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HFRO 236

HILL FARMING RESEARCH ORGANISATION

Farm Reports and summary of flock records

1983

C O N T E N T S

I FARM REPORTS 1983

GLENSAUGH FARM

1. WEATHER

The early part of the winter was mild and sunny but early in the new year the weather changed to periods of severe frosts with snow and sleet. This misty weather persisted until the first week in March when the mild open weather returned and lasted until the middle of April. The last two weeks of April and most of May were atrocious, very wet and with snow drifting up to 3 feet in the lambing fields. There was considerable flooding, temperatures were well below the seasonal norm. The cold east winds persisted into June. By mid June the weather improved and became very warm and sunny but by mid August, drought conditions prevailed for the second year in succession. Rain came again in late September and the autumn was mild and sunny, probably the best autumn weather for some years.

2. SHEEP

(a) Tupping 1982. The autumn grass was generally good and the weather also good and although the ewes were lighter than one would have wished, they tupped well and there were few returns to first service. A total of 1391 lambs were born alive to the 1277 ewes put to the tup.

(b) Winter feeding. The Cairn and Birnie hirsels were fed some concentrates during tupping. Because of the weather conditions and lack of grass in the spring, all hefts were fed concentrates until the end of May. Hay consumption was slightly down on last year but costs were similar. The details are shown in Table 1.

TABLE 1

Winter feeding of sheepstocks

Flock	Hay			Concentrates			Per ewe
	Dates fed	Per ewe Amount kg	Cost £	Dates fed	Per ewe Amount kg	Cost £	Total Cost £
Ewes							
Cairn	10.12.82-20.4.83	22.9	1.60	8.11.82- 3.6.83	58.6	8.20	9.80
Birnie	1. 2.83-16.2.83	8.3	0.58	12.11.82-30.5.83	45.4	6.35	6.93
East Finella	5. 2.83-25.3.83	19.9	1.39	14. 2.83-27.5.83	44.7	6.26	9.04*
Mid Finella	5. 2.83-25.3.83	20.6	1.44	7. 2.83-27.5.83	40.2	5.63	7.22*
West Finella	5. 2.83-25.3.83	22.7	1.59	7. 2.83-27.5.83	42.5	5.95	7.71*
Ex Lephinmore	3. 3.83-21.4.83	28.1	1.97	3. 3.83- 3.6.83	47.9	6.70	8.67
Hoggs							
Cairn	7. 1.83-15.4.83	79.6	5.56	7. 1.83-15.4.83	27.5	3.85	9.41
Birnie	7. 1.83-21.4.83	85.0	5.95	7. 1.83-21.4.83	29.4	4.11	10.06
Finella NCC + Crosses	6.12.83-11.4.83	76.0	5.32	29.11.83-11.4.83	39.5	5.15	10.47
B.F.	6.12.83- 5.4.83	83.2	5.82	29.11.83-11.4.83	29.2	4.08	9.90

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Feed costed at - Hay £70 per tonne, Concentrate £140 per tonne, Oats £110 per tonne and Rumevite blocks (22.5 kg) £4.35 per block.

* Includes cost of Rumevite blocks fed as follows:-

East Finella	20.12.82-13.2.83
Mid Finella	28. 1.83- 6.2.83
West Finella	28. 1.83- 6.2.83

(c) Lambing. The ewes came through lambing in good condition but the cold weather throughout the period together with the snow and torrential rain made the lambing a nightmore for all concerned. Lambs were being born into snow or flooded field situations in near-freezing temperatures. Almost 20% of the lamb crop was lost at this time. The reproductive performance of the flock is shown in Table 2.

(d) Wool crop. The total weight of wool clipped was almost identical to that of last year at 3,733 kg but the average price was up on last year at 87.2 pence per kg (80.5).

(e) Weaning. The late spring and the mid-summer drought both retarded lamb growth rates and lambs were much smaller than usual. The details for each heft are shown in Table 2.

TABLE 2

Weaning percentages and lamb liveweights

Flock	Ewe breed	Ewes to tup	Lambs weaned 1983 No.	1983 %	1982 %	Singles	Twins
Cairn	Blackface	260	162	62.3	90.9	23.8	21.1
Birnie	Blackface	202	199	98.5	102.5	30.6	22.4
East Fin	NCC	183	135	73.8	118.0	26.6	24.3
	EF x NCC	55	69	125.5	142.4	31.2	32.8
	Total	238	204	85.7	124.0	27.4	29.0
Mid Fin	Blackface	88	76	86.4	127.5	28.5	22.1
	Texel x BF	39	49	125.6	100.0	29.8	25.8
	BL x BF	38	41	107.9	102.6	28.3	24.1
	Total	165	166	100.6	114.5	28.7	24.1
West Fin	Blackface	80	71	88.8	119.5	26.1	21.7
	Texel x BF	35	36	102.9	97.3	29.3	21.7
	BL x BF	35	32	91.4	78.8	28.2	22.8
	Total	150	139	92.7	104.8	27.5	22.0
Drafts	NCC	41	28	68.3	88.0	32.1	30.3
Lephinmore	Blackface	221	169	76.5	-	23.6	24.9

(f) Lamb losses. Most of the losses occurred in the lambing fields when the worst weather coincided with the peak of lambing. Ewes despite feeding were short of milk. Details of lamb mortality are shown in Table 3.

TABLE 3

Lamb mortality

Flock	Born Alive	Deaths: Birth to mark	Deaths: Mark to wean	Deaths: Total	%
Cairn	257	81	14	95	37.0
Birnie	268	56	13	69	25.7
East Finella	244	34	6	40	16.4
Mid Finella	201	29	6	35	17.4
West Finella	171	22	10	32	18.7
Draft NCC	39	7	4	11	28.2
Lephinmore	211	31	11	42	19.9
Total	1391	260	64	324	23.3

(g) Lamb crop disposal. Ewe lambs were smaller on all hefts and so fewer were retained for stock replacement. Lamb sales were slightly up on last year. The details are shown in Table 4.

TABLE 4

Lamb disposal

Breed	Fat	Sales: Store	Sales: Hartwood	Retained for breeding	Deaths from Wean to Disposal	Total
Blackface		375	13	130	4	522
GF x Texel x		151		10	1	162
Dorset x		206			0	206
NCC		68	14	20	0	102
EF x NCC		19		17	0	36
Suff. x EF X	39	0	0	0	0	39
Totals	39	819	27	177	5	1067

(h) Store lamb sale prices. Despite their smaller size, the lambs sold well - all were sold at the Laurencekirk and Edzell Marts - the prices are detailed in Table 5.

TABLE 5

Store Lamb sale prices

Breed	Top Price	Average Price
Dorset x	£28.90	£25.25
NCC	£34.90	£27.45
Blackface	£24.05	£15.97
GF	£25.95	£18.97
EF x NCC	£29.70	£29.70

(i) Fat lamb sales. The Waitrose Supermarket group pay a premium for large lambs of around the 25 kg d.e.w. and which will bone out with a boneless meat yield of 66%+. It was decided to mate some of the East Friesland x North Country Cheviot ewes with a Suffolk ram last autumn to see if these lambs would produce the desired carcass. Of the 37 lambs weaned by the Suffolk ram out of East Friesland x NCC ewes 20 were sent to Buchan Meat Producers at Turriff. Six of the 20, although all were up to the desired carcass weight, were graded suitably for the Waitrose trade - the remainder were too fat. More of these lambs would have graded had they been sold earlier. The remainder (17) were sold at Laurencekirk Mart. The details are shown in Table 5a.

TABLE 5a

Price of lambs sold fat (Nos. in brackets)

Breed	Date	Price/hd	Subsidy	Total Price
Suffolk x (EFxNCC)	5.10.83	£45.42	-	£45.42 (3)
Suffolk x (")	28.11.83	£45.67	-	£45.67 (17)
Suffolk x (")	4.12.83	£28.50	11.59	£40.09 (5)
Suffolk x (")	4.12.83	£29.35	12.20	£41.55 (4)
Suffolk x (")	12.12.83	£30.75	12.50	£43.25 (8)

(j) Cast ewes. Most of the draft and cull ewes and gimmers were sold store because of the shortage of grass during the summer. The prices realised are shown in Table 6.

TABLE 6

Cast ewe prices

Breed	Top Price	Average Price
Ewes		
Blackface	£28.00	£18.12
NCC	£25.70	£23.29
GF	£24.90	£20.65
Gimmers		
Blackface	£24.50	£22.90
NCC	£26.00	£26.00
GF	£25.00	£25.00

(k) Sale of regular age breeding Texel sheep. Due to a re-structuring of the Finella genotype experiment, the Texel cross stocks were no longer required. They were sold at Edzell Mart. The prices are detailed in Table 7.

TABLE 7

Sale of stock of Texel cross ewes and lambs (24.9.83)

10 stock ewe lambs at £29.80

27 stock gimmers at £38.00

14 stock 1 crop ewes at £36.50

22 stock 2 crop ewes at £40.00

17 stock 3 crop ewes at £36.50

(l) Purchase of NCC cross Shetland ewes and gimmers. These have been acquired for experimental purposes. The sheep were purchased at a special sale of the Shetland Sheep Breeders Association at Aberdeen Mart. Details and prices are shown in Table 8.

TABLE 8

Purchase prices of North Country Cheviot x Shetland Sheep

30 gimmers at £73.66

10 1 crop ewes at £64.00

15 2 crop ewes at £64.00

36 3 crop ewes at £55.33

(m) Tupping 1983. The ewe stocks came to the tupping in good condition and liveweights were up on last year. The weather throughout the period was excellent - very mild with grass still growing into December.

Suffolk tups were put out with all the cross-bred ewes in the inbye fields on 2nd November. Blackface tups were placed with the ewes on Cairn on 17th November, Finella on the 17th and Birnie on 18th November. The Border Leicester tup went out to Finella ewes on the 18th as did the East Friesland rams on the BF ewes. The NCC rams went out to East Finella on 21st November and the East Friesland rams went out to the Cheviot ewes on the same day.

