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HILL FARMING RESEARCH ORGANISATION

FARM REPORTS AND SUMMARY OF FLOCK RECORDS

YEAR ENDED OCTOBER 1963

I FARM REPORTS - 1962-63

A. GLENSAUGH

Weather

The year began with temperatures about average for November and December, followed by a hard spell of frost during January and February. Air frost persisted until the last week of April, and ground frost until the last week of May. Thereafter temperatures were around average with a highest mean air temperature of 53.9°F occurring in June and a highest maximum air temperature of 70°F in July. 32F degrees of ground frost occurred in January - the coldest on record at Glensaugh.

Rainfall of 40.22 ins. was around the 10 year average, August being the wettest month when 5.38 ins. fell. Greatest precipitation in one day measured 1.35 ins. on 7th February. Precipitation occurred on 252 days, including 51 when snow fell.

The first snow fell on 16th November and lay for about two weeks. Further falls occurred during the second two weeks of December, and from the last week in December until 8th March, the ground was completely snow-covered. In all, the ground was snow-covered for 95 days.

Sunshine recorded was below the average, the sunniest month being May with 183.9 hours recorded. November, December and August were dull months, though February had more than average sunshine. The remaining months were about average or slightly below.

Fog was recorded on 34 days, the foggiest months being November and March, followed by April and October.

Gales occurred on 11 days, the windiest period being from April to June.

Weather Records, November 1962 - October 1963.

Month	Rainfall (inches)	Sunshine (hours)	Mean Daily Air Temp. °F.
1962			
November	4.07	48.9	39.5
December	2.92	44.6	35.7
1963			
January	2.72	69.2	31.1
February	4.22	103.6	30.5
March	4.55	99.6	38.9
April	2.57	145.7	43.3
May	2.76	183.9	46.5
June	3.35	148.3	53.9
July	2.92	136.9	52.5
August	5.38	82.9	53.5
September	2.92	133.0	51.2
October	1.84	75.1	47.3
Total	40.22	1271.7	
1961-62	33.25	1377.3	
1960-61	39.41	1148.8	
1959-60	60.08	1360.5	
1958-59	29.02	1419.5	
1957-58	52.48	1183.0	
1956-57	42.26	1271.3	
1955-56	43.64	1373.3	
1954-55	27.84	1557.8	
1953-54	42.53	1162.3	

SHEEP/

SHEEP - Hill flock

There was no snow when tupping commenced on 12th November but a week later there was a heavy fall with drifts and blocked roads. This lasted for approximately 10 days and involved storm feeding. No further snow of any consequence fell until 24th December and this provided a complete cover which lasted until the end of March. Storm feeding was carried out over this period in the form of hay and silage in addition to the normal supplementary feeding which started on 14th February. Some 1300 bales of hay were fed to the sheepstock over this period. Cairn and Finella ewes received concentrates, the Big Hill ewes were on turnips with a supplementary feed later. Ewe hoggs were allowed access to the kale on the 9th January for 2-3 hours daily.

Apart from snow falls December, January and February were in the main, cold, bright and reasonably dry months. Despite the snow cover the ewes, with the possible exception of the older ewes on Big Hill, were maintained in good condition up to the start of lambing on 5th April. All ewes were lambed inbye and the Cairn ewes remained inbye until the end of May for experimental purposes. The number of lambs born, including inbred lambs, was 645 compared with 689 in the previous year. The mortality from birth to marking was high at 115 but not so high as the previous year at 140. Of the 115 lambs lost 32 resulted from an artificial rearing experiment. From the 572 ewes put to the tup 504 lambs were weaned giving a weaning percentage of 88%.

The weaning weights of lambs were the same as last year at 60 lb. for singles and 51 lb. for twins.

The 504 lambs weaned from the hill flock were disposed of as follows:-

199	ewe lambs retained for stock
34	wether lambs sold store at 99/6d.
111	wether lambs sold fat (F.M.C.) after experimental work at 96/6d.
5	wether lambs sold fat (F.M.C.) at 86/6d.
132	mixed ewe and wether lambs on hand or sold F.M.C. at date of report but returns not yet forward.
13	small artificially reared lambs retained for experiment.
10	deaths.
504	

The average weight of lambs sold store was 72 lb., and of those sold fat 73 lb. (dead weight 31.5 lb.). The average fleece weight was 3.4 lb. for ewes and 3.5 lb. for hoggs.

