.e. to 23/2 incl.)	1.0	2.5	3.2	-	-	£0.84 (£1.72)*
	Pre-Lambing Feed (i.e. 1/3 to 16/4 incl.)	6.5	1.9	10.9	7.7	-	£2.92 (£3.04)*
	Post-Lambing Feed (i.e. from 17/4 incl. that fed to twins)	1.3	0.8	-	6.7	0.1	£1.14 (£1.15)*
	Total	8.8	5.2	14.1	14.4	0.1	£4.90 (£5.91)*
Inwintered Ewes and Gimmers	Pre-Lambing Feed (i.e. to 16/4 incl.)	63.1	-	22.9	15.9	-	£8.20 (£7.33)*
	Post-Lambing Feed (i.e. from 17/4 incl. that fed to twins)	6.6	-	1.4	10.3	0.3	£2.04 (£1.58)*
	Total	69.7	-	24.3	26.2	0.3	£10.24 (£ 8.91)*

Total Weight DM Fed: Outwintered 42.6 kg
Inwintered 121.0 kg

* 1979-80 costs

The ewe stock lost some bodyweight and condition through the tupping period and early spring, but responded well to pre-lambing feed and entered the lambing fields in good condition. The early lambing ewes of the inwintered hefts of Rigg and Gairs were once more lambed in the inwintering sheds. Ewes nursing twins were fed concentrates until the end of May. Bodyweight recovery through the summer and autumn was good, and the ewe stock once again came to the tup in good body condition in November 1981.

Marking weights, on average, of both singles and twins improved on those of 1980, although numbers were slightly reduced on some hefts largely as a result of the severe blizzard of 24th April. Average weaning weights were up on all hefts with the exception of Auchope where the fall was marginal. There was an abundance of grass throughout the summer, the broken weather of early summer being followed in late July and August by a warm dry period.

Weaning percentages for South Country Cheviot, North Country Cheviot (including NCC x SCC), and Blackface ewes were 91.9, 106.5 and 120.8 respectively, to give an overall weaning percentage of 112.8. This compares with the 1980 weaning percentage of 118.1.

On average both ewe and hogg fleeces were slightly lighter than in 1980, resulting in the total weight of wool graded from Sourhope showing a fall of 2.3% to 5766 kg (including 89 kg shorn in January). The average prices realised were 81.5p/kg for the January clip, and 97p/kg for the main summer clip (97p/kg in 1980).

All ewes, gimmers and hoggs were worm drenched in the autumn, inwintered stock being re-dosed at housing, outwintered stock in March prior to lambing. All twin lambs were worm drenched at marking, and thereafter at three-weekly intervals. Single lambs were worm drenched in mid-July. Incidence of liver fluke in the ewe stock continued to be monitored by the H.F.R.O. Veterinary Section, and no dosing was found to be necessary. All ewes and lambs which were transferred to other H.F.R.O. farms for experimental purposes were, however, both worm and fluke drenched as a preventative measure.

All outwintered sheep were dipped with tick dip in late March. All Cheviot and Blackface twin lambs were summer dipped in July, and all Blackface lambs were treated regularly throughout the summer for headfly. All breeding stock and experimental wethers were dipped with a scab approved winter dip in late September/early October.

All twin lambs received a cobalt chloride drench in July with the exception of the Alderhope twins, where again it was considered that this may affect the results of copper deficiency trials. In October all ewe and wether hoggs and three year old ewes received a cobalt bullet.

With the exception of Rigg and Gairs, all stock ewe lambs and wether lambs retained for experimental purposes received an initial 5 cc anti-clostridial vaccination at weaning and a 2 cc booster six weeks later. The Rigg and Gairs hoggs were vaccinated with different clostridial and pasteurilla vaccines in a trial run by the H.F.R.O. Veterinary Section which will be reported in the Annual Report. All other lambs received a 2 cc initial clostridial vaccination at weaning and a 2 cc booster six weeks later unless sold before this time. All ewes, gimmers and hoggs continue to receive a 2 cc booster during the second half of March.

The lambs housed for fattening in autumn 1981 were vaccinated against pasteurilla pneumonia, as part of a trial run by the Veterinary Section.

Intensive investigation into the induced copper deficiency which affects Blackface lambs grazing the Alderhope reseeds continued through 1981, the results of this investigation being reported in the Annual Report.

Disposal of Lambs

Six hundred and eighty nine lambs were sold through the store market (220 Blackface, 397 NCC x SCC, 72 Blackface x Cheviot), with Cheviot lambs averaging £0.969 per kg liveweight (top price £1.132) and Blackface lambs averaging £0.750 per kg liveweight (top price £0.824).

A total of 397 North Country Cheviot lambs (and NCC x SCC) averaged £27.64 per head (£0.969 per kg liveweight) compared with £21.65 per head (£0.742 per kg liveweight) the previous year, and 220 Blackface lambs averaged £24.79 per head (£0.750 per kg liveweight) compared with £19.87 (£0.627 per kg liveweight) in 1980. In addition 72 Blackface x Cheviot lambs averaged £26.13 (£0.873 per kg liveweight) compared with £21.42 per head (£0.747 per kg liveweight) last year.

In 1980 a total of 431 smaller Blackface lambs were introduced to concentrate feed during September, then housed during October and November and fed on proprietary brands of fattening pencils and hay, 391 being fed on a barley based pencil, the remaining 40 on a lucerne based pellet. The initial ration was 227 gm concentrate and 227 gm hay, the concentrate being increased gradually to a maximum of 1,134 gm/head and hay gradually decreased to 57 gm/head. Seventeen of the 431 lambs died, and one remained unsold at the end of the fattening period, all of these being from the group on the barley based fattening pencil. Three of the deaths were confirmed by postmortem as being caused by acidosis, and it was suspected that most of the other deaths resulted from this cause. The 4.3% death rate of lambs in the main fattening group was disappointing and it was felt that the average time in the shed to fattening of 69 days was too long, the last group of lambs not being sold until 24th February 1981. The 40 lambs on the lucerne based diet, however, achieved a better performance, there being no deaths and the average time in the shed to fattening being 60 days. Lambs were sold over a period from 2nd December 1980 to 24th February 1981 at an average price of £23.74 per head (£1.70 per kg dressed carcase weight).

In 1981 it was decided to continue studies concerning indoor finishing of Blackface lambs. As in 1980, concentrate feed was introduced during September, a total of 200 lambs being housed in the latter half of October and a further 229 in early November. Of the total 429 lambs, 169 were fed on a diet of Green Keil which is a 14% C.P. concentrate containing 50% dried grass and 50% sugar beet pulp, 164 on a 15.5% C.P. concentrate made up of 35% lucerne, 20% sugar beet pulp, 41% barley, and 4% fish meal, and the remaining 96 on a 13.5% C.P. concentrate similar to the 15.5% C.P. diet but without fish meal. All lambs were also fed good quality homeproduced hay. On being housed, the initial diets consisted of approximately 250 gm concentrate and 350 gm hay, the concentrate being increased gradually to a maximum of 1,450 gm, and the hay decreased at the same time to a minimum of 100 gm. A substantial number of lambs on both the Green Keil and 15.5% C.P. diets were eventually put on full ad lib diets of both concentrate and hay for purposes of comparison with the controlled feed groups and to minimise labour time involved. To date 185 lambs have been sold fat (including 80 straight off grass) at an average price of £ 25.89 (£1.78 per kg dressed carcase weight). A further 207 lambs have been sold fat for which there is no price available at the time of writing. One hundred and thirteen lambs remain on fattening rations in the sheep shed. In addition to the above 429 lambs, 50 Blackface lambs went to Bush and were involved in a digestibility trial utilising the three diets mentioned above. This trial is under the supervision of Dr A.J.F. Russel.

In addition to lambs sold through the store market and lambs sold fat, 230 NCC x SCC lambs, 70 SCC lambs, and 199 B.F. lambs were transported to Hartwood to be involved in a fattening trial on various types of foggage. These lambs were sold for £23.52 per head (£1.00 per kg liveweight), £24.94 per head (£0.92 per kg liveweight), and £21.24 per head (£0.75 per kg liveweight) respectively. Thirty Blackface ewe and wether lambs were also sold to H.F.R.O. Veterinary Section as part of the copper deficiency experiment at an average price of £24.30 per head, 10 Blackface lambs to the Ministry of Agriculture laboratories at Lasswade, also at a price of £24.30 per head, and 6 Blackface and 5 Cheviot lambs to R. Young, Yetholm, at £5 per head. In addition 9 Blackface and 4 Cheviot chasers have been sold, prices for which are not yet available. Nineteen Blackface and 4 Cheviot chasers remain to be sold.

The overall average for 1424 lambs sold to date for which prices are available is £24.93 which compares with an overall sale average of £21.83 in 1980.

Details of the disposal of the 1981 lamb crop are as follows:

Ewe lambs retained as stock replacements	541
Wether lambs retained as wether stock replacements	36
Tup lambs for breeding	4
Lambs sold for fattening on foggage	499
Lambs sold for experimental purposes	40
Lambs sold store (including 11 to R. Young)	700
Lambs sold fat	405
Lambs as yet unsold (including 50 at Bush)	186
	<hr/>
Total	2411
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Draft and Cast Ewes

The majority of Blackface and Cheviot draft ewes were sold within H.F.R.O. for experimental purposes, 101 Blackface ewes being sold to Dr Gunn at an average price of £23.00 per head, a further 60 Blackface ewes to Dr Maxwell also at £23.00 per head, and 106 NCC x SCC ewes to Dr Rhind at an average price of £26.00 per head. Fifty-six Blackface draft and case ewes have been sold fat at an average price of £21.96 per head, and 62 Cheviot draft and cast ewes at an average price of £19.36 per head. Twenty-six Blackface and 4 Cheviot draft and cast ewes remain to be sold.