Ewes came to the tup early and there were few returns to the first service.

3. CATTLE

(a) Cows. All the Luing cows produced calves and one cow had twins. Twenty three of the Luing cows were mated with the Charolais bull and all are pregnant and due to calve in February.

(b) Heifers. The twenty Blue-grey heifers purchased last autumn produced 21 calves and all survived to weaning. The calved heifers were all mated with the Charolais bull and are all pregnant and due to calve in February. They are being fed baled silage and cobs, in the dens, along with the cows. Nine in-calf Blue-grey heifers were purchased in November and all calved successfully in December - these are being fed in the cattle courts on hay, silage and cobs.

(c) Calves weaned. Forty-five calves were weaned in September and a further 35 weaned calves were purchased from Hartwood.

Fifty-four calves were selected from the 80 calves and were housed in the cubicle shed for "levels of winter nutrition" experiment. The remainder of the calves were housed in the cattle court. All the suckled calves will receive silage and bruised barley over the winter period as last year.

(d) Store cattle. All but 19 of the 119 store cattle overwintered have been sold. Eighteen of these were sold fat, 50 having to be sold in early September when drought conditions gave rise to severe shortage of grass. Twenty smaller stores were sold out of the courts in April. The prices realised are detailed in Table 9.

TABLE 9

Cattle sale prices

Date of Sale	Breed	No.	Average Weight(kg)	Price per kg	Price per head
Sold Fat			D.C.W.		
21.2.83	Charolais cross	3	285	£1.86	£532
9.5.83	Charolais cross	4	248.5	£1.89	£469
6.7.83	Charolais cross	2	241.5	£2.04	£494
3.8.83	Charolais cross	4	269	£1.93	£529
26.9.83	Charolais cross	5	306	£1.98	£607
Sold Store			L.W.		
4.4.83	Charolais Bullocks	7	290	116.6p	£339
	" Heifers	5	279	99.5p	£277
	Here.cross Bullocks	3	280	103p	£289
	" " Heifers	1	270	101p	£273
	Luing Bullocks	4	275	101.5p	£280
3.9.83	Charolais Bullocks	15	440	104.3p	£459
	A.A. cross Bulocks	14	331	99.5p	£330
	Charolais Heifers	14	411	98p	£403
	A.A. cross Heifers	7	316	91p	£288
7.10.83	Luing Heifers	8	329	82.7p	£272

(e) Bulls. The stock bull from Benhar was sold after serving the two Luing bulling heifers. An 18 month old Charolais bull was purchased from Mr Jeffries of Kersnowe, Kelso.

This bull ran with 20 Blue-grey cows and 15 Luing cows during the summer and all are pregnant.

(f) Eight of the home-bred Luing heifers were sold as ready to bull at Stirling Mart.

4. LAND USE

Some 350 tonnes of silage was made in the pit. The central wall of the pit was removed to facilitate easier filling and to reduce wastage. Another 110 tonnes of silage were made in 4 feet round bales. This was stored in a new storage area prepared alongside the cattle pens. This area will hold 150 tons of baled silage.

Approximately 100 tons of straw was purchased.

5. BUILDINGS

(a) A new building was erected on the east end of the Cattle cubicle house to provide accommodation for goats.

(b) Another building of similar construction was erected adjacent to the goat house and will be used for wintering ewe hoggs.

(c) All the doors and windows throughout the steading complex were painted during the summer months in ideal weather.

(d) House No. 4 was painted inside and out in preparation for occupation by farm staff.

(e) The old sheep house was given a coat of snowcem and all the external fittings were re-painted.

6. EQUIPMENT

(a) A new 'FARMHAND' ROUND BALER was purchased.

(b) A new FLYMO industrial mower was purchased to help keep the amenity grasslands in good trim.

(c) A new TARRUP PRECISION CHOP forage harvester has been purchased for use during 1984.

(d) The Ford 3600 was traded-in against the new forage harvester.

7. STAFF

Mr Archie Lindsay was appointed shepherd on the Cairn and Birnie hefts and started work in September.

SOURHOPE FARM

1. WEATHER

November and December were mixed months, cold frosty periods alternating with dull showery ones and the occasional light falls of snow. This open weather continued throughout the rest of winter and early spring, with average rainfall. Frost occurred periodically but there was no prolonged spell. Intermittent light snowfalls were quickly followed by a thaw in all cases. The weather saved its savagery until the latter half of April and early May, i.e. the lambing period, with snow showers, sleet and many days of persistent rain all adding to the burden at lambing time. The total recorded 'rainfall' for these two months at 428 mm (16.8 in) compares with the previous ten year average for these two months of 128 mm (5 in). In effect 'rainfall' over a period which included the whole of lambing amounted to 47 per cent of the average annual rainfall of the previous ten years. June was drier, with July and August being very warm and sunny and with below average rainfall. It became cooler and duller in September with a return to rain which persisted into October, when a return to much drier weather was experienced.

RAINFALL (mm)

1982	November	97.5	
	December	93.8	
1983	January	61.9	
	February	82.6	
	March	69.8	
	April	202.6	(63.6 mm - 10 yr mean)
	May	224.9	(64.3 mm - 10 yr mean)
	June	48.6	
	July	33.1	
	August	28.9	
	September	137.0	
	October	80.6	
		1161.3	45.7 in
	Ten year mean	920.1	35.9 in

2. SHEEP

(a) Tupping 1982. The breeding stock came 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 stock were slow to recover body condition after weaning. The weather during tupping was reasonably open with only occasional light falls of snow.

(b) Winter feeding. Feed blocks were introduced to the ewes in the latter half of January, and sugar beet cubes and hay at the beginning of February, with a change to protein cobs in the second half of March. Concentrate feeding continued through lambing, ewes nursing twins being fed high protein concentrate pencils until the end of May. Outwintered hoggs were introduced to feed at the beginning of December and fed until returned to their hefts during the first half of April.

A total of 68.3 kg dry matter (hay, sugar beet nuts, concentrates and feed blocks combined) was fed on average to all outwintered ewes at a cost of £8.08 per head. This compares with 74.1 kg dry matter and at a cost of £8.23 per head during the more severe winter of 1981/82.

With the average feed cost for 1,659 outwintered ewes and gimmers at £8.08, the range for individual hefts was from £6.80 to £9.86.

The average feed cost for all outwintered hoggs was £4.91 compared with £5.52 the previous year.

All stock from Rigg and Gairs was again inwintered, Rigg ewes being housed on 13th January and Gairs ewes on 17th January. The hoggs from these hefts were housed on 10th January.

The dry matter fed to 557 inwintered ewes was on average 140.5 kg per head at a cost of £12.50 per head compared with 141.8 kg dry matter and £11.96 the previous year.

For the inwintered hoggs fed costs were £7.47 compared with £7.43 in 1981/2.

The shearing experiment was continued on ewes of the Gairs heft, 76 ewes being shorn on 25th January with 76 controls.

Feed data for both inwintered and outwintered sheep are shown in the following tables, the feed items being costed as follows, 1981/2 prices in parenthesis.

	Per tonne	Per tonne
Hay	£ 54.50	(£ 51)
Green keil*	£145	(£133)
Ewebol cobs**	£154.57	(£144.83)
Ewebol pencils	£150.08	(139)
Super ewebol pencils***	£158.25	(153.50)
Sugar beet pulp cubes	£125.91	(118.95)
Ewe and lamb food	£186	(£165)
Lamb supplement pencils	£155.63	(£147.43)
Barley	£139.97	(£132.28)
Colborn feed blocks	£196	(£195.83)
Rumevite H. E. Blocks	£188.89	(£182.75)
Special tup feed	£166	-

* Mixture of dried molasses, sugar beet pulp and dried grass with added minerals, in cube form.
** Concentrates fed to outwintered ewes in cob form, to inwintered ewes in pencil form.
*** Super ewebol pencils fed to twin-nursing ewes, post lambing.

Total expenditure on feed for all outwintered sheep, i.e. ewes, gimmers, ewe hoggs and tups, expressed per outwintered ewe to the tup was £10.01. When outwintered wethers are included, this figure becomes £11.00 per ewe mated.

TABLE 1

Hogg feed data

	Hay kg	Green keil kg	Ewe cobs or pencils kg	Ewe and lamb food kg	Av. cost per hogg
Outwintered	17.7	25.3	1.2	0.5	£4.91 (£5.52)*
Inwintered	50.0	30.5	1.3	0.7	£7.47 (£7.43)*

*1981/82 costs

Total weight dry matter fed : Outwintered 44.7 kg
Inwintered 82.5 kg

TABLE 2

Ewe feed data

		Hay kg	Feed blocks kg	Beet pulp kg	Conc. kg	Av. cost per ewe
Outwintered ewes and gimmers	Storm fed to 28/2 incl	11.2	2.6	13.6	-	£2.82 (£3.89)*
	Pre-lambing feed 1/3 to 16/4 incl	8.6	2.0	6.8	13.0	£3.72 (£2.80)*
	Post-lambing feed from 17/4 incl that fed to twins	1.2	0.9	0.1	8.3	£1.54 (£1.54)*
	Total	21.0	5.5	20.5	21.3	£8.08 (£8.23)*
Inwintered ewes and gimmers	Pre-lambing feed to 16/4 incl	75.9	-	24.0	18.4	£9.93 (£9.74)*
	Post-lambing feed from 17/4 includ that fed to twins	7.7	-	3.4	11.1	£2.57 (£2.22)*
	Total	83.6	-	27.4	29.5	£12.50 (£11.96)*

*1981/2 costs Total weight dry matter fed : Outwintered 68.3 kg
Inwintered 140.5 kg

(c) Lambing. The ewes lost some bodyweight and condition through the winter and early spring, but they responded very well to pre-lambing feed and entered the lambing fields in good condition. As mentioned earlier, the weather during this period was probably the worst in living memory for this area, and for many days the Macam lamb warming box was operating at full capacity.

The inwintered ewes from the Rigg and Gairs hefts were again lambed in the inwintering shed.