Low Ground Sheep

In order to effect better utilization of the low ground pasture 99 cast ewes were retained in 1962 and mated to produce cross lambs. In addition 45 Cheviot cast ewes were transferred from Sourhope and mated with Cheviot tups. The Cheviot ewes with ewe lambs were removed for experimental purposes and those with wether lambs (24 in number) were added to the commercial flock. At the date of report 111 cross and Cheviot lambs have been sold store and fat at an average of 116/-. The balance are still on hand or have been sent to the F.M.C. but as yet no returns are forward.

Owing/

Owing to weather conditions this year and the prevalence of "Scald" the forward creep system was abandoned after approximately 6 weeks and no figures are available for live-weight gains per acre.

Lambing in the low ground flock commenced in mid March. Grass was scarce owing to the long winter and to the hill ewes being inbye at lambing. Of the 99 ewes put to the tup, three died before lambing and four were tup eild. In all 150 lambs were born and 129 weaned. They were all sold fat at an average of 85 lbs., dead weight 36.5 lbs.

All the low ground flock were dozed for worms and with satisfactory results. The ewes got Thibenzole and the unweaned lambs Frantin.

CATTLE

The breeding herd numbered 78 at the beginning of the year. This included some old cows due for casting, but retained so that if a younger cow lost her calf, one of the older cows calves would be set on and old cow then sold as a farrow cow. This would cut down the number of bought calves and also take the maximum out of the older cows. It was also decided to sell any cow which aborted for the second time.

The overall result was that only 5 calves were purchased instead of 23 in the previous year. These were of a much better quality and 3 of the 5 have been sold as suckled calves at an average of £47 15s.

At the end of calving the cows had been reduced to 71 and to 69 at the date of this report. 65 calves were punched for calf subsidy.

A summary of calf births and deaths follows:-

Calves Born Alive and Dead	Calves Bought	Dead at Birth Confirmed Abortion	Died at Birth Other Causes	Died After Birth	Total Weaned
73	5	4	5 Dystocia and found dead	4 Two Injured Two Pneumonia	65

It will be seen that there is a slight improvement over last year when 21 calves died compared with 13 this year. This is still not satisfactory and every effort will be made to improve the position in the coming year. Brucella Abortus still accounts for the largest single number of calf deaths and in fact this should perhaps be six as two other calves dead at birth could not be taken to the V.I.O. because of roads being blocked by snow.

Tables/

Tables showing the disposal of cows, calf weaning weights and November cow weights follow:-

Disposal of Cows

Start of year	Died	Sold	End of year
78	3	6	69

Weaning Weights of Calves

Sire of Calves	Male		Female	
	No.	Average Weight (lb.)	No.	Average Weight (lb.)
Aberdeen Angus	23	524	18	505
Hereford	10	550	8	555
Shorthorn	1	448	-	-
Bought in Hereford x Fries. Calves.	5	622	-	-

Liveweight of Cows - November 1963

Breed	No.	Average Weight (lb.)
Highland	1	1064
Galloway	2	1036
Shorthorn x Highland	13	1045
Shorthorn x Galloway	19	1084
Aberdeen Angus Cross	25	1109
Hereford Cross	3	1148
Shorthorn Cross	6	1041
Total/Average Wt.	69	1083

Cattle Sales

The 1962 calves not sold at weaning were wintered indoors and sold in the spring or following autumn at Perth or Laurencekirk, except for heifers retained for the herd:-

Weights and Selling Prices

	Weaning 1962	Spring 1963	Autumn 1963	Average Sale Price.
13 Bullocks	523 lb.	798 lb.	-	£62 - -
16 Heifers	521 lb.	775 lb.	-	£60 15 -
6 Bullocks	397 lb.	692 lb.	800 lb.	£49 - -
5 Heifers	389 lb.	678 lb.	813 lb.	£48 10 -