Death Rate

The overall death rate of the sheep stock was 3.0% in the twelve months since November 1980, with the death rate of ewes, gimmers, and hoggs being 3.7%, 2.3% and 1.3% respectively.

The overall death rate in 1980 was also 3.0%.

Sheep Stock Autumn 1981

The autumn has not been as wet as in 1980, wet mild weather alternating with short periods of moderate frost, and again the breeding sheep generally have come to the tup in good condition. Weather at the beginning of tugging was reasonably open, but a period of hard frost set in on the 8th December and this intensified. Heavy snow fell on the night of Sunday, 13th December, and hay feeding commenced to all ewes and hoggs on Monday 14th. A further blizzard on Sunday, 20th December, made conditions considerably worse, and as from Tuesday, 22nd December, ewes were fed on sugar beet pulp and hay.

CATTLE

The suckler herd comprised 42 cows in November 1980. High magnesium cow cobs were introduced in early December and 1.2 kg/head/day was fed throughout December, January and early February, together with approximately 7 kg/head/day of good quality barley straw and hay. In mid-February 26 cows were transferred to Moredun Institute to be involved in the continuing experimental work directed towards developing a "calf scour" vaccine. These cows were returned to Sourhope with calves at food, 14 on 25th March and the remaining 12 on 16th April. The cows remaining at Sourhope, and the 26 on their return from Moredun continued to receive approximately 1.2 kg/head/day of cow cobs, with silage replacing hay and straw from February until May. The silage was fed ad lib from self-feed silage trailers.

Eight Friesian x Hereford bulling heifers were bought between February and April to bring the total herd to 50.

Total Feed Costs (50)*

	£
Hay	9.38 tonnes @ £ 57.00/tonne = 534.38
Straw	9.74 tonnes @ £ 22.51/tonne = 219.25
Calf pencils	0.10 tonnes @ £141.50/tonne = 14.15
Cow cobs	8.23 tonnes @ £137.83/tonne = 1133.65
Ewebol cobs	0.38 tonnes @ £139.52/tonne = 52.32
Total	£1953.75**

Cost per cow excluding silage = £39.08

* Including 8 bulling heifers bought between February and April 1981

** This figure excludes feed fed to 26 cows housed at A.D.R.A., Moredun, for an average period of 8 weeks through the winter.

Of the 42 cows, one died and five were eild. This makes a total of 36 calves reared from 42 cows put to the bull. Fifteen bulling heifers were bought in late August 1981, 12 being AA x Friesian and 3 Welsh Black x Friesian.

The horned Hereford bull was sold at Wooler Auction Mart on 14th October, 1981, and replaced by a two-year-old polled Hereford bull bought at Bosomworths, Gorgie, on 23rd October 1981.

The suckler herd was again managed in the usual manner, grazing where required on the Development Project and other areas.

Some calf performance data for 1981 is shown in the following table:

Sex	Nos.	Average Birth Weight (kg)	Average Weaning Weight (kg)	Average Live-weight Gain Birth - Weaning (kg)	Average Daily Live-weight Gain (kg)
Bullock	14	41.6	287.6	245.8	1.09
Heifer	22	36.7	276.9	240.4	1.03
All calves	36	38.6	281.3	242.6	1.05

Thirty-two calves were sold at the October sales to average £267.34, a rise of £55.01 on 1980. Price and weight is shown in the following table:

	Number sold		Weight* (kg)		Price/head		Price p/kg	
	1981	1980	1981	1980	1981	1980	1981	1980
Hereford "x" bullocks	13	17	282	274	303.00	236.24	107.6	86.2
Hereford "x" heifers	19	19	268	267	242.95	190.95	90.5	71.4
Overall	32	36	274	271	267.34	212.33	97.7	78.5

*Weights given are those at sale ring entrance

One bullock and three heifer calves are being overwintered

OPEN DAY

On Wednesday 3rd June a highly successful Open Day was held at Sourhope to show visitors how work at this hill research station has progressed since the previous Open Day of 7th June 1973. As on the latter occasion the weather was excellent and some 800 visitors were shown round in the course of the day.

Sincere thanks are due to all members of the Hill Farming Research Organisation for their part in ensuring a successful day. In this station report, however, it is with particular pleasure that tribute is paid to all members of the resident station staff for their unremitting efforts over the days preceding the Open Day to ensure a successful outcome.

B. HOUSE O' MUIRWEATHER

December 1980 was fairly wet, though mild. After some fairly heavy snow in January it continued showery and cool through to a further fall of snow and sleet at the beginning of lambing (April). The remaining part of lambing was fairly dry, though wetter than in 1979/80. The summer was average for the area and reasonable hay could be made in the spells of good weather.

The following table compares the current year's rainfall with that of 1979/80.

	<u>Rainfall</u>	
	<u>Rainfall 1980/81 (mm)</u>	<u>Rainfall 1979/80 (mm)</u>
December 1980	104.8	143.0
January 1981	35.5	64.8
February 1981	44.3	33.5
March 1981	98.0	86.1
April 1981	17.8	9.9
May 1981	46.5	19.5
June 1981	64.9	95.6
July 1981	69.1	66.5
August 1981	7.3	105.7
September 1981	117.4	53.3
October 1981	169.3	100.5
November 1981	93.0	134.0
Total	<u>867.9</u>	<u>912.4</u>

The ten year average is 815.7

SHEEP

Five hundred and twenty-six ewes were put to the ram in November 1980. Of these 30 were a group of East Friesland x Blackface ewes formerly involved in experimental work which were put to the Suffolk Ram.

A total of 628 lambs were marked as against 599 in 1980. The increase was due to 26 more ewes going to the ram. The weaning percentage was almost identical to that of 1980 (see Table 2).

Slightly less hay was fed to ewes than in the previous year. The per head costs of winter feeding were as follows:-

Concentrate:	30 kg/head at £145/tonne - £4.35)	£6.27
Hay:	35 kg/head at £ 55/tonne - £1.92)	

The hoggs were as usual away-wintered until January and then brought home to Glencorse to be trained to eat concentrate.

The cost of hay and concentrate was £3.40 per head.

The wool clip was slightly lighter than in the previous year but an increase in the price per kg brought the return from wool to a par with 1980.

Disposal of Lambs and Cast Ewes

A total of 628 lambs were marked and disposed of as follows:-

Sold fat	19
Sold store	130
Sold to Hartwood for lamb finishing studies	339
Retained for stock replacements	130
Deaths since weaning	10
	<u>628</u>

Prices attained for Store Lambs

B.F. wedder lambs	£27.70
B.F. ewe lambs	£23.00

Prices for lambs sold to Hartwood

	Price/head
302 B.F.	£20.01
37 Down X	£27.04

The price attained for these lambs was based on liveweights and the current average market price per kilo.

A total of 101 ewes were cast in 1981. Of these 48 were transferred to the research programme and 53 sold as feeding ewes.

Prices

30 East Friesland x Blackface	£14.50
23 Blackface	£11.00

CATTLE

The House o' Muir herd was transferred to Hartwood in its entirety during 1981.

The spring calvers, comprising 18 Hereford Friesian and 4 Blue Greys with calves at foot were transferred during August and the autumn calvers comprising 6 Hereford Friesian and 5 Blue Greys were transferred in December after calving at House o' Muir.

Eighteen Hereford Friesian and 18 Blue Grey heifers were purchased during September and October as replacements for the Hartwood herd and brought to House o' Muir.

An Aberdeen Angus bull was purchased at the Perth sales and joined with the heifers on 1 December 1981.

Some Home-bred calves were overwintered and sold early in the year, realising the following prices:-

Date	Breed	Number	Sex	Average price/head
15/2	x AA	1	M	£364
11/3	x AA	1	M	£385
	x AA	2	F	£303
11/4	x Charolais	4	M	£352
	x Charolais	3	F	£329
25/4	x Charolais	6	M	£353
	x Charolais	1	F	£300

BUILDINGS

No major building work was carried out during 1981, but some electrical work involving the fitting of water-proof switches and power points in the metabolism building on the advice of the Health and Safety Executive Inspector was completed.

FENCING

No fencing was carried out on the hill during 1981 but some 300 yards of fencing was replaced in the rented Lawn Park by contracted labour.

MUIRBURN

No muirburn was made during 1981.

SHELTER BELTS

No additional shelter belts were planted during 1981.

CROPPING

The 6 acre Garage Field, which was sown with rape in 1979/80 was returned to long-term pasture and a good sward established. Hay was made in the 4 acre Steading field and some 10 tonnes of good quality hay was harvested.

C. HARTWOODWEATHER

As yet no weather records are kept at Hartwood to provide accurate meteorological data. Generally speaking the winter of 1980/81 was cold and very wet. There were periods of snow but never enough to create a problem. February and early March continued cold and fairly wet and thereafter drier weather was the order of the day until mid June. The summer was very mixed in the early part with a considerable amount of rain. By the end of July this gave way to a good spell of weather which lasted until mid September; from then until the end of October another spell of mixed weather was experienced and after that some six weeks of very wet conditions followed. From then until the date of writing (mid December) an extremely cold spell with snow and heavy frost has been experienced.