(d) Wool crop. Ewe and hogg fleeces were on average similar to those of 1982 with the total weight of graded wool from the station being 5,407 kg (including 134 kg of winter shorn fleeces). The total weight of wool in 1982 was 5,389 kg. The average price was 79p/kg for the January wool (78p/kg in 1982) and 93p/kg for the summer clip (94p/kg in 1982). Total wool receipts showed a fall of £31 or 0.6% from the previous year.

(e) Weaning (i) Performance. Marking and weaning weights were on average similar to those of 1982 but lamb numbers were reduced, the main reasons for this being the higher mortality of weakly lambs during the inclement lambing weather, and also slightly less lambs born than the previous year.

Grass kept was again tight throughout the spring and summer periods, due firstly to the wet late spring and then the low summer rainfall.

Weaning percentages for South Country Cheviot, North Country Cheviot (including NCC x SCC) and Blackface ewes were 101.0, 112.6 and 117.4 respectively, to give an overall weaning percentage of 114.1. This compares with the high figure of 120.4 achieved in 1982 which was the highest ever recorded for Sourhope.

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

TABLE 3

Weaning percentages and lamb liveweights

		Ewes to tup	Lambs weaned: Total number	Percentage 1982	Percentage 1983	Weaning weights: Singles kg	Twins kg
Fasset SCC		201	203	111.0	101.0	-	-
*NEHL/Auchope	NCC x SCC	683	755	120.3	110.5	26.4	24.9
Park Law	NCC	151	184	132.3	121.9	27.9	24.4
Total NC	(+NCC x SCC)	834	939	122.5	112.6	26.6	24.8
Alderhope	BF	281	326	130.9	116.0	28.0	25.7
Banks	BF	343	357	122.4	104.1	-	-
Rigg	BF	274	345	116.9	125.9	28.0	26.8
Gairs	BF	283	359	112.1	126.9	32.7	29.6
Total BF		1181	1387	120.7	117.4	29.6	27.4
Station Total		2216	2529	120.4	114.1	-	-

*NEHL = Near end Hairney Law

(ii) Disposal of lambs. 1,341 lambs were sold store (449 Blackface, 683 NCC x SCC, 39 BF x Cheviot and 170 South Country Cheviot).

Average prices realised for these lambs were:

Blackface	£26.88 per head at an average of £0.870 per kg liveweight (£25.13 and £0.828 per kg in 1982)
North Country Cheviot	£28.44 per head at an average of £1.020 per kg liveweight (£27.29 and £0.984 per kg in 1982)
BF x Cheviot	£27.80 per head at an average of £0.958 per kg liveweight (£26.19 and £0.930 per kg in 1982)
South Country Cheviot	£28.46 per head at an average of £1.038 per kg liveweight (£25.06 per head and £0.880 per kg in 1982)

A total of 148 lambs were sold fat off grass averaging £28.66 per head. In addition 204 Blackface wether lambs were sold to the Animal Production Department at an average of £23.92, the 8 Blackface and 8 SCC lambs were transferred to the Veterinary Section for work on copper deficiency. Also 12 unthrifty (shott) lambs were sold locally for £4.80 each.

The overall average for 1,573 lambs sold (excluding fat lambs) was £27.19 which compares with an average of £26.20 for comparable lambs in 1982.

A summary of the disposal of the 1983 lamb crop is as follows:

Ewe lambs retained as stock replacement	505
Tup lambs for breeding	10
Lambs sold for experimental purposes	16
Lambs sold fat	148
Lambs sold to HFRO (Animal Studies)	204
Lambs sold store	1353
Lambs as yet unsold	267
	2503

No ewe lambs were retained this year off Fasset because a scrapie positive ram had been used earlier for 1982 tupping, 45 replacement South Country Cheviot ewe lambs being purchased from Skelfhill.

This same tup had been used on Fasset in 1981 and thus Fasset gimmer age (1982 age) has been tupped this autumn with a Blackface ram, and all progeny will be sold as store or fat lambs.

In 1983 it was decided to continue studies concerning indoor finishing of lambs. One hundred and ninety-nine Blackface lambs, 28 tup and chaser lambs and 40 Cheviots were housed on November 10th, and their diet changed gradually during the first week to Green Keil and hay ad lib. All lambs were dosed prior to housing.

Some results for the 1982 trial concerning the indoor finishing of lambs are now available. One hundred and seventy-six lambs were fed Green Keil and hay ad lib and 75 fed Green Keil and straw ad lib. No deaths occurred and all lambs graded except for one carcase condemned because of pleurisy. It took these lambs 43 days on average to fatten and obtain an average dressed carcase weight of 16.3 kg. The value of these lambs at housing was estimated at 65p/kg liveweight. With all feed and veterinary costs deducted, a surplus of £3.84 per lamb was obtained.

(f) Draft and cast ewes. Eighty-eight warranted draft Cheviot (NCC x SCC) ewes were sold for an average price of £25.07 per head and 47 Cheviot feeding ewes averaged £21.90 per head. Twenty-six Blackface feeding ewes realised £16.50 per head and 100 draft Blackface ewes were transferred to the Animal Production Department at £27.00 per head. In addition 120 draft and cast fat Cheviot and Blackface ewes were sold at an average of £20.18 per head. One hundred and six draft and cast ewes remain to be sold.

(g) Death rates, veterinary treatment. The overall death rate of the sheep stock in 1982/3 has been 2.9%, with the death rate of ewes, gimmers and hoggs being 3.5%, 1.0% and 2.7% respectively.

The overall death rate in 1982 was 3.2%.

The entire sheep stock was worm drenched in the autumn, inwintered stock being re-dosed at housing. The outwintered stock were again dosed just before lambing. Twin lambs were dosed first at marking and then at three-weekly intervals throughout the summer until weaning. Single lambs were dosed at marking, mid-July and at weaning. Liver fluke in the ewe stock continued to be monitored and no dosing was found to be necessary.

All outwintered sheep were dipped against ticks in late March/early April. The entire sheep stock were dipped with a scab approved dip in August, and all breeding stock and wether sheep winter-dipped in late September/early October. All Blackface lambs were treated regularly throughout the summer to prevent headfly attack.

In October all ewe 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. A specially adapted metal detector was used on Park Law and Fasset ewes to determine the presence or absence of cobalt bullet(s). Also 30 fat ewes, destined for slaughter, were scanned and the cobalt bullets recovered after slaughter. Work is continuing and the investigations will be reported more fully in next year's report.

All sheep stock (except some Rigg and Gairs gimmers on a HFRO veterinary trial) received a booster vaccination of 4 ml Heptavac-P a few weeks before lambing. In the autumn all retained stock ewe lambs received an initial 4 ml vaccination of Heptavac-P (combined 7 in 1 clostridial plus pasteurella vaccine) at weaning and a 4 ml booster dose six weeks later. All sale lambs received 2 ml of Ovivac-P (pulpy kidney, braxy, blackleg, tetanus and pasteurellosis vaccine) at weaning and a 2 ml booster six weeks later. This practice of trying to meet the needs of buyers by giving store lambs full clostridial and pasteurellosis cover, plus dosing onto the lorry, has proved very popular at store markets. It is an attempt to "market" the store lamb with the needs of the buyer in mind.

Investigations into induced copper deficiency were this year carried out on 20 pairs of Fasset twins (SCC) and 20 pairs of Banks twins (BF) grazing Alderhope and Fasset reseeds. Copper investigations were also carried out on 20 calves received from Hartwood on 15th July and grazed on the Alderhope reseeds (without access to indigenous pasture) until the end of September.

Serious eye trouble was encountered in the ewe stock, chiefly on the Near End Hairney Law and Auchope hefts last autumn. The symptoms were an initial watering of the eyes followed by cloudiness. Veterinary investigations detected the presence of Branhamella catarrhalis and Mycoplasma conjunctivae. Repeated examinations and treatment with antibiotics were necessary to contain the infection. Similar symptoms have appeared this autumn, mainly in the Cheviot stock. Further investigations have been carried out and regular treatment with antibiotics found necessary.

During February an ultrasonic scanner, operated by Dr Fowler of the New South Wales Department of Agriculture in a joint programme with Dr Russel and Mr I. White was used on the Rigg and Gairs ewes to determine foetal numbers in pregnant ewes. The subsequent lambing results showed that the ultrasonic scanning had given data which was 99.9% accurate.

A T.V. programme was made at Sourhope on the operation of the machine, followed by a discussion on the benefits to the sheep farmer of early pregnancy diagnosis and the knowledge of foetal numbers.

(h) Tupping 1983. The weather of October and November has provided one of the best autumn periods experienced at Sourhope, being mainly dry, mild and warm, with only short periods of frost. The breeding stock have come to the tup in much better condition than seemed possible after weaning, with weights and condition scores similar to those of autumn 1982. After another very dry summer the hill grazings were again bare in early autumn and it was feared that the ewe stock would be slow to recover body condition after weaning.

(i) Goats. The small goat herd was housed at the beginning of December. Ten goats kidded successfully in March and April, and the entire herd was transferred to Glensaugh during April and May.

3. CATTLE

The suckler herd comprised 36 cows (3 held off the bull), 14 in-calf heifers and 6 bulling heifers in December 1982. The herd has again been managed in the usual manner, being used extensively as a means of grazing control on the Development Projects and other areas.

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

Total feed costs (53)

			£
Hay	21.49 tonnes at £ 54.50/tonne	=	1171.42
Cow cobs	8.83 tonnes at £160.33/tonne	=	1413.76
Green Keil	0.30 tonnes at £145.00/tonne	=	43.45
Straw	14.18 tonnes at £ 25.00/tonne	=	361.59
Granstock	600 litres at £ 0.39/litre	=	234.00
			3224.22

Cost per cow excluding silage = £60.83

(b) Calving performance and calf growth. Nine barren aged cows were sold during the winter. This left 30 cows and 14 in-calf heifers of which 42 produced calves and 2 cows were barren.

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

Some calf performance data for 1983 are given in Table 4.