Of/

Of the 1963 calves 20 were sold as suckled calves at Perth, as follows:-

Black Calves - A.A. or Hereford Crosses

No.	Average Weight	Average Price
10 Bullocks	672 lb.	£47 13 -
2 Heifers	672 lb.	£48 - -

Coloured Calves

No.	Average Weight	Average Price
5 Bullocks	636 lb.	£43 4 -
3 Heifers	650 lb.	£37 - -

The year 1963-64 starts with 69 cows and 22 in calf heifers. The same procedure of calving the old cows and the transferring the calf will be followed. This number of heifers should allow for a fairly extensive culling of old cows and unsatisfactory breeders.

An Aberdeen Angus Bull was purchased in February for 500 guineas and was used on some heifers and smaller cows. The old Aberdeen Angus Bull was used as a chaser and on all the coloured cows. The Hereford Bull was used on the black cows. The Galloway Heifers were mated with the White Shorthorn Bull. After the bulls were taken in the old A.A. Bull was sold and the White Shorthorn will be sold shortly.

All heifer calves have been innoculated against abortion under the Government Scheme.

Cropping 1963

Grain (acres)	Roots (acres)	Grass (acres)
Oats - 40	Potatoes - 2¼ Turnips - 13 Kale - 8 Rape - 26	Silage - 75 (Includes some 2nd Cut) Hay - 40 Grazing, including - 146 Reseeds

Oats - 25 acres of Blenda and 15 acres of Ayr Commando were grown and with the exception of 2 acres of Ayr Commando all stood and cropped well, though the crop was very late in ripening. The two acres were cut with the Forage Harvester and fed to stock. The weather was bad at the normal harvest season, but cleared later when harvest operations proceeded fairly smoothly.

Turnips/

Turnips - The turnips were attached by Leatherjackets and had to be sprayed. This resulted in a reduction in yield over some areas but overall the crop is good. The introduction of Bortfelder tankard type yellow was most successful and this variety although susceptible to frost appears to crop some 8-10 tons per acre better than the normal round yellow turnip.

Kale - 8 acres of Kale were grown for the ewe hoggs and the cattle, and although not a big crop, appears to be satisfactory.

Rape - After an initial severe attack by pigeons the Rape recovered and produced a fairly good crop.

Silage and Hay - Rather more silage was made than intended due to weather conditions at the time which made hay making extremely difficult. Out of 40 acres made into hay only half was reasonably satisfactory. In all about 275 tons silage and 45 tons hay were secured.

Reclamation

The land in the course of being reclaimed in the Upper Redstones was well worked and should be fit for permanent sow out in 1964.

Heather Burning

Due to a complete cover of snow from December until April no burning was carried out this year.

Buildings

The new office and laboratory building is now completed and is proving most satisfactory.

The balance of work on the conversion of the old Bows cottage to a store is now completed.

Materials are now on hand for the erection of the new cottage, and it is hoped that the fank restoration and alteration will commence during December 1963.

B. LEPHINMORE

Weather

November, 1962, was a good month and the first three weeks of tupping were also good, mostly cloudy, but calm and mild. The third week of December was cold and stormy with gales at times, and the year ended with hard frost and light snow showers. January was mainly a month of hard frost. A severe blizzard on 5th February resulted in deep drifting on the hill and blocked roads. A slight thaw set in on the 11th and 12th, but thereafter the month was one of dry, sunny weather with continuous hard frost. The weather broke on 4th March and the month was a mild one with fairly good growth throughout, apart from the last week when there was a return to colder weather, with east winds cutting back growth. April was cold up to the 15th, but lambing started in mild weather and this continued to the end of the month, with mostly calm days with low mist and drizzle. May was cold and wet, with winds varying from west to north and growth very slow, apart from the last week which was sunny and warm. The first fortnight of June was also warm and sunny, but the remainder of the month and the first three weeks of July were dull and wet. A good week of hay-making weather followed. August was cloudy with odd good days, but no settled spell of fine weather. However, rainfall throughout the summer was below average. September was mainly dull with rain at times, followed by gales and heavy showers at the end of the month. The first half of October alternated between mild depressions and cold showery weather with/

with a slight improvement in the second half.