CATTLE

All cattle were outwintered during the 1980-81 winter. With the wet weather this resulted in fairly extensive damage to pastures,

The wintered stock consisted of 57 Beef Cows and some 66 head of Dairy and Dairy cross animals taken over from the Hospital Board. Feeding was silage based, with barley + appropriate minerals and vitamins. (See Table I).

Calving took place between February and April. Calf birth-weights are shown in Table II. Throughout the grazing period most of the cows and calves were used in the Research Programme. Calf weaning weights are given in Table III.

During the summer and autumn the herd size was increased by transfers from Glensnaugh (78 cows) and House o' Muir (34 cows). Where calves were not required on other stations they were transferred with the cows. In addition 18 Hereford/Friesian bulling heifers were purchased in June and 18 Blue Grey bulling heifers in October. A Charolais Bull and an Aberdeen Angus Bull were purchased in October; one Charolais Bull was transferred from Glensnaugh and another from House o' Muir.

The 36 bulling heifers have been sent to House o' Muir along with the Aberdeen Angus Bull where they will be mated and then returned to Hartwood either before or just after calving.

During the year all Hospital Board stock have been sold with the exception of four small heifers which will be going shortly.

It was necessary to hire 2 Charolais Bulls during the summer until our own bull numbers were made up. An Aberdeen Angus Bull was hired to bull a few of the Dairy Heifers so that they could be sold as in-calf animals.

Table I. Beef Cow Feeding 1980-81

	Silage	Barley + Supplement	Straw
NOV/DEC Daily Ration	24 kg	1.2 kg	4.5 kg
JAN/FEB Daily Ration	45 kg	2.3 kg	4.5 kg
FEB to CALVING Daily Ration	45 kg	-	4.5 kg
CALVING to TURNOUT Daily Ration	45 kg	4.0 kg	-

Table II. Calf Birth Weights 1981 (kg)

BREED	HEIFERS	BULLOCKS
Charolais x Hereford/Friesian	40.5	43.4
Charolais x Blue/Grey	37.9	40.4

Table III. Calf Weaning Weights 1981 (kg)

BREED	HEIFERS	BULLOCKS
Charolais x Hereford/Friesian	228.9	256.3
Charolais x Blue/Grey	216.5	220.0

CALF SALES 1981

Apart from 4 very small calves all calves were sold Oct/Nov 1981, including calves transferred with their dams from House o' Muir.

PRICES OBTAINEDTable IV. Sold Lanark 7/10/81

NO.	BREED	SEX	AVERAGE PRICE
3	AA cross	M	£287
2	AA cross	F	£218
8	Charolais cross	M	£291
5	Charolais cross	F	£267

Bullock Calves
Average Price 90p/kg

Heifer Calves
Average Price 95p/kg

Table V. Sold to Glensaugh October 1981

NO.	BREED	SEX	AVERAGE PRICE
14	Charolais cross	M	£227
16	Charolais cross	F	£215

Charged at
96p/kg for Bullock calves and
91p/kg for Heifer Calves

Table VI. Sold Lanark 3/11/81

NO.	BREED	SEX	AVERAGE PRICE	
2	AA cross	M	£218	<u>Bullock Calves</u>
1	Friesian	M	£231	<u>Average Price 100p/kg</u>
16	Charolais cross	M	£259	<u>Heifer Calves</u>
14	Charolais cross	F	£217	<u>Average Price 95p/kg</u>

At the date of this report the beef cow number at Hartwood is 163, together with 36 bulling heifers at House o' Muir.

CATTLE WINTERING 1981-82

Work has continued throughout the year on the Atcost shed and the new cattle shed and although not fully completed it has been possible to house all cattle stocks this winter. This should mean very much less pasture damage and also more accurate control of feed. Winter feeding this year is in accordance with Research Programme requirements, with one group on a silage based ration and the other on hay, together with a home grown cereal supplement.

VETERINARY TREATMENT OF CATTLE

All cattle were given routine anthelmintic treatment during 1981. Adults were dosed in the spring and again at housing during October, while calves were treated on three separate occasions throughout the season. Little sign of coughing was noticed among the stock.

Dry cow therapy was applied as necessary, and this was supplemented at times by applications of Stockholm Tar to udders, and by fly-spraying. There were some cases of summer mastitis but this did not constitute a major problem. There were a few cases of New Forest Disease, which responded to treatment.

A Brucellosis test was conducted on 29th July, and all cattle passed successfully.

The main health problems in cattle arose among young calves in March and April and among adult stock in the autumn. A widespread outbreak of scour among calves occurred around March 20th while the spring calves were running at Ladylands. All calves were treated with Chloramphenicol as a precaution and given a booster of 5 cc multivitamins. The outbreak persisted for a considerable time, odd cases still being treated near the end of April, by which time all calves had been transferred to the Nurses Home fields.

The most serious cattle losses occurred between September 10th and October 6th when five adult cows died. Two of these animals were among a group drafted in from House o' Muir, while the other three were from the experimental spring calving herd which was in its second season of grazing

trials at Hartwood. Post-mortem examination revealed that both the cows from House o' Muir had died of Fog Fever. Hypomagnesaemia appears to have been the main cause of death in the other group, although these animals had free access to high magnesium minerals and were also given Magnesium Acetate through their drinking water. However, intake by the latter pathway may have been minimised due to high rainfall. Other stress factors, including calf suckling and the sudden onset of adverse weather, may also have contributed. In one case in this group, the findings were complicated by the post-mortem discovery of Fog Fever symptoms, despite no drastic change in pasture quality, and also of Fascioliasis.

These events may determine the nature of cattle movement onto hay and silage aftermath at Hartwood in the future. Blood magnesium levels in cattle, especially those under stress, towards the critical end-of-season period will have to be carefully monitored. High-magnesium cobs may need to be fed at this period, and also at turn-out. Fluke dosing may also become routine procedure, if the search for snail sites on Hartwood proves positive.

SHEEP (Breeding Ewes)

At 1/12/80 the Greyface Ewe stock numbered 386 and this was increased by a transfer of a further 109 ewes from Glensaugh in mid December. The ewes were fed silage in the early part of the winter. The basic ration was altered to hay and beet pulp 5 weeks prior to lambing. A supplement of home grown barley plus protein balancer was fed from 7 weeks pre-lambing (see Table VII).

Table VII. Feed Periods and Daily Rates (not including any late feeding on experiment)

FEED	PERIOD	AMOUNT/HEAD/DAY
Silage only	12 weeks - 4 weeks	3 kg - 4 weeks
	Pre-partum	5 kg - 4 weeks
		Reducing in last week as hay started
Hay	5 weeks	500 gms - 2 weeks
	Pre-partum	750 gms - 3 weeks
Sugar Beet Pulp	5 weeks	500 gms
	Pre-partum	
Barley + Protein Supplement	Lambing to grass	2 weeks @ 250 gms
		2 weeks @ 270 gms
		3 weeks @ 500 gms

Two hundred and twenty ewes were in-wintered from February to lambing in the plastic sheep house and Rosehall hayshed. The remainder were out-wintered. The ewes were moved to Hillhouse and Officials in mid March and lambing took place on this area. After lambing ewes and lambs were moved on to the experimental paddocks as required and those not required for experiment went to spare ground in Block C.

Throughout 1981 a further 168 GF gimmers were purchased and 36 home reared gimmers Ex Glensaugh were added to the flock.

Due to Research Programme requirements at Bush and Glensaugh involving transfers from Hartwood during the late summer and autumn of 1981 it was decided to purchase 195 draft BF ewes in order to increase stock numbers.

Fifty ewes were transferred to Glensaugh and will return in the late summer of 1982. They have not been included in the figures given in Table I of the livestock reconciliation section.

A total of 638 GF and BF ewes went to the ram in November 1981. The 443 BF ewes were put to the Dorset Down Ram and the 195 BF ewes to the Suffolk Down Ram.

Disposal of Lambs - 1981 Crop

The weaning percentage (131.3%) was not as good as had been hoped due mainly to mild ewes in the over-age group. A very high ewe death rate also occurred in this group, pneumonia being the main cause.

Eleven orphan or triplet lambs were sold early and 639 were weaned in July. They were disposed of as follows:

Sold as young lambs	11
Sold fat off grass	355
Sold to Research Account	20
Transferred to Lamb Fattening Study	262
Deaths since weaning	2
	<hr/>
	650
	<hr/>

Average price received for lambs sold fat off grass was £32.09 with a top of £34.08 for 97 sold off mothers in July when dead weight price was high.

SHEEP (Lamb Finishing)

A reduced grain acreage and much increased forage crop acreage provided an opportunity to set up a lamb fattening trial as well as the commercial finishing of lambs. Lambs were purchased from other HFR0 farms to supplement those available from the Hartwood stock.

Purchased were:-

House o' Muir	339
Glensaugh	500
Lephinmore	248
Sourhope	499
Provided by Hartwood	262
	<hr/>
	1848
	<hr/>

The lambs were mainly BF, but Cheviot types and Dorset Down Crosses were also included.

Just over 900 lambs went to the lamb fattening trials; these were run on grass initially and then on Tyfon, Rape and Turnips.