(c) Calf disposal. Thirty-four calves were sold at the October sales to average £253.08, a decrease from last year of £21.98. Prices and weights are shown in Table 5.

TABLE 4

	Numbers	Average birth weight kg	Average weaning weight kg	Aver. live-weight gain birth-weaning kg	Aver. daily live-wt gain kg
Bullock	23	38.5	252	213	0.90
Heifer	19	35.1	254	219	0.89
All calves	42	36.9	253	216	0.89

TABLE 5

	No. sold		Weights* kg		Price per head £		Price per kg £	
	1983	1982	1983	1982	1983	1982	1982	1982
Bullocks	21	18	256	272	266.80	300.39	1.04	1.10
Heifers	13	18	261	253	230.92	249.72	0.88	0.99
Overall	34	36	258	262	253.08	275.06	0.98	1.05

*Weights given are those at sale ring entrance

Eight calves are being overwintered

(d) Replacements, etc. During the autumn 2 cast and 2 casualty cows were sold. In October 7 Aberdeen Angus x Friesian bulling heifers were purchased. Thus the herd at the close of the year comprises 40 cows, 6 in-calf heifers and 7 bulling heifers.

4. LAND USE

(a) Conservation. Only moderate crops of grass were available for conservation in 1983. In all 12.3 ha of grass was ensiled and 7.3 ha conserved as hay. A further 3.2 ha of arable silage (barley and peas sown as nurse crop) was made at a later date.

(b) Reseeding. One hectare of the Fasset reseed of 1982 has had to be re-established in 1983 as a consequence of an excessive growth of chickweed, and a really excellent sward has been obtained.

As a further step in the renovation of the Park Law area following the major draining programme of the past two years, the 3.2 ha of Park Law Flatts which had been levelled with a bulldoser, has been successfully reseeded. The ground was ploughed and after the removal of large stones and boulders sown down to grass under a nurse crop of barley and peas.

(c) Fertiliser, lime etc. Over and above routine fertiliser usage, and on the basis of soil analysis data, 3.6 ha of inbye ground was given 5.9 tonnes/ha of ground magnesium limestone.

(d) Drainage. Final remedial work to complete the comprehensive drainage plan for the 11.3 ha of potential 'inbye' on Park Law has been completed. Existing field and hill road drains have required their usual routine attention.

5. HILL ROADS

(a) Banks road. A new hill road 1623 metres in length has been constructed on the Banks hill to give access to the ground lying at the far end of the hill and adjacent to Outerhope. Use of the road is being restricted through the winter months to allow the surface to 'bed down'. A total of 450 tonnes of stone has been used to surface a 360 metre stretch of the road where the incline is more severe, and it is envisaged that a further stretch at least will need to be similarly treated before the road is capable of handling the weight of traffic envisaged.

Essential fencing has been restored with the opportunity being taken to re-align fence lines in some instances. In addition extensive drainage work is in hand by the station staff to remove 'run off' water from the road itself.

(b) Lower Park Law access road. As part of a comprehensive planned access route to Lower Park Law and the 'inbye' groun in that vicinity, a 100 metres of new track has been cut traversing the slope at the foot of the Bull Field. The surface has been stoned, and has given much improved access to the areas it is to serve without the need to travel across established grass fields.

(c) Fasset hill road 'slip'. Re-alignment of the Hairney Law burn at the foot of the road slip which occurred along the Fasset road four years ago, has been carried out over a distance of some 75 metres. This should prevent any further undermining of the ground below the road at this critical point, when the burn is in full flood.

6. BUILDINGS

A new circular dipper unit has been installed at the Auchope sheep handling yards, and two replacement hay storage sheds for the hill are now in place.

The replacement of the flat root of the extension to the cedar-wood office building, by a pitched roof has been completed. At the same time the cedar-wood roofing shingles (tiles) along the entire length of the south-east facing side of the office block have been renewed after twenty-three years. It is this south-east facing side which is exposed to the greatest weathering.

Routine building repairs have been kept up to date, including the repair and re-sealing of the brick work of the water tank on the top of Fasset hill.

Exterior paint work carried out in 1983 is as follows: The Coogang hay shed, cattle court, Auchope house and outbuildings together with the Auchope sheep yards have all been repainted, and the two new hill storage sheds painted for the first time.

All house, hostel, farm buildings and office electrical circuits have been tested for satisfactory earthing by qualified electricians; and any necessary adjustments made. In the course of this work an unsatisfactory situation with regard to earthing at the entry point of the mains supply was brought to light and Electricity Board electricians have now rectified this.

The existing 5 and 15 amp electrical circuits of both ewe inwintering sheds have been replaced by a 13 amp circuit. This allows all shearing machines to be fitted with fused plugs (3 amp).

Alterations have been made to the main doors of the cattle shed, and to that of one of two ewe inwintering sheds, this latter being necessitated as a consequence of raising the slatted floor of the shed by an additional 9 inches.

7. SPECIAL BUILDINGS MAINTENANCE

Extension work has been carried out within the two ewe inwintering sheds and this is outlined below.

(a) Slatted floor replacement. The decision was taken at the conclusion of inwintering in April, to set about remaking the entire slatted floor area of the two ewe inwintering sheds, the area of the floor being approximately 878 square metres (9450 sw ft). Over the ensuing six months each of the 2.44 m x 1.22 m (8 ft x 4 ft) units comprising the floor area were stripped down and as much material salvaged as possible. Individual slats were then machine-planed down to a 7 cm width allowing removal of the worn edges, and then re-assembled into units with a 15.9 mm (5/8") gap between slats.

Re-use of salvaged timber provided enough material to cover two-thirds of the total floor area, new materials being purchased for the remaining 293 square metres. The opportunity was taken to test alternative materials for use in slatted sheep flooring. To this end 29.5 square metres of weldmesh flooring has been laid down, 53.5 square metres of opepe hardwood timber flats installed, with 210 square metres of oak slats making up the balance. (Oak slats were purchased at a very reasonable price indeed when compared with other timbers including the softwoods). In constructing the slats galvanised nails were used throughout.

(b) Feed boxes. All forty feed box units have been fitted with a permanent floor in the form of galvanised tin sheeting.

(c) Hay 'ladders'. A number of replacement units have been made, with 6 guage weldmesh - mesh size 152 mm x 76 mm (6" x 3") - replacing the previous sheep netting.

8. EQUIPMENT

A secondhand 'horse' box has been purchased as a replacement and a new Vicon fertiliser spreader has yet to be obtained.

HOUSE O' MUIR FARM

1. WEATHER

It was mainly wet and mild in the early part of the winter of 1982 and 1983 with little or no problems posed by frost and snow. Rain and strong winds persisted in January and February, giving way to changeable weather at the start of lambing with occasional sleety showers.

The latter part of lambing through to early June was extremely wet (see May rainfall figure) and cold, making grass growth very late and causing some poaching problems. By contrast the summer was extremely hot and dry with virtually no rain between the first silage cut on 21st June and the second in mid August, though conditions were perfect for hay and silage making.

Some wet windy weather in September was followed by a very mild and dry autumn, allowing cattle to remain out until early December without any poaching problems.

RAINFALL

1982	December	108.9	mm
1983	January	103.4	
	February	33.4	
	March	85.6	
	April	59.3	
	May	156.9	(63.5)
	June	68.5	(136.1)
	July	9.8	(45.0)
	August	36.5	
	September	114.4	
	October	113.8	
	November	15.3	(151.1)
		905.8	(989.6)

To emphasise the extremes of wet and drought, the rainfall figures for May, June, July and November should be compared with those of 1982 (in parenthesis).

2. SHEEP

(a) Tupping 1982. A total of 479 ewes were put to the ram in 1982. Fifty of these, which were surplus to experimental requirement were mated with a Suffolk ram and run in the Market Park.

The weather was wet and windy when the rams went out and continued much the same throughout tupping. The ewes were in good condition at the time of mating in the open winter, maintained condition throughout, with virtually no storm feeding. However, ewe deaths were up on the previous year mainly due to pneumonia caused by the incessantly wet conditions.

(b) Winter feeding. The entire hill is now run as one single experiment and different feeding levels are implemented within each of the three hefts. The average cost/ewe was as follows:-

Concentrate	600 g/day at £151/tonne	£5.40
Hay	800 g/day at £ 65/tonne	£3.02
	Total cost/head	£8.42

(c) Lambing. The weather at the start of lambing was average for the area, bringing heavy showers interspersed with sunshine, though this gave way to a very wet period in late April and May. A total of 599 lambs were marked.

(d) Weaning (i) Performance. Generally the ewes performed well and weaning percentages were up on previous years. These are given in Table 1.

TABLE 1

Weaning percentages

Group	Ewes to ram Nov 1982	Lambs weaned 1983 No.	1983 %	1982 No.	1982 %
Normal hill	429	525	122.0	521	116.5
Mill Park	50	70	140.0	105	125.0
All groups	479	595	124.0	626	117.8

(ii) Disposal. A total of 595 lambs were weaned and disposed of as follows:

Sold store	105
Ewe lambs sold to research programmes	81
Other ewe lambs	21
Retained for stock	125
Sold fat	219
On hand December 83	40
Deaths - Swayback	1
Other	3
	595

The prices obtained for lambs were as follows -

Blackface wethers	Top	£30.10
	Bottom	£25.50
	Average	£27.90
Ewe lambs	Top	£30.00
	Bottom	£17.20
	Average	£28.05

The average price obtained for fat lamb was £32.73

(f) Draft and cast ewes. A total of 71 ewes were cast and disposed of as follows -

Regular drafts to Animal Production Department	25
Ewes sold as feeders	46
	71

The average price for feeding ewes was £15.20

(g) Ewe hoggs. As in previous years, the hoggs were away wintered until early March, when they were brought back to House o' Muir to be trained to eat concentrate for a few weeks, then returned to the hill prior to lambing.

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

(h) Wool. The wool cheque was up some £500 on previous years due to more and better quality fleeces in 1983, and also an increase in the number of wether fleeces from Bush. The hogg fleeces were also heavier than in previous years.