Weather Records, November 1962 - October, 1963

Month	Rainfall (inches)	Sunshine (hours)	Mean Daily Air Temp. °F.
1962			
November	4.12	28.5	42.5
December	8.02	25.0	39.6
1963			
January	0.69	69.7	33.7
February	1.89	112.2	33.5
March	9.75	87.7	42.6
April	4.33	116.4	45.6
May	6.67	155.3	49.0
June	3.61	156.1	57.2
July	3.21	164.9	57.0
August	3.91	83.8	55.5
September	5.88	96.1	53.9
October	8.33	44.2	50.2
Total	60.41	1139.9	
1961-62	68.31	1137.8	
1960-61	81.55	1057.9	
1959-60	60.79	1291.6	
1958-59	51.86	1289.4	
1957-58	62.66	1117.6	
1956-57	75.78	1300.7	
1955-56	59.81	1321.0	
1954-55	67.16	1541.7	
1953-54	86.72	1164.1	

SHEEP

In October, 1962, ewes were in excellent condition and remained so until January. However, the hard conditions of ice and snow throughout February quickly brought them down in condition and by the beginning of March all ewes were lean, although on the whole quite fit. At the beginning of April, Barnacarry ewes, which had not been fed, were in poor condition, particularly the gimmers, and much worse than the other two hirsels. They had little show of milk compared with Midhill and Low-End which had been fed with concentrates. Feeding was apparent both in udder size and also in bloom. Barnacarry ewes in contrast were dry and harsh in the coat. Unfortunately due to a high incidence of tup eild ewes on Low-End and the relatively high number of abortions both on Midhill and Low-End, due probably to the blizzard conditions in February, the lamb weaning percentages were poor. At marking in May, Midhill ewes and lambs were best, with Low-End only slightly behind. On Barnacarry both ewes and lambs were poor. At weaning in August the Low-End wether lambs were best for growth and condition, followed by Midhill and Barnacarry. Lambs lacked the size of last year. Low-End ewe hoggs were best, followed again by Midhill and then Barnacarry.

On/

On the Midhill the Lanark hoggs were best for both growth and quality, followed by the Newton Stewart group. The Lewis group were also well grown and better than the Newton Stewart group if allowance is made for the lack of strength in the head and the fineness of jaw (whether this is important except as a selling point is doubtful). The Swaledale group were again much improved, but still lacking conformation. All the Midhill ewes were again back crossed to the Blackface tup. At weaning all the ewes were in good condition, particularly Low-End. In October, 1963, the Midhill ewes were in excellent condition with Low-End and Barnacarry slightly less so.

Overall numbers of lambs weaned was down to 69% from 77% in 1962. The drop in Barnacarry from 69% to 61% was seasonal. In view of the fact that the Low-End ewes were lambed inbye in 1963 the drop from 71% to 68% was disappointing. This was due mainly to the poorer conception rate and to the loss by abortion of a number of lambs. On the Midhill the drop from 88% to 74% was also due to losses before lambing. A winter death of 25 ewes as opposed to 1 in 1962 and a loss of 13 lambs by abortion before udder locking resulted in a very low in-lamb percentage. The effects of feeding and inbye lambing are therefore masked when considering the weaning percentages and a truer criterion is the percentage loss of lambs on each hirsel.

The top draw of wether lambs was sold store in Stirling in August at an average price of 86/- per head, a drop of 3/6d. on last year's prices. 127 lambs including 22 ewe lambs were sold fat through the F.M.C. in October at an average price of 85/9d., 65 lambs remained unsold at 31st October, due to the poor fattening conditions prevailing throughout the autumn.

Fat Lamb Prices, 1959-63

Year	No.	Carcass Weight (lb.)	Price per Head
1959	139	29	90/6d.
1960	85	27½	78/6d.
1961	133	28	90/-
1962	94	27½	81/3d.
1963	127	27¾	85/9d.