The remainder, just over 900, went on to grass and then to finishing on a commercial basis.

At the date of writing approximately 775 have gone off fat and carcasses examined in connection with the lamb fattening trial. Full details of the trials can not be given as the work is not yet complete.

SHEEP STOCK (Grazing)

A wether stock of about 130 was carried to meet experimental requirements in Block A during the summer months along with 80 hogs from Bush. Approximately 100 are being wintered at Hartwood.

CROPPING

In 1981 the cropping policy of the farm was significantly changed. While the Silage/Hay area was roughly the same as before, the Grain crop was cut from 66.3 ha to approximately 20.0 ha, and in place of this almost 30 ha Forage Crops were grown. In addition some 8 ha Arable Silage was grown. This was cut in July and followed by a Rape crop which was sown, after a Paraquat burn-off and rotovation, during the first week in August.

A substantial programme of weed control was carried out using "Round Up" and Paraquat and this resulted in very good crops of rape, tyfon and turnips, as well as dealing with the weed grass problem on the areas in question. Some 50 ha were treated. Normal weed control spraying was carried out on grain crops, grassland and on direct reseeds which had not been given the total treatment.

In addition to the normal cropping, the reclamation of the Pellwood Open Cast Coal site was undertaken by normal farm staff and after considerable expense and labour in-puts a very satisfactory reseed has been achieved.

Cropping 1981

Barley	20.0 ha
Rape	18.7 ha
Rape after Arable Silage	7.5 ha
Turnips	5.0 ha
Tyfon	5.6 ha
Under-sown grass	20.0 ha
Direct reseed	46.9 ha
Grass silage	48.4 ha
Arable silage	8.0 ha
Hay	10.0 ha

Despite the weather at harvest time where the later ripening part of the crop missed the good spell, a very satisfactory Grain yield of 4.7 tonnes/ha was obtained. Roughly 900 tonnes silage was made, and 40-45 tonnes hay.

FENCING

The fencing programme continued throughout the early part of the year but had to be stopped due to lack of finance before all that was required was completed.

Approximately 10,000 metres were erected on contract with outside labour and some 1650 metres erected by farm staff.

BUILDINGS

Work on the cattle complex and new silage pits continued. These are now operational although not wholly completed.

The large Dutch Barn was re-sheeted where necessary, together with the Rosehall Hayshed. A proper loading bank was constructed on the site of the old dungstead. Pens in the handling area for cattle were erected. The old Red Brick Byre in front of the Steading was demolished and the site levelled. In addition to the Farm Buildings a plastic sheep house to hold about 100 was erected.

Two new houses were built, and are occupied by the Officer in Charge and the Shepherd.

Various other structural alterations were carried out in the Office/Laboratory block.

ROADWORKS

Apart from access sections and handling areas no major roadworks were carried out.

PIT BING

The small bing at the bottom of Ladylands has been levelled.

SHEEP DIPPER

Work has now commenced on this project and a circular tank has been installed.

OPEN DAYS

Two limited Open Days were held in November - one for Local Farmers and the other for HFRO staff.

STAFF CHANGES

A.L. Fairlie took over as Officer in Charge in February.

G.T. Barthram was transferred from Glensaugh.

H. Habblett was transferred from Glensaugh as shepherd at Hartwood.

Miss Lynne Fairlie was transferred from Glensaugh as an Experimental worker with cattle at Hartwood.

T.K. Whyte has been appointed to Hartwood to work on the Cattle Research Programme but has not yet taken up duties.

D. RED DEER FARMWEATHER

The autumn of 1980 was wet with periods of thick mist on the deer farm. There was a heavy fall of snow in mid-November but the winter was similar to that of 1979-80, with complete snow cover for only a few days at a time. Spring brought generally mild weather with rain which continued through the summer until a warm, dry spell in early August. The autumn of 1981 was very wet with exceptionally strong winds. There were no long periods of mist even on the higher parts of the deer farm.

1980 RUT

Rutting groups on the main farm were turned out on October 7th. The reseeds were used for two experiments. The first was to investigate the social facilitation of oestrous in young hinds and the second experiment was a comparison between two groups of hinds, to one group of which the stag was admitted on September 15th and to the second of which the stag was introduced on September 29th. In the past the stags have usually been introduced at the end of the first week in October. Both stags were rutting well by the first week in October. The first calf on the deer farm was born to a hind from one of the early rut groups on May 17th, five days earlier than has previously been recorded on the deer farm.

WINTERING

Nineteen yearlings and two, 2-year-olds were held in East Greenshiels from early December and fed 1 lb/head/day concentrate and ad. lib. hay.

Hay feeding for the rest of the outwintered stock started on January 5th and continued until April 8th. The hay was of average quality and very little of it was eaten before the end of February. Up to this time the hinds were given small amounts of silage and Rumex blocks were also supplied. Over the winter a total of 9.7 tonne of hay was fed to outwintered stock at the deer farm. This, together with the hay fed at the Lochhills makes a total of 20.9 tonne for all outwintered stock. The small amount of hay fed at the deer farm reflects the mild winter conditions. Since the removal of 68 hinds to the Lochhills in 1980, there has been much more natural vegetation on the hill for the hinds to eat than in previous winters, when the stocking rate was much higher.

Concentrate feeding for hinds at 1 lb/head/day started on May 6th and finished on June 8th.

CALVING 1981

The first calf, born on May 17th, was the earliest ever recorded on the deer farm. Forty-eight calves were born before June 1st, many of these being born to hinds from the early rut groups. Sixty-four hinds were calves on the reseeds and were released to the Upper Farm in mid August.

Ten hinds were calved in East Greenshiels as part of a lactation experiment conducted by Dr Milne (HFRO) and Dr A. Loudon, Edinburgh University. A further twenty-four hinds were calved on a newly enclosed area of the Banks, adjacent to the Lochhills project. These hinds were also part of the lactation experiment.

Of the 184 hinds to the stag, 8 were yeld. The calves were strong and healthy. Two undersized calves were born, one as a dead calf. The second survived and was successfully weaned. One abortion was recorded in mid April.

Deer farm birth weights were similar to last year, males averaging 8.2 kg and females averaging 7.6 kg. The incidence of calving dystokia at the deer farm and the Lochhills was exceptionally high, especially so in one of the systems groups at the Lochhills. A total of eleven hinds were assisted at birth, a figure almost double that of the previous year. However no hinds died as a result of the calving difficulties.

Of the four assisted births at the deer farm, two involved dead calves and two resulted in abandoned calves. Of the seven cases of calving dystokia at the Lochhills, six occurred in the same group of 34 hinds. These hinds were wintered on the hill area and brought onto the grass for summer.

From the recorded cases of assisted births, there is no obvious factor which might be responsible for the difficulties. Calf birth weights this year ranged from 6.9 kg to 9.3 kg. The calving difficulties occurred in both small and large hinds. The hinds had received no concentrate feeding in the three weeks prior to calving.

Calves were housed at weaning on September 16th and 23rd. Weaning weights were similar to those of last year (Table 4). Hind liveweights are shown in Table 3 and reproductive performance in Table 2.

DISPOSAL OF STOCK

a) 1980 CALVES

12 stag calves to Rowett Research Institute
 10 stag calves to the red deer auction at Beauly
 3 stag calves artificially reared for stock
 12 hind calves artificially reared for stock
 94 stag and hind calves on in-wintering experiments
 4 small Lochhills calves to be kept until autumn of 1982
 5 calves on hill, to be weaned

Four of the calves sent to Beauly were artificially reared, and they fetched between £50 and £55/head. The six naturally reared calves which were bigger animals fetched between £60 and £70/head.

b) 1979 BORN HINDS

Of the nineteen hind calves retained for stock replacement, six were sold to the Rowett Research Institute in November 1980 and a further 12 were sold to the Rowett in April 1981.

c) VENISON SALES

Price offered for a carcass in skin was 60p/lb. A total of 38 yearling stags were sold to J. Bains & Son, Tarves where they were butchered for commercial sale, organised by the Rowett Research Institute.

A total of 17 two-year-old stags and 46 yearlings were slaughtered.

d) STAGS

Three stock stags were culled on September 22nd. Three stags were sent to the Rowett Research Institute for the rut, two will be returned to Glensaugh.

This year for the first time stags were sedated before removing their antlers in September.

HIND DEATHS

One two-year-old hind was sent to the Rowett Research Institute in very poor condition in June. The post mortem result was inconclusive, and there was no apparent reason for her poor condition. One hind was found dead in the Goyle, probably having died at calving in 1980.

On the Lochhills one hind died in June from a perforated ulcer of the colon and rectum.

FENCES

The state of the fencing continues to deteriorate, long stretches of the perimeter fence around Greenshiels, the Birnie and the Goyle need to be replaced. The perimeter fence around Gariot/Gaerlie has suffered frost damage during the winter of 1980-81. As a result, it is becoming increasingly difficult to hold the stock within the deer farm and there have been several escapes to the outside. The perimeter fence of Mid Shank was netted this summer to repair damage done by fence-walking during calving.

Over the years mud has been washed down the Panhandle and has been accumulating in the feeding area and at the back of the hay shed and store. This area was bulldozed clear at the beginning of autumn to prevent flooding in the hay sheds and stores.