3. CATTLE

The 26 autumn calvers, retained at House o' Muir, with AA calves at foot in late summer 1982 were housed at the beginning of November because of wet conditions under foot.

These cows were mated to a Charolais bull on 1/2/83. At pregnancy diagnosis three which were doubtfully "in calf" were transferred to Hartwood, with calves, and run with the Charolais bull. The remaining 23 were transferred to Hartwood during the summer, after weaning, and the calves retained for disposal at House o' Muir.

9 Hereford/Friesian and 9 Blue/Grey bulling heifers were purchased in October 82 and mated with the AA bull on 1/12/82. This group was outwintered, initially in an area of Eastrae due to be reseeded and latterly in the "Daisy Dell". These calved with little difficulty in September and October 1983 and were housed at House o' Muir on 6/12/83.

Five Blue/Grey heifers which were transferred from the autumn herd were joined with 9 in-calf Blue/Grey heifers purchased in October 82 and calved inside during December and January 83. These were sent to Hartwood with calves in May 1983.

Ten Blue/Grey and 9 Hereford Friesian bulling heifers were purchased during October 83. These are at present overwintering in the Daisy Dell and were joined with the AA bull on 1/12/83. After bulling is completed, these will be housed to leave "Daisy Dell" free for a further proposed 20 Hereford Friesian in-calf heifers and 7 Blue/Grey in-calf heifers due to calf in spring 1984.

(a) Winter feeding (i) Bulling heifers - outwintered

Hay	£70
Concentrate	£14.50
Total cost/head	£84.50

(ii) Autumn calvers with calves at foot - inwintered

Hay	£80
Cow cobs	£25
Barley	£14
Total cost/head	£119

(b) Disposal of calves. A total of 23 AA x calves were weaned in June from the autumn calving herd and summered at House o' Muir. They were disposed of as follows -

Sold in October 1983	19
On hand December 1983	3
Deaths	1
	23

The following prices were achieved at the October sale at Biggar.

No.	Sex	Price/head	Weight (kg)	Price/kilo
1	Bullock	£370	400	93p
1	Bullock	£360	410	88p
1	Bullock	£246	310	80p
9	Bullocks	£258	325 (average)	80p
4	Heifers	£232	275 (average)	84p
3	Heifers	£256	295 (average)	87p

This shows an average overall of around 85p/kilo at a time when the beef trade was generally depressed.

4. LAND USE

(a) Conservation. 16.4 ha were cut for silage during 1983. This was achieved in two cuts. Approximately 250 tonnes were conserved. Yields were disappointing, due to the very late spring growth and the drought before the second cut. The quality was however very good.

In addition 2.8 ha of hay were made on an area too steep for silage making, yielding some 22 tonnes of excellent hay.

(b) Cropping. 3.2 ha of the "Field across the Road", where grass growth was particularly disappointing, were ploughed immediately after first cut silage and sown to rape. It was sown before conditions were too dry and a good crop was established. After chisel-ploughing this area will be returned to grass in the spring of 1984.

(c) Reseeding. 3.2 ha of Eastrae, at Bush, were ploughed and reseeded before conditions were too dry. A further 8 ha of hill at Turnhouse earmarked for reseeding in 1983 was left intouched due to the very dry conditions. It is proposed to reseed this area as early in 1984 as is practical.

5. BUILDINGS

In the spring of 1983, a concrete silo, capable of holding some 400-450 tonnes of silage was erected on the site of the pole-barn between the hay barn and the cattle courts. When concreting and the erection of barriers is completed, it is proposed to implement a self-feed system to reduce labour. Currently silage is fed in the court.

The pole-barn was carefully dismantled and it is proposed to re-erect it on a suitable site, possibly as an implement shed.

The West March-dyke, where the stone was too weathered to re-build, between Turnhouse and Carnethy, was replaced by approximately 650 m of high-tensile Rylock and barbed wire by contract labour. The cost was shared with the adjoining estates.

The area known as "the Knowes" has been separated from the rest of the hill by 700 m of high-tensile Rylock. This allows more strict control of grazing of experimental ewes and also provides a further 18 ha of summer grazing for cattle.

In addition a further 450 m of fencing has been erected by farm staff to replace old, existing internal fences.

HARTWOOD FARM

1. WEATHER

1983 was again a year of extremes. The winter months were exceptionally wet but problems with snow and ice were very slight. The wet weather continued into the spring and delayed all land work. Temperatures remained low and together with the wet weather put back all spring growth.

An exceptionally dry summer followed the late spring and although growth was good in the early part of summer the near drought conditions resulted in an early decline in grass growth and even on a "heavy land" farm all stock suffered.

Rain did come eventually and a fairly warm September resulted in a late burst of growth. A continuation of grass growth greatly helped stock through October and into November, and November was a particularly good month.

2. SHEEP

(a) Mating 1982. The weather was cool and wetter than average and this persisted throughout mating. Rams went out 26th October, 3rd November and 19th November to the various sub-flocks in which the stock was sub-divided for various experimental and practical management purposes.

(b) Winter feeding. Provision was made to accommodate the Systems ewes in woods with silage barriers but this had eventually to be abandoned due to tree damage, and the ewes were thereafter fed hay and concentrates in suitable fields. All other ewes were housed except for 60 Blackface and 40 Greyface ewes transferred from Sourhope, and 300 "non-experimental" Greyface ewes and gimmers. The details relating to the various sub-flocks are given below.

(i) Late lambing (early May) 60 Blackface, 30 Greyface (Sourhope transfers)

Outwintered

Hay at 1400 g/day	19 December - 3 January
Hay at 750 g/day	3 January - 8 February
Beet pulp cubes 500 g/day	3 January - 8 February
Hay at 1000 g/day	9 February - until late April
Balanced barley	
250 g/hd/day	9 February - 22 February
350 g/hd/day	23 February - 1 March
500 g/hd/day	2 March - 15 April
650 g/hd/day	16 April - early May

(grass was available from mid April)

(ii) Late lambing 100 Greyfaces

Inwintered

Hay at 1400 g/day	19 December - 21 January
Hay at 750 g/day) Beet pulp 500 g/day)	22 January - 7 February
Hay at 1000 g/day	8 February - lambing (comm 16 April)
Balanced barley	
250 g/day	8 February - 22 February
350 g/day	23 February - 28 February
500 g/day	1 March - 8 March
750 g/day	9 March - 1 April
1000 g/day	2 April - 10 April
1100 g/day	11 April - lambing

(40 ewes from this flock were temporarily transferred to HQ in February)

(iii) Greyfaces (160)

Inwintered

Silage 5000 g/day	18 December - 11 January
Hay 750 g/day) Beet pulp 500 g/day)	12 January - 6 February
Hay 1000 g/day) Balanced barley 250 g/day)	7 February - 15 February

Since this flock was scanned in January differential feeding took place thereafter, the groups being dependent upon the age of the sheep and foetal number.

1000 g/day of hay was fed until lambing and the balanced barley quantities varied from 600 g to 1000 g.

Lambing commenced 30th March.

(14 ewes from this flock were temporarily transferred to HQ).

(iv) Greyfaces (330) non-experimental (A large proportion were gimmers)

Outwintered

Silage 5000 g/day	18 December - 12 January
Hay 750 g/day) Beet pulp 500 g/day)	13 January - 6 February
Hay 1000 g/day) Balanced barley 250 g/day)	7 February - 23 February

(continued overleaf)

(iv) Greyfaces (330) Non-experimental (cont'd)

Hay 1000 g/day	until lambing (end March)
Balanced barley 350 g/day	24 February - 1 March
Concentrate feeding:	
550 g/day	2 March - 8 March
750 g/day	9 March - 15 March
900 g/day	16 March - until removal from lambing paddocks

(v) Greyfaces (240) Systems

Outwintered

Silage feeding ended in January and the diet thereafter was hay and beet pulp which continued until lambing. Concentrate feeding commenced 8th March.

(vi) Greyfaces (30)

Inwintered

The feeding of this flock was similar to (iii) above. Nine ewes were transferred to HQ.

(vii) Culled Greyface (30)

Inwintered

This flock was transferred to HQ, prior to lambing, in April.

(c) Lambing. Weather conditions in late March were wet and cold and the outwintered lambing paddocks quickly deteriorated.

Lambing performance

	Lambs born	% lambs marked
Late lambing BF & GF ex Sourhope	90	124
Late lambing GF	100	123
Reproductive performance GF	160	162
Non-experimental GF (69% gimmers)	233	155
Systems GF	240	154
Endoparasite-free GF	100	174
Greyface	30	**
Culled Greyface	30	**

** Flocks dispersed before lambing.

(d) Wool crop

	Mean wool wt (kg)
Greyface ewes and gimmers	2.85

(e) Weaning

(i) Performance	% lambs weaned	Weaning date
Ex Sourhope (BF & GF)	(majority sold before weaning)	
Late lambing GF	110	28.7.83
Repro. performance GF	*	26.7.83
Non-experimental GF	142	27.7.83
Systems GF	123.8	12.7.83
Endoparasite-free GF	*	*
Greyface	*	*
Culled Greyface	*	*

*flocks dispersed prior to weaning

(ii) Disposal of lamb crop to date

Lambs sold store	Av. price/hd
145 Dorset x (Biggar)	£37.80
150 Suffolk x (Biggar)	£35.50
*150 Dorset x (Lanark)	£30.50

Store average £34.77

*Price reflects depression in trade due to drought conditions

Lambs sold fat	Average £
66 (to Biggar Beef) off grass	31.00
106 (to Biggar Beef) off rape	35.69
83 (to Biggar Beef) off rape	36.54
122 (to Biggar Beef) off rape	35.91
67 (to Biggar Beef) off rape	35.84

Fat average £35.21

8 lambs were sold at Lanark 18.4.83, 33 BF ewes with 48 lambs at foot and 18 GF ewes with 30 lambs at foot were sold in May. All remaining lambs are on brassicas.