Cast Ewe Prices

Year	No.	Price per Head
1959	68	29/6d.
1960	56	60/-
1961	59	51/-
1962	43	62/-
1963	75	64/-

Average Lamb Prices

Year	No.	Wether Lambs	No.	Ewe Lambs
1959	212	74/-	75	32/6d.
1960	235	65/-	99	43/-
1961	235	79/-	90	42/6d.
1962	217	82/6d.	73	68/-
1963	147	82/6d.	63	55/6d.

All/

All prices quoted are before the addition of producer transport allowances and deduction of standard handling charges and before deduction of commission dues.

Barnacarry and Low-End hoggs were wintered on the Island of Bute and as in 1962 came home in rather poor condition. Midhill hoggs were again extremely well wintered at Point Farm, Ardlamont. In October 1963, the hoggs from all three hirsels were sent to Point Farm.

Supplementary Feeding

A cubed concentrate was again fed to the Midhill and Low-End hirsels in 1963. Due to the unusual amount of snow and in particular the heavy drifting, it was not possible initially to feed the ewes on their hirsels. Feeding of the Midhill sheep commenced on 20th February in the downfall and of the Low-End ewes on 26th February also in the downfall and the 'rough triangle' above the farm. Half a pound per head was offered daily until 6th March. Thereafter the Midhill was fed three times weekly in the enclosed area above the downfall until 20th March when they returned to the hill; one pound of cake being offered at each feed. From 26th March the Midhill was fed one pound per feed twice weekly. Feeding stopped on 16th April when the ewes came inbye for lambing. From 6th to 13th March the Low-End ewes were fed in the downfall and thereafter on the hill. As in the case of the Midhill, feeding was reduced on 26th March to one pound per feed twice weekly and feeding stopped on 15th April when the ewes came inbye for lambing. Approximatley 22 lb. of cake per head was fed on the Midhill and 19 lb. per head on the Low-End.

CATTLE

Of the 35 cows and heifers at November 1962, two 3½ year old cows were culled and a third sold fat, the remaining thirty-two being over wintered and calving from January onwards. One 3 year old heifer was barren and one calf died at birth - a 4 year old cow gave birth to twins on the same day and no bought in replacement was required. Thirty-one calves were reared to weaning of which twenty bullocks were sold at Dalmally in October at an average price of £34 to a top of £38 10s. Seven heifer calves were sold at an average price of £24 5s. Three heifers and one bullock calf which were too small for sale are being over wintered. In October 1963, the two remaining Highland cows were sold at £31 per head. The 1963 calf crop was again creep fed with concentrates. A total of 94 lb. was fed per calf at a cost of approximately 34/-. The feeding period was from 4th September to 18th October.

Liveweights of the cattle in November 1962 and November 1963 were:-

Age (years)	Description	November 1962		November 1963	
		No.	Weight (lb.)	No.	Weight (lb.)
7½	S x H	-	-	7	944
6½	"	7	995	5	993
5½	"	5	993	8	863
4½	"	8	864	4	883
3½	"	7	868	3	848
3½	S x S x H	-	-	3	788
2½	S x H	3	882	-	-
2½	S x S x H	3	798	-	-

Average/

Average weaning weights of the Aberdeen Angus x Shorthorn x Highland calves and the Aberdeen Angus x Highland calves for 1962 and 1963 are as follows:-

Calves	AA x S x H 1962		AA x H 1962		AA x S x H 1963		AA x H 1963	
	No.	Weight (lb.)	No.	Weight (lb.)	No.	Weight (lb.)	No.	Weight (lb.)
Heifers	14	414	1	362	9	419	1	318
Bullocks	11	448	1	367	20	484	1	350

Arable Ground

Field 2 was directly reseeded in July 1963. No hay or silage cuts were taken, the field being grazed by fattening lambs in September. The acre plot in Field 3 North was again cropped with potatoes. As in 1962 the spring was late and the first cut of hay was made on 8th June but due to broken weather was not secured until 14th June. A second field cut on 10th June was not secured until 2nd July, again due to adverse weather. Hay cutting was not resumed until 22nd July. A fine spell of weather from 26th July to 2nd August saw 10½ acres of hay made, baled and carted in excellent condition, although rather mature. A total of 37½ tons of hay was made, 9 tons of second cut being dried in the bale in the newly installed barn drier. No silage was made.

A total of 127 lambs were fattened off grass.