A new fence was erected in May in East Greenshiels, enclosing a race up from West Greenshiels to the feeding area. In early May the Banks was fenced off providing two paddocks and a central holding area adjacent to the pens.

EXPERIMENTS 1980-81I Inwintering

a) Twenty-eight deer farm stag calves were penned in 4 groups as follows:

1. Natural daylength, 0.4 kg/h/d barley supplement, ad lib hay
2. Natural daylength, 0.4 kg/h/d barley supplement, ad lib straw
3. Extended daylength, 12 hours, 0.4 kg/h/d barley supplement, ad lib hay
4. Extended daylength, 12 hours, 0.4 kg/h/d barley supplement, ad lib straw

Both pens on hay gained more weight than those on straw and there was a 5 kg range among the four pens at turnout on April 30th. The calves were released to the Upper Farm reseeds where they were summered. Most of the calves were slaughtered on October 20th.

b) A second inwintering experiment was carried out with the calves from the Lochhills systems experiment. After all the calves had been weaned and housed for 2 weeks, half of the calves were returned to the Lochhills for a period of autumn grazing in Hogg Park 3. The second group of calves remained inside and were divided into two groups, one on a 0.7 kg/h/d barley supplement ration, the other on a 0.4 kg/h/d ration. Both groups received hay ad lib when the Hogg Park 3 group was turned out on October 22nd, there was a 0.5 kg difference in weight between it and the housed group. When the Hogg Park 3 group was brought in on December 9th, the difference had risen to 4 kg, the Hogg Park 3 group being heavier. This group was similarly divided into a high and low barley group at housing. At turnout on April 24th to Hogg Park 3, there was a 6 kg weight range among the 4 groups. Eight small hind calves were removed at this point to the deer farm reseeds. The main group of calves were summered

on Hogg Park 3 at a stocking rate of 7/acre. On September 10th, 27 hinds were removed to the deer farm from the rut. The 22 remaining stags were slaughtered on September 21st.

Sixteen of the 18 stags returned from the previous year's wintering experiment were also slaughtered this autumn.

II Lactation

Three groups each of ten hinds were set up before calving for a lactation experiment conducted by Dr. J.A. Milne (HFR0) and Dr. A. Loudon (Edinburgh University). The first group was held in West Greenshiels, on an area of hill ground. The other two groups were held on the Banks, in areas which were deer fenced in May and which provided a high plane and a low plane of nutrition.

Calf growth rates and milk production by a calf suckling technique were measured throughout the summer on the high plane and at West Greenshiels.

These various studies will be reported more fully in the Annual Report.

III The Lochhills Systems Experiment

The two groups of hinds, A and B, were wintered on the hill and a small enclosed area respectively. Group B was fed its entire nutritional requirements throughout the winter. Hay feeding for this group started on November 26th and finished on May 6th; a total of 9.7 tonnes was fed. By contrast, 1.5 tonnes were fed to the hill group. The winter feeding cost per hind for the hill group was £4.40; this compares with £21.70/hind for those wintered on the small enclosure.

The hinds were released to Forestry Parks 1 and 2 for summer grazing on dates ranging from May 1st to May 6th.

a) Calving

The calving on the Lochhills was late in comparison with the main deer farm. This resulted in numerous small, late-born calves at weaning time. The high incidence of calving dystokia has been indicated earlier. None of the mismothering seen in the previous year occurred this summer and the hinds have settled down well to their new surroundings.

A variety of calf shelters and hides were built to provide shelter for the young calves. Unfortunately all models but one were destroyed by the hinds within days and sometimes hours. The surviving hide was a curved corrugated iron sheet attached at each end to stakes driven into the ground. These hides were used by all ages of calves.

b) Weaning

Weaning weights were down on last year, reflecting the late calving. Birth weights and weaning weights are given in Table 1.

Table 1. Lochhills Birth and Weaning Weights (Nos. in brackets)

Sex	Birth Weights		Weaning Weights	
	Forestry 1	Forestry 2	Forestry 1	Forestry 2
Stag calves	8.2 (18)	8.8 (19)	36.1 (17)	40.4 (12)
Hind calves	7.4 (15)	8.4 (13)	30.9 (13)	38.2 (10)

The calves were housed at weaning and fed concentrates and hay for ten days before being released to Hogg Park 3 for a period of autumn grazing. The small, late-born calves were penned separately and fed a high ration of concentrates and hay. These calves were not released back to Hogg Park 3 after weaning and have grown very well inside.

After being returned to pasture after weaning five calves contracted *Yersinia* and three subsequently died. The calves were housed again on November 10th and have been put on an inwintering experiment where silage is being fed for the first time. New pens have been constructed for this experiment in the hay shed adjacent to the cattle shed at Glensaugh.

c) Grazing and Conservation

Forestry 1 and 2 had very high levels of available herbage throughout the summer and the grass had to be topped on July 3rd. In future it is planned to put the hinds onto the grass in spring when the available pasture reaches 1200 kg DM/ha. This year the pasture level was standing at 1975 kg DM/ha and 2215 kg DM/ha for Forestry 1 and 2 respectively when the hinds were put out to the grass.

Hogg Parks 1 and 2 were cut for silage on July 13th.

d) Fencing

Two additional races were built in spring; one from Hogg Park 3 along the top of Hogg Parks 1 and 2, and one from Forestry Park 2 along the top of Forestry Park 1. Both races worked well and greatly reduced the gathering problems experienced in the previous year.

E. LEPHINMOREWEATHER

January was wet. February began dry and mild but turned colder mid month, with snow lying above 600 ft. from 20th onwards. The first half of March was very wet with some warm sunny days and good growth mid month cut short by a cold spell with night frost and snow showers. April was warm and sunny turning colder towards mid month. Lambing weather was excellent and similar to last year but warmer with more grass. May was a good month with sufficient rain to ensure good growth and very warm and humid in the last week with thunder showers. The first half of June was cold and wet; no clipping was possible and silage making was held up. The second half was warmer but predominantly dull with drizzle and showers. July had no settled spell of fine weather. August was drier than usual and September spoiled by an exceptionally wet second half. October and November were also wet and a good first week in December was followed by a prolonged period of snow lying from sea level with very hard frost which necessitated the hand feeding of hay to all hirsels from 15th to 30th December.

Precipitation 1981

<u>Month</u>	<u>mm</u>
January	219.7
February	142.0
March	173.7
April	29.7
May	95.2
June	110.0
July	99.8
August	47.7
September	296.2
October	233.4
November	308.6
December	80.3
	<hr/>
	1836.3

SHEEP

All ewes came through the winter in lean condition with Barnacarry slightly stronger. No storm feeding was necessary other than to Low End for seven days in late February. Midhill ewes were offered Rumevite from 20th January and consumed 130 blocks at a cost of £520; late pregnancy feeding of concentrates at 0.22 kg per head per day began on 9th March. Fifty lean ewes were taken off during February and March and subsequently housed until after lambing. By lambing feed levels had increased to 0.45 kg per head per day. A total of 3.15 tonnes of hay was fed to Midhill. Fifty lean ewes were wintered at a feed cost of £4.26 and the remainder at £3.25. Midhill hogs were housed on 5th December and wintered on a ration of 0.11 kg. concentrates and 0.68 kg hay returning to the hill on 8th April. Feed cost per hogg was £7.10.

Low End

The mid-pregnancy nutrition experiment continues to operate in revised form under Dr A. Russel involving six groups of ewes. Average feed cost per ewe was £4.50. Ewe hogs were housed on 14th November receiving a ration of 0.11 kg concentrates and 0.68 kg hay until 8th April when they returned to the hill. Feed cost per hogg was £8.30.

Barnacarry

A total of 134 Rumovite blocks was offered from 3rd February until the end of lambing at a cost of £1.95 per ewe. The ewe hoggs were housed on 14th October and taught to feed, receiving ultimately 0.11 kg. concentrates and 0.68 kg hay. On 3rd November they returned to the forest plantation wintering area on Barnacarry/Feorline where they received 0.11 kg concentrates per head per day; hay on offer was refused. On 29th January 21 hoggs which had not been regularly feeding at the trough were re-housed on a ration of 0.17 kg concentrates and 0.68 kg hay. The outwintered hoggs received 0.17 kg concentrates and an offer of hay which averaged 0.18 kg per head per day. Average feed costs per hogg was £4.97.

Lamb weaning weights on all hirsels were low with a large 'tail' of small lambs. Overall weaning percentage was 89. Figures for previous years were:-

	%
1980	78
1979	84
1978	86
1977	80
1976	88
1975	85
1974	87
1973	97

Lamb Sales

Two hundred and forty-eight lambs of all weight range were consigned to Hartwood at a price of £16 per head. Forty-eight wedder lambs were sold at Stirling on 26th August at £20.80 per head. Fifty shott ewe lambs realised £11.50 at Stirling on 2nd September and 7 wedder lambs made £19.80. Thirty-three rigg lambs were sold at Paisley on 14th September and averaged £5 per head. Of 192 ewe and wedder lambs consigned to ten acres of home grown rape 41 were sold fat averaging £21 per head and 68 were sold store realising £15 per head. The remainder are being in-shed fattened on a ration of hay plus a concentrate containing a mixture of sugar beet pulp and dried grass. Twenty-one lambs were retained for experimental wedder pool and a further 36 ewe and wedder lambs too small for sale are being over-wintered.