(f) Draft and cast ewes

Disposal

Greyface ewes	Mean price/hd	To
Cast & cull (sales)	£22	Fat and store
Draft	£26*	Fat and store
Blackface ewes		
Cast for age	£19*	Fat and store

* Some others sold in May with lambs at foot

(g) Death rate. This continues to be low in adults as the pasteurella vaccine continues to be successful. Jaegsiekte seems to affect a few ewes at 3 years old each year, although its impact is becoming less. Above average losses in the wether flock occurred during winter 82/83. The flock has now been reduced to 87 adults and a pre-winter extra vaccination is now given.

(h) Mating 1983

Ewe breed	Flock	No.	Ram	Mating date	Synchronised
GF	Ram fertility	40	Dorset Down	9.10.83	Yes
GF	Lactation Endocrinology	27	Suffolk Down	19.8.83	Yes
GF	Systems	240	Dorset Down	25.10.83	No
GF	Systems Demo	60	Dorset Down	25.10.83	No
GF	Reproductive Performance	152	Dorset Down	29.10.83	Yes
GF	Non-experimental	333	Suffolk Down	24.10.83	No

3. CATTLE

(a) Winter feeding. A group of 31 heifers with calves remained outside till 17.1.83 on the RH/Sanatorium complex before going into the Indescon shed. During January, 118 spring calvers were fed in addition to silage, barley at high, medium and low rates, depending on whether they were to gain, maintain or lose condition (32, 60 and 26 cows respectively). As usual feeding in the Indescon shed was silage based and in the Atcost shed, hay based.

During bulling in February and March, barley supplements to to the 98 autumn calving cows increased, thereafter being reduced slightly till turnout. Many of these cattle had previously been on experimental hay based rations in the Atcost shed. As calving approached in the spring calving herd, barley allocations were stopped for all but a small group of thirty two cows still required to put on condition. Feeding of barley started again as cows calved.

Ten stirks held from the previous year were fed hay, barley and balancer aimed at a daily live weight gain of 0.5 + kg.

Over the whole winter, approximately 100 tonnes of barley, 750 tonnes of silage and 120 tonnes of hay were consumed by cattle.

Due to building work in the Indescon shed, 116 spring calvers were still at grass at the beginning of December 1983. These cows received straw and high magnesium cobs as a supplement to grass at approximately 10 kg straw and 1 kg cobs daily.

All cows received high magnesium cobs and minerals at the high risk 'staggers' periods in spring and at the end of the grazing season, and are being given a mineral and vitamin supplement over winter. Data on cow feeding are presented in Table 1.

TABLE 1

Feeding levels

Nutrition Studies Herd (Autumn/winter calving)		Silage (kg/day)	Hay (kg/day)	Barley (kg/day)
Heifers in RH/Sanatorium		24	-	6
Autumn calvers at bulling		24 or	7	6.2
Autumn calvers between bulling and turnout		24 or	7	5.6
Grazing Studies Herd (Spring calving)				
Spring calvers on different pre-experimental rations	High	24	-	4.9
	Medium	24	-	2.4
	Low	24	-	0.9
Spring calvers between calving and turnout		24	-	5.6

(b) Rebreeding. A total of 98 cows ran with the bull from 1.2.83 to 6.4.83. The cows were divided into three groups, two large ones in the Indescon shed and a smaller one in the Atcost unit. To do this, all cattle were removed from cubicles at the end of experiment CG4, their places being taken by spring calvers loose housed in the Indescon shed. The bulls were rotated regularly from one group to another. Foot problems among the bulls were fairly prevalent at this period, probably associated with the difficulty of keeping the courts adequately bedded with sufficient amounts of dry straw.

Turn-out began on 15.4.83 when 41 cows and 53 calves were released from the Atcost shed to the nearby RH field to remove the calves from the highly infected environment of the shed where experimental fosterings had been in progress for some time. All cattle were outside by 12.5.83 and four bulling groups were established in separate fields on Block C. One hundred and forty two cows were run with the bulls which were taken out on 25.7.83. Initially, weather conditions were wet and unfavourable and although subsequent weather was much drier, there was never really sufficient grass on the areas allocated to cattle to sustain the satisfactory performance of previous years.

(c) Calving. Till 1.12.83, the total number of calves reared and being reared on the farm including those transferred from House o' Muir, purchased for setting on, and those from Moredun Institute, where their dams were on experimental loan last winter, is 187, of which 47 have been born to date this autumn. This total does not include calves born at Hartwood in 1982 but sold off the farm this year. Calving in the autumn/winter herd began on 3rd November 1982 and carried on till the end of spring calving on 8th May 1983. The peak months were November and March. All calves were born indoors and their birth weights are given in Table 2. Ninety-one calves were born out of 100 cows mated.

TABLE 2

Mean birth weights (kg) of Charolais cross calves

Breed	Heifers	Bullocks
Charolais x Hereford Friesian	39.2	43.2
Charolais x Blue Grey	35.5	38.0

(d) Cattle Disposals and Calf Weaning Weights (to 1.12.83) During April, 11 calves born during the spring of 1982 and overwintered at Hartwood were sold. The majority of 1982 autumn born calves were sold to Lanark Market in two groups in September and October while 18 cows were sold through the same market in May, each with an autumn born calf at foot.

Thirty spring born (1983) calves from the CG5 experiment went to Glensaugh at the beginning of November and two further batches went to the market at Biggar, leaving ten of the smallest calves to be overwintered on the farm.

Trade was generally not up to last year's standard, and due to difficulties in finding enough grass for cattle over the season, calves were forward for sale at lighter weights than previously. Details of these sales are shown in Table 3.

At 1st December, a total of 19 cast cows had been sold for slaughter including three calved cows slaughtered for experimental purposes, while a further 11 cows due to calve in spring were sold at Lanark and 5 dry cows were transferred to Grazing Ecology.

Three experimentally orphaned calves were sold to Messrs Shanks, Drumgray, Airdrie and a five month old calf with a hind leg joint abnormality went to Shotts slaughterhouse. These disposals are given in Table 4.

The performance of calves reared in 1983 is summarised in Table 5. Calf output, in terms of daily growth rates and weaning weights has not been up to former standards.

TABLE 3

1982 Autumn Calves

Sold to/at	Breed	Sex	Number	Price/Head
R. Graham Newmains	Chx	M	7	£266.00
	Chx	F	4	£266.00
Lanark Market	Chx/AAx/Hx/Fr	M	30	£250.93
	Chx/Hx	F	15	£220.20
Lanark Market	Hx/AAx	F	20	£186.25
Lanark	CHx/AAx	M&F	18 (sold with dams)	£497.00(per pair)

1983 Spring Calves

Glensaugh	Chx	M	18	£220.00
	Chx	F	17	£190.00
Biggar Market	Chx	M	12	£250.00
	Chx	F	13	£199.30
Biggar Market	Chx/AAx/Hx	M	19	£216.79
	Chx/AAx/Hx	F	23	£182.74

TABLE 4

Cow and calf disposals (slaughter etc)

Cows

Sold to/at	Breed	Sex	Number	Price/Head
Biggar Abattoir	BG		3	£202.66
Biggar Abattoir	BG		4	£329.75
Biggar Abattoir	HF & BG		8	£221.90
Shotts Abattoir	HF		1	£172.52
Biggar Abattoir	BG & HF		3	£196.00
Agronomy Dpt	BG & HF		5	£335.00
Lanark Market	HF & BG		11	£319.64

* Orphan calves from three cows slaughtered for experimental purposes.

TABLE 4 (cont'd)

Calves	Breed	Sex	Number	Price/Head
Shotts Abattoir	Chx	F	1	£ 85.00
Messrs Shanks, Airdrie	Chx*	F	1	£ 90.00
	ChX	M	2	£125.00

*Orphan calves from three cows slaughtered for experimental purposes.

TABLE 5

Calf growth 1983

Calves born in autumn 1982	Male	Female
Average weaning weight (kg)	212	193
Average LWG (kg/day)	0.67	0.61
Average age at weaning (days)	251	252

Calves born in spring 1983

1.	CG5 Experimental		
	Average weaning weight (kg)	206	191
	Average LWG (kg/day)	0.74	0.67
	Average age at weaning (days)	224	227
2.	Others		
	Average weaning weight (kg)	216	209
	Average LWG (kg/day)	0.85	0.77
	Average age at weaning (days)	197	197

(e) Replacements etc. Ten Blue-Grey bulling heifers were purchased at Haltwhistle market and another nine Hereford-Friesian bulling heifers were bought from Messrs Sinclair of Perth during October and November. The respective prices were £472 and £460 per head. These cattle all went directly to House o' Muir to run with the Aberdeen Angus bull. Forty adult cattle and 17 calves were transferred from House o' Muir to Hartwood.

A total of 6 calves were bought, mainly from local sources, for fostering. Details are shown in Table 6.

TABLE 6

Purchased calves

Breed	Sex	Price
Murray Grey x Friesian	F	£ 40
Aberdeen Angus x Friesian	M	£124
Friesian	M	£ 60
Hereford x	F	£ 50
Hereford x	F	£ 50
Hereford x	M	£ 50

(f) Cattle health. Among adult cattle and growing calves, health problems have not been particularly prevalent during 1983. There was however, a serious outbreak of scour in the Atcost shed during the experimental fostering programme at spring calving, where all calves were removed from their natural mothers and fostered onto other cows either as twins or singles. Despite strenuous efforts of cattle staff and extensive veterinary advice and treatment, some twenty calves were lost during this time.

There were a few cases of mastitis though none was particularly serious. One cow died at grass in October and a post mortem revealed considerable lung damage, possibly due to previous fog fever, though it seems likely that the main cause of death was hypomagnesaemia.

There was little evidence of pneumonia in calves although a few cases occurred at grazing. Four calves were treated for abscesses and there were three treatments for joint ill. This year, in spite of the warm summer, there was little sign of New Forest disease.