Fencing

Due to prolonged frost conditions during the winter, no fencing was possible at Barnacarry and the roadside fence and the cross fence above the fank remain to be done.

Regeneration

The cattle were again fed on the rough triangle at the steading with access to the Midhill downfall. As far as was possible both hay and silage were fed over the whole area to prepare the ground for reseeding. In early June the following mixture was sown after harrowing:-

3 lb. S23 Certified Perennial Ryegrass
3½ lb. S59 Certified Red Fescue
2 lb. Canadian Red Fescue
½ lb. Certified S184 Wild White Clover

Field 8, the Lab. field and the bottom 10 acres of the tup park were given a dressing of 10 cwts. per acre of high grade slag in July. 5½ tons of Ground Limestone were spread on the steep face of the tup park.

Heather Burning

Approximately 35 acres of heather were burned on Barnacarry hirsel.

Midhill Downfall Road

The section of road jointly shared between the Forestry Commission and the Organisation is now completed.

Barn Hay Drier

An 'in bale' hay drier was installed in the barn during the summer. Two bays were made by dividing the barn along its length with a wood and hardboard division. The plenum chamber consists of weldmesh carried on wood joists supported by brick piers. Cold air is blown to each chamber by means of a 27" diameter horizontal axial flow fan with two 3.75 h.p. 240 volt electric motors running at 1420 r.p.m. and delivering 10,000 cubic feet of air per minute. Heated air is provided by a 30 k.w. black heat coiled wire element type heater battery coupled to the fan.

Two batches of hay were dried on September 1963. The first with cold air only (due to delay in installation of the heater bank) and the second with both cold and warm air. Due to the humid conditions at the time, it was not possible in the case of the first batch to get the hay properly dried, especially the top two layers and these were put to the bottom of the second batch. In the second case when the heaters were in use, good results were obtained from the first three layers of sales, but slight moulding took place in the top two layers. While more experience is required under varying conditions, it would appear that the removal of the top two layers to the bottom of the next batch will not only improve uniformity of drying, but also cut down the drying time per batch.

Comparative Analysis

Field No.	% Moisture	% Crude Protein in dry matter	Est. S.E.	Est. S.E.
7 Field cured	16.6	6.7	31.1	2.12
5 Field cured	17.0	7.7	32.4	2.68
3S Barn dried (cold air)	19.3	11.4	36.8	4.7
4S Barn dried	15.2	11.0	38.1	4.7

Drying Costs

	No. of units	Quantity tons	No. of days in drier	Drying cost per ton
Batch 1 (cold air)	737	3	8	25/-
Batch 2	2246	6	17	39/-

Note The moisture content in the field at baling was similar in both cases.

C. SOURHOPE

Weather

A mild early November became progressively colder as a northerly air-stream became established in the third week causing frosts and blizzards of mid-winter intensity. The very strong winds which accompanied the heavy snowfall resulted in serious drifting. A thaw set in some five days later and comparatively milder weather followed until, in mid-December, a return of the cold northerly winds caused a rapid and considerable fall in temperature. The close of a far from good year saw bitterly cold weather with heavy snowfall, culminating in blizzard conditions on the last day of 1962. This very cold weather, persisted throughout January and February, with day-time temperatures near or below freezing and with further heavy and frequent falls of snow accompanied by strong winds made conditions difficult on the farm. The beginning of March saw snow still lying deeply but an extensive thaw then set in and milder conditions prevailed until the end of the winter when temperatures again dropped and further snow fell. The soil temperature at the 4 in. depth reached 42°F on April 18th for the first time since November 11th.

Summer, unfortunately, has been characterised by mosi unsummer like weather with persistent rain and a general lack of sunshine and warmth, the exception being two dry weeks at the beginning of June and ten consecutive fine days at the close of July, these last being followed by a return to the frustrating, unsettled, dull and wet weather for a prolonged spell. Thereafter a relatively dry early autumn has led to a general improvement in conditions.