On 5th October 42 draft ewes were sold at Stirling realising £18 per head and a further 42 feeding ewes on 7th October at £13.60 per head. Twenty-one feeding ewes were sold at Paisley on 12th October at £8.80 per head. On 28th October 27 feeding ewes realised £9 and a further 15 ewes averaged £16.75, 3 gimmers realised £15.80. On 4th November 8 gimmers realised £29.50, 2 sow mouthed gimmers realised £23.80 and two 2½ year olds £19.80. On 11th November 9 fat ewes averaged £22.25, 4 gimmers averaged £24 and 2 sow mouthed gimmers realised £19.80. On 9th December, again at Stirling, 16 cast ewes realised £24.20 and a further 25 ewes made £17.60. Fifteen draft ewes were sold privately at £14 per head and a further 12 T.O.H. ewes consigned to Bush. Sixteen cast ewes and 2 cast gimmers remain on the farm for sale.

HILL CATTLE

The 'in-bye' cows were contained on the Leachd grazings from 21st October until 24th December; due to the poor quality of these grazings a total of 40 kg of concentrates per head was offered. Barnacarry hill cows came down on 23rd December 1980 in lean condition and commenced silage feeding. Throughout the winter the cows in lean condition were fed and housed separately with additional silage and concentrates being offered. Average winter feed costs per cow was £81 plus a straw charge of £25 per cow. Calving commenced mid February; 1 cow was eild in each group and both were sold early in April.

Two cows in the in-bye herd reared twins. One cow in the hill group aborted at 8 months. Three in calf heifers and 1 eild heifer previously surplus to requirements were allocated to the herds. The total stock of 27 cows and 5 heifers reared 31 calves to weaning including 1 x Friesian bought in. One calf disappeared on the hill without trace during the summer. Fifteen bullock calves and 13 heifer calves were sold at Dalnally on 16th October and 1 calf blind since birth was sold privately for £140 along with a 1½ year old bullock which made £280. Two heifer calves are being over wintered for stock replacements. One cow died in September from suspected 'staggers'.

Calf Prices

<u>Bullocks</u>	<u>Market Wt.</u>	<u>Price/Head</u>
2	248 kg	£245
2	215	207
4	195	181
5	172	190
2	165	147
 <u>Heifers</u>		
3	210	199
4	192	193
3	150	115
2	177	137
1 (x Friesian)	160	145

The 2 eild cows sold in April realised £374 and £308.

Calf Weaning Weights

<u>Herd</u>	<u>No.</u>	<u>1980</u>	<u>No.</u>	<u>1981</u>
		<u>21st Oct.</u> kg		<u>14th Oct.</u> kg
Hill heifers	8	207	9	189
Hill bullocks	2	208	4	181
In-bye heifers	9	209	7	186
In-bye bullocks	5	232	11	194

Cattle numbers at December 1981:-

	<u>In-bye</u>	<u>Barnacarry Hill</u>
Cows	12	14
Calved heifers	2	2
In-calf heifers	1	-
Bulling heifers		2
Yearling heifers		2

Two Charolais bulls were used on half of each herd. Unfortunately 1 animal proved ineffective due to lameness. The remainder of the cows were mated with the 2 stock Luing bulls.

Silage valued at £15 per tonne
 Hay valued at £61 per tonne
 Concentrates valued at £140 per tonne
 Straw valued at £34 per tonne

ARABLE GROUND

Silage cutting started on 6th June but little progress was made until the 16th due to inclement weather, but thereafter a cut from Field 1 and Field 4 was quickly secured. A second cut was taken from Field 4 in mid August and a total of approximately 150 tonnes made. Fields 2 and 3 North were reseeded with 'silage mixtures' under rape at the beginning of July with 175 kgs per acre compound (20-10-10) applied at seeding. Field 3 North was grazed with lambs from 1st September and Field 2 from mid September. Lambs were slow to fatten due to almost continuous rain throughout the autumn.

HILL GROUND

The 17 acre and 20 acre reseeds on the Low End hirsels were given 100 kgs per acre compound (20-10-10) on 4th May and 24th June respectively but due partly to the inclement weather prevailing in June and July and more positively to the inhospitable environment and poor soil conditions, the outlay was not considered to represent value for money.

HEATHER BURNING

Eight acres approximately was burned adjacent to the Low End Forestry plantation in anticipation of the laying down of a 12 acre reseed for long term use in connection with the existing Low End research programme.

FENCING

The Barnacarry/Kilbridemore march fence was not replaced as anticipated but short term repairs were effected hopefully to contain the stock for a further year.

BUILDINGS AND ROADS

Only essential maintenance was carried out. All staff cottages were fitted with a solid fuel central heating system.

PRELIMINARY GRAZING TRIAL - GOATS

In order to establish inter alia the relative grazing habit of goats, in June 1981 under the direction of G. Bolton 14 Anglo-Nubian goats on loan from ADRA in Edinburgh and 7 Blackface wethers were assigned to two equal and similar areas in P2 which had been enclosed to provide 50% improved pasture and 50% indigenous vegetation. Results were spectacular and apparently conclusive in that the goats ignored clover, almost totally, and concentrated their grazing on the indigenous vegetation and clumps of rushes that had invaded the improved area.

F. GLENSAUGHWEATHER

The winter was again open and wet, snowfalls were light and of short duration. Apart from a few days in April, the weather at lambing was good. The spring was mild and earlier than for some years. Summer was mild and although wet at times had excellent spells of sunshine, autumn however was wet and windy.

SHEEPSTOCKS

The remaining 109 greyface ewes of the inbye flock were transferred to Hartwood in December. The cost of wintering the ewe stocks was less than last year but overall performance was also down on the year, although weaning weights of lambs were very similar. The winter feeding levels and costs are given in Table A. as overleaf.

Lamb Mortality was similar to last year on most hefts and was still high on the Cairn hirsels where lambs were lost in mid-summer from a combination of tick borne fever and pneumonia. All the lambs on the mosaic reseeds were treated with penicillin and this cleared up the problem immediately. Losses on all hefts are shown in Table B.

Table B. Lamb Mortality

Flock	Born Alive	Deaths			
		Birth to Marking	Marking to Weaning	Total	Percentage
Cairn	252	27	19	46	18.3
Birnie	232	15	5	20	8.6
W. Finella	171	10	5	15	8.8
M. Finella	204	16	-	16	7.8
E. Finella	278	21	5	26	9.4
Draft B.F.	166	5	-	5	3.0
Total	1303	94	34	128	9.8

Lamb Disposal

Some lambs were sold store at Laurencekirk Mart, and some were transferred to Hartwood for fattening. Those lambs of sufficient weight and fat at weaning were sold in the fat ring.

Table C. Lamb Disposal

Breed	Sold	Hartwood	Deaths
			Wean to Disposal
Blackface	34	287	2
Greyface & Texel Cross	102	40	1
Dorset Cross	145	78	0
North Country Cheviot	53	126	3
East Friesland cross	0	0	0
Total	334	531	6

Table A. Winter Feeding of Sheep Stocks

FLOCK	HAY			CONCENTRATES			Total cost
	Dates fed	Amount kg	Cost £	Dates fed	Amount kg	Cost £	
<u>WIPES</u> Cairn	28 Nov. - 13 Apr.	29.0	1.74	9 Jan. - 22 May	43.17	6.13	7.87
Birnie	28 Nov. - 6 Mar.	10.6	0.63	9 Mar. - 12 May	31.15*	5.25	5.88
W. Finella	28 Nov. - 13 Apr.	29.0	1.74	2 Mar. - 15 May	29.10*	4.34	6.08
M. Finella	28 Nov. - 10 Apr.	37.0	2.16	2 Mar. - 13 May	31.5*	4.74	6.90
E. Finella	27 Nov. - 21 Apr.	52.4	3.14	2 Mar. - 13 May	38.6*	5.79	8.93
<u>HOGGS</u> *							
Cairn	27 Nov. - 9 Apr.	78.0	4.68	8 Dec. - 9 Apr.	34.0	4.85	9.53
Birnie	27 Nov. - 9 Apr.	78.0	4.68	18 Dec. - 9 Apr.	34.0	4.85	9.53
W. Finella	27 Nov. - 10 Apr.	43.4	2.60	19 Dec. - 10 Apr.	21.7	2.85	5.45
M. Finella	27 Nov. - 10 Apr.	43.4	2.60	19 Dec. - 10 Apr.	21.7	2.85	5.45
E. Finella	27 Nov. - 10 Apr.	43.4	2.60	19 Dec. - 10 Apr.	21.7	2.85	5.45

Feed costed at: Hay £60 per tonne; Concentrate Ewemax at £142.80; Rumevite Blocks (22.5 kg) £4.12 per block

* The amount and cost of concentrates consumed includes Rumevite blocks which were fed in early and late pregnancy as follows:-

Birnie	10 January to 8 March
E. Finella	17 December to 1 March
M. Finella	19 December to 5 March
W. Finella	19 December to 5 March

Table D. Lamb Sale Prices

Breed	Estimated Dead Carcass Weight (Kilos)	Price at Mart	Subsidy	Total Price per head
<u>SOLD FAT 31/8/81</u>				
		£	£	£
Dorset Cross lambs	19.5	22.35	11.94	34.29
Dorset Cross lambs	19.0	22.05	11.63	33.68
Dorset Cross lambs	18.0	20.45	11.02	31.47
Dorset Cross lambs	17.5	19.75	10.71	30.46
NCC lambs	19.0	21.75	11.63	33.38
Greyface lambs	18.5	21.75	11.33	33.08
Greyface lambs	17.0	18.95	10.41	29.36
B.F. lambs	17.5	19.35	10.71	30.06
<u>SOLD STORE LAURENCEKIRK 5/9/81</u>				
	Average Live Weight (Kilos)	Price per kilo		
Dorset cross (ewe & wether)	31.0	92.5 p		28.70
Dorset cross (ewe & wether)	30.0	93.0 p		27.95
Greyface (ewe & wether)	30.0	94.8 p		28.45
Greyface (ewe & wether)	28.0	94.1 p		26.35
NCC (ewe & wether)	30.0	96.8 p		29.05
B.F. (wether)	26.0	74.0 p		19.25
<u>SOLD TO HARTWOOD (STORE)</u>				
Dorset cross (ewes & wethers)	28.0	90.0 p		25.20
NCC (ewes and wethers)	27.0	90.0 p		24.30
B.F. (ewes and wethers)	26.0	75.0 p		19.50

CAST EWES

The over-age draft flock was sold along with the regular age drafts. Draft ewes of B.F., N.C.C. and Greyface breeds were purchased for an experiment. The details of disposals and purchases are shown in Table E.