4. LAND USE

Cropping Summary (1983)	ha	ac
Barley	21.4	52.0
Grass Silage	40.7	100.5
Hay	0.8	2.0
Rape	20.0	49.4
Tyfon	0.4	1.0
Kale	0.4	1.0
Stubble Turnip	0.4	1.0

Barley yields suffered from the late spring and to a lesser extent from the exceptionally dry summer. The average yield was substantially lower than 1982. With the best yield at 4.3 tonnes/ha and the lowest at 2.6 tonnes/ha the mean over the total area was 3.33 tonnes/ha.

The early sown forage crops were very good but later areas, sown after the drought had set in, were patchy and germination uneven. In one field in particular there were plants 50 cms high alongside plants 5 cms high.

After a late and slow early growth, grass silage came away rapidly and some 950 tonnes were secured in good condition. Despite the exceptionally dry weather the aftermath growth was good. A small quantity of baled silage was made from experimental areas, and only 5 tonnes of hay were made in 1983.

Spraying for weeds was carried out as in past years and in one field where couch was a problem a pre-harvest spray with Round-up was undertaken with very satisfactory results.

5. BUILDINGS

(a) Building maintenance. A number of roof repairs, renewal of galvanised sheeting, rhone repairs, painting etc. have been carried out during the year.

(b) Development of buildings. The Indescon cattle shed formerly used as loose housing for stock has been fitted out as a cubicle house with accommodation for 120 cows. The slurry system and slurry storage tank with bubbler unit and reception pit have been completed.

A bulk concentrate feed storage hopper has been installed beside the cattle feed store, the hay/straw chopper is being fitted up and a chopped straw/hay bin erected.

The Metabolism Unit is now complete and in operation.

(c) New buildings. A large implement/machinery shed has been erected and now all tractor and equipment can be stored inside.

A new wooden framed slatted sheep house for approximately 300 has been erected and will be occupied this winter.

6. EQUIPMENT

No major items of equipment have been purchased this year. A number of old smaller items have been replaced and a long tractor trailer for handling both small and round bales has been purchased.

7. OTHER ITEMS OF SIGNIFICANCE

Springbank (old open cast site) has been drained, surface cultivations carried out and sown with a permanent grass seed mixture.

A new road from the right of way on the Hill Hospital drive to the old buildings at Hillhouse has been completed and we now have access to the out lying fields below the hospital without "trespassing" on the Health Board property.

Seventeen adult foxes were killed during the winter of 1982/83.

RED DEER FARM

1. WEATHER

After the heavy rainstorms in September and October last year, the early part of the winter was mild and sunny and dry. Both January and February were much colder with spells of snow and sleet and heavy rain. March was mild again and sunny but by the middle of April the weather changed to cold east winds and snow drifting to several feet on the high upper farm. This cold weather continued throughout May and into June. The latter half of June and July were good, warm with occasional showers and August although cooler was dry. Drought conditions prevailed, reseeds were burned brown and all stock had to be moved from the upland pastures and the hill reseeds onto the main hill areas until weaned at the end of September.

Some showers in late September and in October restored grass growth but the amount of grass in the mating fields was the poorest for many years. November and December were excellent, mild and sunny with occasional showers.

2. RED DEER

(a) The 1982 rut. Although the hinds came to the rut in escellent condition, the wet weather throughout brought the hinds down in condition, especially the younger ages in spite of some concentrate feeding. A total of 233 hinds were put to the stag and the first calf was born on 16.5.83.

(b) Winter feeding. All stocks were fed hay after the rut and this continued throughout the winter, particularly with the yearlings and the Lochhills hinds. The hind stocks maintained their liveweights from the end of the rut until the spring but apart from the hill hinds, the cost of feeding was up on last year. The feed costs for all classes are shown in Table 1.

TABLE 1

Winter feed costs for hinds and stags

Group	Period fed	Hay (tonnes)	Concentrates	Cost per Head
Hill (150)	10.12.82 - 20.4.83	11.5	27 urea blocks (0.6 tonnes)	£6.14
Stags (18)	13.12.82 - 4.4.83	4.2	110 kg	£16.88
Yearlings (56)	10.12.82 - 21.4.83	7.9	4.6 tonnes	£21.77
Lochhills (67)	1.11.82 - 20.4.83	15.9	4.5 tonnes	£26.34

Hay costed at £70 on farm, Concentrate at £145 and Rumevite at £4.35 per block.

(c) Calving. The first calf was born on the 16th May in cold and wet conditions. On the 27th May, five calves died within minutes of birth in atrocious weather conditions on the upper farm reseeds. Some hinds had to be taken indoors suffering from exposure and three yearling hinds died from exposure the same day in adjacent Annahar reseeds. The weather improved slightly in June and the calving was virtually finished by the middle of the month. The weather at the rut and at the calving has reduced the overall performance of the stock. The results are shown in Table 2.

TABLE 2

Reproductive performance of hinds

Herd	To Stag	Died	Yeld	Born	Born Dead	Died B - W	No. Weaned	%
Main farm (A B C F cohorts)	75	1	4	70	2	5	63	84
Lochhills (H J K M)	97	0	2	95	1	9	85	87.6
Young hinds (P cohort)	36	0	8	28	3	1	24	66.7
Yearlings (Rs)	25	0	13	12	2	1	9	36
Total	233	1	27	205	8	16	181*	77.6

* Includes two calves on the hill

(d) Weaning. As shown in the above table, 181 calves were weaned. The calf weights were similar to last year and are shown in Table 3.

TABLE 3

Weaning weights of calves (Nos. in brackets)

Sex	Liveweight (kg) Sept. 82	Liveweight (kg) Sept. 83
Stag calves	41.0 (40)	42.8 (81)
Hind calves	39.0 (42)	37.8 (85)

(e) Disposal of weaned calves was similar to last year in terms of numbers, some 108 calves being overwintered, the remainder sold. The details of disposal are shown in Table 3a.

TABLE 3a

Disposal of calves weaned

4 stag calves were sold to the Moredun Institute

10 stag calves were sold at auction at Beauly

10 hind calves were sold at auction at Beauly

20 hind calves were sold through Kincardineshire Auction Mart.

25 stag calves were sold for venison to Buchan Meat Producers

2 calves died after weaning

108 calves were housed at the steading

179 + 2 calves still on the hill

(f) Calf sales. The 44 calves sold averaged £113.06 per head, equivalent to £2.66 per live kilogram. The Glensaugh calves topped the market at the annual deer auction at Beauly where stag calves sold for an average of £86 for 76 sold and £80 for a total of 49 hind calves sold. The Glensaugh calf prices are shown in Table 4.

TABLE 4

Store calf sales and prices

Date	No.	Stock	Sold at/to	Average L.W.(kg)	Price per kg	Price per head	Total price
3.10.83	4	Stag calves	Moredun	46	£1.63	£75.00	£300
7.11.83	5	Stag calves	Deer Auc.	46.6	£2.03	£95.00	£475
7.11.83	5	Stag calves	Deer Auc.	41.0	£2.19	£90.00	£450
7.11.83	5	Hind calves	Deer Auc.	44.0	£2.95	£130.00	£650
7.11.83	5	Hind calves	Deer Auc.	40.8	£2.94	£120.00	£600
15.12.83	20	Hind calves	Laur. Mart	41.0	£3.04	£125.00	£2,500
Total	44	Calves	-	42.0	£2.66	£113.06	£4,975

(g) Venison sales. The arrangement with Buchan Meat Producers to slaughter deer for the Waitrose Supermarket Stores was continued this year. A total of 93 deer were sold to B.M.P. which included a trial hill of 25 weaned calves. This was successful but calves need to be large enough in November to provide a minimum 30 kg carcass. Unfortunately grass growth was poor and it was not possible to finish the calves off grass. The calves were fed indoors until early December, and growth rates were lower. The details of the sales are shown in Table 5.

TABLE 5

Deer sold for Venison

Date of Sale	No.	Stock	Age	Buyer	Average Carcass Wt. (kg)	Price per kg D.C.W.	Price per Head	Total Price
19.9.83	15	Stags	16 mo	Buchan Meat Prod.	49.5	£2.86	£141.51	£2122.90
26.9.83	20	Stags	16 mo	"	44.5	£2.86	£127.33	£2546.70
3.10.83	9	Stags	16 mo	"	39.0	£2.86	£111.65	£1004.90
3.10.83	1	Stags	3 yrs	"	54.0	£2.86	£154.70	£ 154.70
10.10.83	15	Stags	16 mo	"	36.6	£2.86	£104.80	£1573.00
28.11.83	6	Stags	16 mo	"	34.5	£2.86	£ 87.53	£ 525.20
28.11.83	1	Hind	9 yrs	"	53.6	£2.42	£129.80	£ 129.80
28.11.83	1	Hind	16 mo	"	26.8	£2.86	£ 76.70	£ 76.70
5.12.83	10	Stags	6 mo	"	29.3	£2.86	£ 83.85	£ 838.50
12.12.83	15	Stags	6 mo	"	26.8	£2.86	£ 76.65	£1151.80
Average prices								
	65	Stags	16 mo	-	-	-	£119.58	
	2	Cull Hinds	16 mo	-	-	-	£103.25	
	1	Stag	3 yrs.	-	-	-	£154.70	
	25	Stag Calves	6 mo	-	-	-	£ 79.61	
Totals	93						£108.86	£10,124.20

(h) Breeding replacements. Two stag calves and 40 hind calves have been retained for breeding.

(i) Hind deaths. A6 died during the summer on the hill, cause unknown and hind J2 died during the rut on the Forestry Park - she could not be retrieved for post-mortem examination until the end of the rut. B38 died from exposure on 3rd May.

(j) North American Elk. A three year old bull was purchased in September for cross breeding experimentation. He was given 28 hinds on 30th September and was seen serving.

(k) The 1983 rut. Hinds were lighter than at the same time last year. The weather was exceptionally fine, mild and open and all stock gained or maintained weight over the period. Stags were placed with the hinds on the following dates.

1. Hill System hinds	- 29th September
2. Upper-farm reseeds	- 29th September
3. Lochhills Experiment hinds	- 30th September
4. Wapiti bull group	- 30th September

(l) Fencing.