Table E. Disposal of Cast & Cull Ewes and Gimmers

Breed	Cast - Sept. 81		Sold	Retained for Breeding	Purchased 1981
	Ewes	Gimmers			
Blackface	137	3	101	39	59
Greyface & Texel cross	30	0	30	0	50
North Country cheviot	42	0	21	21	57
Greyface ewes to Hartwood	109	0	109	0	-
Draft flock	158	0	158	0	-
Total	476	3	419	60	166*

* Ewes purchased for Dr Alexander and including seven north country cheviots added to the East Finella flock.

The sale of the average draft ewes commenced in April, those which had lost their lambs or were cild, were sold fat at Laurencekirk. All drafts were broken mouthed but some leaner ewes were sold as being correct below. Most of the ewes which were not in fat condition were sold as feeders.

Table F. Cast Ewe Prices

Breed	Bottom Price	Average Price	Top Price
<u>SOLD FAT</u>	£	£	£
B.F.	20.90	23.44	27.80
Greyface	23.00	26.46	34.90
NCC	19.95	21.20	28.70
<u>SOLD AT FEEDERS</u>			
B.F.	10.90	12.63	14.90
Greyface	18.40	20.03	20.10
NCC	12.00	13.85	14.00

CATTLE

All the remaining suckler cows were transferred to Hartwood in August after weaning the calves.

Four culled Hereford/Friesian cows were sold fat at Laurencekirk on 19th January for £431, £399, £379 and £321. The 'Newhouse' Charolais bull was sold fat also at Laurencekirk Mart for £874.

Commercial cattle

Sixty of the best of the inwintered stirks fed on silage and barley straw were sold at Laurencekirk on 7th March 1981 with the prices shown in Table G.

Table G.

Breed	No.	Liveweight	Price per kilo	Price per head
Charolais x Bullocks	3	220	98.6	217
Charolais x Bullocks	2	250	94.8	237
Charolais x Bullocks	3	260	99.6	259
Charolais x Bullocks	5	265	100.3	266
Charolais x Bullocks	3	265	99.2	263
Charolais x Bullocks	4	270	98.8	267
Charolais x Bullocks	6	260	101.7	285
Charolais x Bullocks	2	305	105.9	323
Charolais x Heifers	4	220	95.9	211
Charolais x Heifers	5	245	94.3	231
Charolais x Heifers	6	245	98.3	241
Charolais x Heifers	5	250	99.6	249
Charolais x Heifers	5	280	97.5	273
Hereford x Bullocks	3	310	81.6	253
Friesian x Bullocks	3	310	84.2	261

Some 62 stirks were kept on in the courts and were put out to grass in May. These were sold at Laurencekirk Mart in a forward store conditioned off the grass in August and October. The prices realised are shown in Table H.

Table H.

Breed	Price per kilo		Price per head	
	Bottom	Top	Bottom	Top
<u>SALE 8-8-81 (23)</u>	p	p	£	£
Charolais Bullocks	89.5	102.2	333	409
Charolais Heifers	86.5	92.0	329	363.50
Hereford x Bullocks	-	86.5	-	333
<u>SALE 22-8-81 (24)</u>				
Charolais Bullocks	92.3	95.2	323	355
Charolais Heifers	92.5	94.0	316.50	323
AA x Friesian Heifers	73.0	75.6	257	259
<u>SALE 10-10-81 (15)</u>				
Charolais Bullocks	89.1	90.6	319	355
Charolais Heifers	90.6	92.5	333	359
Hereford x Bullocks	88.0	89.1	301	319
Hereford x Heifers	82.9	87.8	267	333.50
AA x Friesian Heifers	-	60.5	-	213

Of the 72 calves weaned in August some 30 were selected for use in an experiment in the cubicle house and were joined by another 30 cross Charolais calves from Hartwood. The calves will be individually fed on silage and concentrates.

The 42 calves not on experiment are being wintered on silage in the cattle courts.

Table I. Weaning Weights of Calves (kg)
(Numbers in brackets)

Breeding	Heifers	Bullocks
Charolais x Blue-Grey	235.5 (20)	237.6 (21)
Charolais x Hereford-Friesian	261.9 (16)	252.7 (15)

CROPS

A total of 30 tonnes of hay and 400 tonnes of silage were made during the year.

MUIRBURN

This year was probably the best year for burning heather for a long time. Good burns were made on the Cairn and Birnie hills.

STRAW

Some 55 acres of straw in the bout were purchased, baled and stored.

STAFF

Mr Habblett, shepherd on the Cairns, Birnie and West Finella hefts moved to Hartwood on 1st June.

Mr James Turner has been appointed temporary shepherd until September 1982.

Mr Mike Begg resigned on 30th September 1981.

II. SUMMARY OF FLOCK RECORDS 1980/81A. SOURHOPETable 1. Reconciliation of Ewe Numbers 1980-81

Heft	Ewes and Gimmers Nov. 1980	Draft and Cast Ewes	Deaths	Gimmers brought in	Hoggs Nov. 1981	Ewes and Gimmers Nov. 1981
<u>S.C.C.</u> Fassot	186	28	9	51	49	200
<u>S.C.C. x H.C.C.</u> NEHL/Auchope	649	110	19	154	151	674
<u>N.C.C.</u> Park Law	164	35	9*	32	44	152
<u>BLACKFACE</u>						
Rigg	266	68	9	72	64	261
Gairs	272	48	12	69	73	261
Alderhope	266	57	7	73	74	275
Banks	338	72	10	88	81	344
Total B.F.	1142	245	38	302	292	1161
STATION TOTAL	2141	418	75	539	536	2187

*This figure includes 5 ewes culled for scrapie

Table 2. Wether Stock November 1981

Year of birth	1976	1977	1978	1979	1980	1981
S.C.C.	24	19	28	30	33	36

Table 3. Weights of Ewes, Gimmers and Hoggs

Heft	EWES		GIMMERS		HOGGS	
	November 1980	November 1981	November 1980	November 1981	November 1980	April 1981
Rigg B.F.	56.1	59.1	51.2	50.7	32.4	35.5
Gairs B.F.	58.1	58.7	54.2	51.5	35.6	36.7
Alderhope B.F.	61.2	61.1	55.2	56.6	37.4	38.3
N.E.H.L./Auchope						
NCC x SCC	62.9	62.1	51.6	52.1	37.4	33.3
Park Law N.C.C.	62.8	62.4	56.5	56.9	36.2	36.8

Table 4. Weaning Percentages and Lamb Liveweights
1980/81

Heft	Ewes to Tup	Lambs Weaned			Weaning Weights	
		Total No.	Percentage		Singles (kg)	Twins (kg)
			1980	1981		
Fasset S.C.C.	186	171	90.3	91.9	-	-
N.E.H.L./Auchope SCC x NCC Park Law N.C.C.	649 164	675 191	118.2 108.1	104.0 116.5	26.7 28.1	26.2 26.1
Total N.C. (+ S.C.C. x N.C.C.)	813	866	116.2	106.5	27.0	26.2
Alderhope B.F.	266	333	129.5	127.1	33.1	26.4
Banks B.F.	338	395	117.0	116.9	-	-
Rigg B.F.	266	315	121.6	118.4	29.6	29.4
Gairs B.F.	272	331	129.9	121.7	32.7	27.9
Total B.F.	1142	1379	123.9	120.8	31.7	27.3
Station Total	2141	2415	118.1	112.8	-	-

B. HOUSE O' MUIRTable 1. Reconciliation of Ewe Numbers 1980/81

Ewes and Gimmers Nov. 1980	Cast Ewes Culled	Deaths	Gimmers brought in	Ewes and Gimmers Nov. 1980
526	101	18	124	531

Table 2. Weaning percentages

Group	Ewes to Ram Nov. 1980	Lambs weaned			
		1981		1980	
		Number	Percentage	Number	Percentage
Normal hill stock	496	579	116.7		
E.F. x B.F. to Suffolk ram	30	49	163.3		
All Groups	526	628	119.4	599	119.8

C. HARTWOODTable 1. Reconciliation of Ewes and Gimmers 1980/81

Breed	Ewes & Gimmers Nov. 1980	Cast & Cull	Deaths	Transfers Out	Gimmers Brought In	Ewes Brought In	Transfers In	Ewes & Gimmers Nov. 1981
Greyface	386	103	50*	103	204	-	109	443
Blackface	-	-	-	-	-	195	-	195
TOTAL	386	103	50	103	204	195	109	638

* Of the 50 deaths 19 were in the over-age group of ewes. The main cause of death in all age groups was pneumonia.

Table 2. Weaning Percentage

Breed	Ewes mated	Lambs weaned	
		Number	Percentage
Greyface	495*	650	131.3

* Includes 109 transferred from Glensaugh mid December 1980

Table 3. Liveweight (kg) of Ewes and Gimmers

Breed	Age	October 1980	October 1981
Greyface	1976	64.3	78.5
	1977	64.3	76.6
	1978	62.3	83.3
	1979	66.3	75.7
	1980	-	67.3 (Gimmers)

Table 4. Reconciliation of Beef Cow Numbers

No. at Dec. 1980	Sales	Deaths	Purchases	Transfers In	No. at Dec. 1981
58	1	6	36	112	199*

*This figure includes the 36 Bulling Heifers currently at House o' Muir

D. RED DEERTable 1. Reconciliation of Stock Numbers 1980-81

STOCK	No. at 1.11.80	Additions			Reductions				No. at 20.11.81
		Age Transfers	Calves Born	Pur.	Deaths	Sales	Age Transfers	Other Losses	
Aged Stags	21	0	0	0	0	5	0	0	16
Prickets	2	21	0	0	1	17	0	1+	4
Young Stags	24	50	0	0	0	48	21	0	5 [†]
Stag Calves	60	0	102	0	18	28	50	4 [‡]	62 [†]
Mature hinds	174	16	0	0	3	1	0	1 [♁]	185
Jinnocks	16	13	0	0	0	12	16	0	1
Young hinds	19	37	0	0	0	6	13	0	37 [†]
Hind calves	68 [*] /69	0	74	0	14	32	37	1 [♁]	59 [†]
TOTALS	385	137	176	0	35	148	137	8	370

+ Not seen for 1 year ‡ Escaped [♁] C20 not seen for 1 year [♁] Escaped

[†] Includes 5 on hill

Table 2. Reproductive performance of herd

Herd	Hinds to Stag	No. of Calves Born	No. of Calves born Dead	A/R	A/R died	Deaths Birth/Wean N/R Calves	No. of Weaned Calves	% Weaned
MAIN FARM A,B,C,F	86	85	2	13	4	7	72*	84
UPPER FARM H & J	76 [♁]	72	3	7	1	5	63*	83
Ks	15	14	0	2	1	0	13	86
SPARE HINDS	7 [♁]	5	0	1	0	0	5*	71

* Includes 5 calves still on hill (estimate) [♁] 1 unrecorded [♁] 1 unrecorded

Table 3. Liveweights of Breeding Hinds (Nos. in brackets)

Hinds Born	Weight Sept. 1980	Weight Mar. 1981	Weight Sept. 1981
A 1970	84 (4)	82.0 (4)	92.2 (4)
B 1971	84.4 (38)	78.5 (42)	87.9 (41)
C 1972	86.5 (20)	80.0 (21)	89.9 (19)
F 1973	77.8 (14)	73.6 (19)	83.7 (16)
H 1974 (1)	81.2 (17)	74.8 (16)	83.6 (17)
H 1974 (2)	90.3 (24)	82.3 (24)	90.2 (24)
J 1975 (1)	38.7 (16)	80.5 (16)	90.0 (16)
J 1975 (2)	87.1 (16)	79.0 (16)	87.6 (16)
K 1978	72.7 (16)	69.8 (16)	81.6 (14)

Table 4. Weaning weights of calves (Nos. in brackets)

SEX	SEPT. 1980	SEPT. 1981
Stag calves	41.6 (27)	41.7 (35)
Hind calves	37.0 (28)	37.5 (13)

E. LEPHINMORETable 1. Reconciliation of Ewe Numbers 1980/81

Hirsel	Ewes & Gimmers Nov. 1980	Cast	Deaths & Black loss in brackets	Gimmers brought in	Hoggs 1981	Ewes & Gimmers Nov. 1981
Barnacarry/ Feorline	282	76	21 (14)	52		237
Midhill	468	112	27 (15)	114		443
Low End	336	56	20 (15)	83	90	343

Note revised figures for Ewes + Gimmers Nov. 1980

Table 2. Weaning Percentages

Hirsel	Ewes & Gimmers to Tup	Lambs Total	Weaned % 1981	1980	Weaning Weights kg Singles	Twins
Barnacarry/ Feorline	274	238	80.0	78.3	26.1	22.0
Midhill	453	395	87.2	81.7	23.5	21.5
Low End	336	312	92.8	72.8	25.7	21.0

Table 3. Weights of Ewes, Gimmers, Hoggs (kg) 1980/81

Hirsel	Ewes		Gimmers		Hoggs	
	Nov. 1980	Nov. 1981	Nov. 1980	Nov. 1981	Nov. 1980	Nov. 1981
Barnacarry/ Feorline	47.0	47.2	40.5	41.0	28.6	23.8
Midhill	49.1	47.8	43.0	40.5	23.9	22.8
Low End	52.9	51.6	45.0	43.1	-	-

F. GLENSAUGHTable 1. Reconciliation of Ewe Numbers

Flock	Breed	Ewes & Gimmers Nov. '80	Cast and Cull	Dead		Gimmers brought in Nov. '81	Ewes transferred to Cairn	Ewes & Gimmers Nov. '81	Hoggs born 1981
				No.	%				
<u>Cairn</u> <u>Birnie</u>	BF	201	27	16	8.0	74(31)*	-	263	72
	BF	208	36	6	2.9	56	20	202	74
	TOTAL	409	63	22	5.4	130	20	465	146
<u>East Finella</u>	NCC	159	21	1	0.6	39(7)**	-	183	69
	EF x NCC	33	-	1	3.0	27	-	59	-
	TOTAL	192	21	2	1.0	66	-	242	69
<u>Mid Finella</u>	BF	86	14	2	2.3	21	11	80	23
	Tex x BF	34	4	-	-	11	-	41	8
	BL x BF	35	7	-	-	10	-	38	13
	TOTAL	155	25	2	1.3	42	11	159	44
<u>West Finella</u>	BF	74	19	-	-	22	-	77	20
	Tex x BF	35	10	-	-	12	-	37	7
	BL x BF	34	11	-	-	10	-	33	13
	TOTAL	143	40	-	-	44	-	147	40
<u>Greyfaces</u>		109	109 ^x	-	-	-	-	-	-
<u>Draft Flock</u>		167	161	-	-	-	-	6	-
<u>Alexander Ewes</u>		169	-	3	1.8	-	7	159	-
TOTALS		1344	419	29	-	282	38	1178	299

* 31 ewes transferred from Birnie and Finella,

** 7 ewes purchased September 1981,

+ to Hartwood.

Table 2. Weaning Percentages and Lamb Live Weights

Flock	Ewe Breed	Ewes to Tup	Lambs Weaned			Wean Weights	
			1981		1980 %	Singles	Twins
			No.	%			
<u>Cairn</u>	BF	201	206	102.5	105.6	27.2	25.7
<u>Birnie</u>	BF	208	212	101.9	113.6	29.0	25.0
<u>East Finella</u>	NCC	159	209	131.4	113.4	31.8	26.7
	NCC x EF	33	43	130.3	-	32.6	27.3
	TOTAL	192	252	131.3	113.4	31.9	26.8
<u>Mid Finella</u>	BF	86	96	111.6	128.0	33.5	26.6
	Tex x BF	34	49	144.1	150.0	36.0	26.0
	BL x BF	35	43	122.9	179.5	37.4	30.6
	TOTAL	155	188	121.3	145.7	35.3	28.0
<u>West Finella</u>	BF	74	72	97.3	115.5	30.2	22.6
	Tex x BF	35	38	108.6	128.6	32.2	29.2
	BL x BF	34	46	135.3	145.7	31.7	28.5
	TOTAL	143	156	109.1	126.2	31.4	27.0
<u>Draft Flock</u>	BF	161	161	100	97	-	-

Table 3. Live Weight (kg) of Sheep - November 1980 and 1981

Flock	Ewe Breed	Ewes		Gimmers		Hoggs	
		1980	1981	1980	1981	1980	1981
<u>Cairn</u>	BF	59.7	51.2	52.7	53.0	31.6	29.1
<u>Birnie</u>	BF	58.6	56.6	50.3	47.0	33.7	26.8
<u>East Finella</u>	NCC	65.7	66.9	56.7	57.5	32.3	29.4
	EF x NCC	-	62.5	57.2	59.0	32.4	-
<u>Mid Finella</u>	BF	64.4	58.8	56.6	50.3	32.1	29.3
	Tex x BF	62.9	58.0	56.9	51.5	36.4	27.4
	BL x BF	66.6	63.1	59.9	53.1	31.8	36.7
<u>West Finella</u>	BF	59.7	52.3	48.3	41.2	29.6	28.3
	Tex x BF	61.4	55.1	53.3	47.6	31.2	28.5
	BL x BF	63.4	56.0	54.8	43.5	33.0	34.5