1. The March fence with the Forestry Commission from the Stag Park to the Lochhills area was replaced with Cyclone net at a total cost of £2.39 per metre.

2. The upper farm reseeds were given an additional 2 live wires and the woodland plots on Annahar hill were fenced off from the reseeds with a new fence costing £1.60 per metre.

3. On the main farm perimeter fence, a two wire electric fence was fitted on offset brackets over a length of some 7,000 metres at 14 pence/metre.

4. A corridor of cyclone net was erected to connect the upper farm reseeds and the Lochhills area.

5. A fencing of the Lochhills area was completed to make three separate hill areas for containing experimental groups.

6. The woodland area rented from the Forestry Commission in 1970 was returned to the Commission during the summer. The fences surrounding the forest were removed and replaced above the plantation on a higher line to connect the Panhandle and the reseeds and re-establish the Stag Park and Friars View.

3. STAFF

W.J. Hamilton judged all classes of red deer at the Show and Sale of red deer at Beauly on 7th November 1983.

II. SUMMARY OF FLOCK RECORDS 1982/83

Glensaugh

TABLE 1

Reconciliation of ewe numbers 1982/83

Flock		Ewes & Gimmers Nov 82	Gimmers Since Nov 82	Cast and Cull	Deaths No.	Deaths %	Gimmers brought in Home Bred	Ewes & Gimmers Nov 83	Hoggs Kept Nov 83
Cairn	Blackface	260		92	15	5.8	45	262*	70
Birnie	Blackface	202		59	10	5.0	49	203*	60
Finella	Blackface	168		64	8	4.8	73	230*	0
	EF x BF	0	46	0	0	0	0	46	0
	GF	73		23	2	2.7	13	61	10
	NCC	183		55	4	2.2	23	147	20
	EF x NCC	55		0	0	0	12	67	17
	NCC x Shet	0	91	3	0	0	0	88	0
	Texel x BF	74		74	0	0	0	0	0
Draft	NCC	41		35	6	14.6	0	0	0
Cast	Blackface	20		11	3	15.0	0	*	0
Lephinmore ewes	Blackface	24	206	85	25	10.9	0	*	0
gimmers	Blackface	0	54	33	1	1.9	0	*	0
Cast ewes	GF						2	2	
	EF x NCC						6	6	
Totals		1100	397	534	74	4.9	233	1112	177

*Lephinmore ewes and gimmers transferred to Cairn, Birnie and Finella

Glensaugh

TABLE 2

Pretupping weights of ewes, gimmers and hoggs, November 1982 & November 1983

Flock		Ewes		Gimmers		Hoggs	
		1982 kg	1983 kg	1982 kg	1983 kg	1982 kg	1983 kg
Cairn	Blackface	51.2	52.8	43.5	42.5	29.1	24.8
Birnie	Blackface	54.8	56.0	43.8	45.7	32.8	26.1
East Fin.	NCC	66.0	59.5	52.0	45.6	30.8	29.5
	EF x NCC	59.8	61.0	-	45.2	27.8	30.2
Mid Fin.	Blackface	53.2	51.2	44.7	41.4	-	-
	BL x BF	60.1	60.9	44.0	46.8	31.6	-
West Fin.	Blackface	49.1	50.2	40.3	40.6	-	-
	BL x BF	53.6	54.0	44.3	40.0	28.8	-
Finella	EF x BF	-	-	-	55.4	-	-
	NCC x Shet	-	56.8	-	45.8	-	-
	BL x BF						28.9

Glensaugh

TABLE 3

Reconciliation of Cattle Stocks

	No. at 1.12.82	Births	Age Trans.	Purchases	Deaths	Sales	Age Trans.	No. at 1.12.83
Breeding Cows	28	-	20	-	3	2	-	43
Breeding Heifers	22	-	-	9	0	0	20	11
Bulls	2	-	-	1	-	2	-	1
Store Cattle	119	-	45	35	0	100	0	99
Calves	0	47	-	-	2	0	45	0
Totals	171	47	65	45	5	104	65	154

Sourhope

TABLE 1

Reconciliation of ewe numbers 1982/3

Flock		Ewes & gimmers Nov 82	Draft and cast ewes	Deaths	Gimmers brought in	Ewes & gimmers Nov 83	Hoggs Nov 83
Fasset	SCC	201	31	9	39	200	45
*NEHL/ Auchope	NCC x SCC	683	167	13	159	662	171
Park Law	NCC	151	31	4	35	151	36
Rigg	Blackface	274	62	5	61	268	67
Gairs	Blackface	283	57	10	70	286	80
Alderhope	Blackface	281	62	14	78	283	75
Banks	Blackface	343	64	10	72	341	76
Total Blackface		1181	245	39	281	1178	298
Station total		2216	474	65	514	2191	550

*Near end Hairney Law

Sourhope

TABLE 2

Pretupping weights of ewes, gimmers and hoggs - November 1982 & November 1983

Flock		Ewes 1982	Ewes 1983	Gimmers 1982	Gimmers 1983	Hoggs 1982**	Hoggs 1983
Rigg	Blackface	57.1	56.9	50.3	49.7	32.3	33.1
Gairs	Blackface	56.8	59.0	49.1	52.1	32.8	36.8
Alderhope	Blackface	60.0	60.1	51.8	50.6	31.9	34.4
*NEHL/ Auchope	NCC x SCC	60.3	59.8	49.4	47.4	34.7	36.8
Park Law	NCC	64.0	63.0	56.2	53.9	37.8	33.5

*Near end Hairney Law

**In last year's report (1982) ewe hogg weights at November 1982 were incorrectly quoted. The correct values are as shown here.

TABLE 3

Wether stock November 1983

Year of Birth	1979	1980	1981	1982
SCC	27	30	32	29

House o' Muir

TABLE 1

Reconciliation of ewe numbers

Ewes and Gimmers Nov 82	Cast	Deaths	Gimmers in	Ewes and Gimmers Nov 83
479	71	17	126	517

TABLE 2

Reconciliation of cattle numbers

(i) Autumn calvers

	Transferred in			Transferred out			
	Nov 82	Pur-chases	From Hartwood	To Hartwood	To spring herd	Sold	Nov 83
Hereford/ Friesian	33	9	-	23	2	1*	16
Blue-Grey	20	10	-	12	-	-	18
Total	53	19	-	35	2	1	34

* 1 Hereford/Friesian bulling heifer was sold as a casualty after sustaining a broken leg.

(ii) Spring calvers

	Transferred in				Transferred out		
	Nov 82	From Hartwood	From Autumn herd	From Grazing Ecology	To Hartwood	Deaths	Nov 83
Hereford/ Friesian	-	-	2		-	-	2
Blue-Grey	14	1	-	1	14	-	2
Total	14	1	2	1	14	-	4

Hartwood

TABLE 1

Reconciliation of ewe numbers - December 1982 to December 1983

Breed	Ewes and gimmers Dec 1982	Purchases and transfers	Deaths	Sales & transfers to research account	Ewes and gimmers Dec 1983
Blackface	60	-	1	59	-
Greyface	923	202	38*	234	853
Total	983	202	39	293	853

*Includes 15 killed or destroyed as a result of attacks by dogs.

TABLE 2

Pre-mating weights of Greyface ewes and gimmers (kg)

	October 1982		October 1983	
	Ewes	Gimmers	Ewes	Gimmers
Non-experimental	71.2	61.0	69.0*	59.4*
Systems	72.4	63.9	74.9	63.1
Systems Demo	-	-	77.6	66.0
Reproductive Performance	70.9	60.6	71.3	-
Ram Fertility	-	-	70.7	-

* Taken in early October before flushing

TABLE 3

Reconciliation of cattle numbers - 1st January to 1 December 1983

	At 1st Jan	Births	Purchases	From HOM & Moredun	Deaths	Sales	To HOM	At 1st Dec
Adult Cattle	202	-	-	61	1	53	1	208
Bulls	3	-	-	1	-	-	-	4
Calves	95	166	6	17	30	165	35	54
Total	300	166	6	79	31	218	36	266

Red Deer

TABLE 1

Reconciliation of stock numbers 1982-83

	At 1.12 82	Age trans- fer	Calves born	Purch- ases	Deaths	Sales	Age trans- fer	Other losses	At 1.12 83
Aged stags	19	3	-	1	1	-	-	-	22*
Prickets	4	2	-	-	-	1	3	-	2
Young stags	4	64	-	-	1	65	2	0	0
Stag calves	64	-	98	-	10	39	64	-	49+
Mature hinds	172	36	-	-	3	10	-	-	195
Jinnocks	36	55	-	-	-	-	36	-	55
Young hinds	56	45	-	11	5	1	55	-	51
Hind calves	45	-	107	-	16	30	45	-	61
Total	400	205	205	12	36	146	205	-	435

* Not included in this figure is a North American Elk bull purchased in September.

+ Includes two calves on the hill

Red Deer

TABLE 2

Liveweights of breeding hinds (No. in brackets)

Hinds born (cohort)		Liveweight(kg) Sept. 82	Liveweight(kg) March 83	Liveweight(kg) Sept. 83
A	1970	91.2 (4)	89.5 (4)	88.3 (3)
B	1971	88.4 (42)	84.4 (42)	86.3 (37)
C	1972	89.2 (21)	85.9 (21)	87.3 (19)
F	1973	79.2 (16)	82.3 (8)	84.1 (8)
*H(1)	1974	83.4 (20)	79.0 (21)	81.0 (20)
*H(2)	1974	90.3 (25)	82.7 (24)	85.5 (24)
J(1)	1975	89.9 (16)	84.5 (16)	84.5 (16)
J(2)	1975	87.2 (16)	79.5 (16)	81.5 (16)
K	1978	83.2 (15)	81.7 (15)	83.0 (15)
P	1980	73.8 (25)	74.0 (26)	82.3 (26)
R	1981	63.0 (37)	67.9 (37)	75.8 (61)
T	1982	-	43.9 (41)	66.7 (51)

* (1) Homebred stock naturally reared
(2) Bought-in stock, artificially reared