Weather Records, November 1962 - October 1963

Month	Rainfall (inches)	Sunshine (hours)	Mean Daily Air Temp. °F.
1962			
November	3.35	43.2	38.8
December	3.1	52.3	35.5
1963			
January	1.7	48.0	29.2
February	1.88	79.7	28.2
March	2.16	97.4	39.9
April	2.46	120.0	43.7
May	2.95	177.0	46.3
June	4.49	177.5	54.5
July	1.04	135.1	55.8
August	9.56	81.2	53.3
September	4.07	135.9	51.5
October	1.96	107.4	47.5
Total	38.72	1254.7	
1961-62	33.28	1160.1	
1960-61	29.01	1189.4	
1959-60	47.7	1296.7	
1958-59	21.0	1570.7	
1957-58	33.7	1372.7	
1956-57	32.8	1328.7	
1955-56	37.0	1406.5	
1954-55	26.9	1673.6	
1953-54	39.9	1220.8	

SHEEP/

SHEEP

In last year's annual report it was noted that the condition of the ewe stock prior to tupping in 1962, was not so good as for the previous 2 years, pre-tupping weights being 6-8 lb. lighter than a year earlier. Thus it was that the ewe stock went into what subsequently proved to be an exceptionally hard winter at something of a disadvantage, a disadvantage at once sorely aggravated by the snow storms of late November. This had two results - tupping was delayed by a week and there were fewer twins in spring, under the circumstances a blessing.

With renewed snow storms at the close of the year storm-feeding started in earnest, sheep being almost entirely dependant on feed offered for their intake throughout January and February. March saw the exhaustion of hay supplies and all sheep were switched to concentrates, hirsels being fed 4, 6 or even 8 oz. daily according to need until the close of the third week in April. Overall the cost of hay and concentrate feeding was about £1 per ewe. Even with this resort to sustained supplementary feeding the April weights (i.e. prior to lambing) of all S.C. Cheviot ewes showed a drop on average of 11 lb., Blackface ewes 17 lb. and the N.C. Cheviot 12 lb. over the ewe weights prior to lambing 1962.

With ewes tending to be standing close together for long periods at feeding or at sheltered sites, conditions were obviously favourable for the spread of any infection, and thus when pneumonia was diagnosed as the cause of death in two South-side Cheviot ewes and symptons of coughing were obvious, 600 S.C. Cheviots were immediately vaccinated with a Pasteurella vaccine. This certainly proved highly effective in checking the threatened outbreak. A total of 59 ewes out of 1450 had died by the onset of lambing.

If conditions for ewes were difficult they were worse for the hoggs, wintered on the hill at Sourhope. Invariably needing time to adjust themselves to hay feeding and hence slow to start, they are much slower feeders than the older ages of sheep, and thus found it difficult to get their fair share of such hay as was being fed, i.e. 1 lb. per day. Obviously segregation of all the hoggs to allow of feeding on their own would have been of tremendous benefit, but as not a single fence or dyke remained effective, rams, ewes and cattle being able to more or less roam at will, this was just not possible. Average hogg weights at April, showing falls of 18 lb., 16 lb. and 19 lb. respectively for S.C.C., N.C.C. and Blackface hoggs from November shows just how severe was the stress. In all 74 hoggs died during this period, as this was 21% of the total number of hoggs at the start of the winter it was a serious loss.

Lambing was straightforward considering the winter and it was disappointing that the final weaning percentages for the S.C.C., N.C.C. and Blackface ewes were only 67%, 84% and 62% respectively. Lamb losses from birth to weaning at 28%, 22% and 34% for the South-country, North-country and Blackface ewes compared unfavourabley with 20%, 16% and 17% for the same ewes in 1962, and with the exception of the N.C.C. hirsel where "marking to weaning" losses were unusually high, again showed the same pattern of 4 lambs dying before marking to each one lost after marking. Not only were lamb numbers severely curtailed but average weaning weights were down by 7-10 lb. for all single lambs weaned.

Taking the whole year November 1962 to October 1963, ewe deaths at 7%, 3.5% and 5% for the S.C.C., N.C.C. and Blackface ewe stock were not so much greater than the death-rate of 6%, 2% and 3% for the same sheep in 1961-62, and are not excessive considering the winter. The same cannot be said for the overall hogg death rate which was 26% 8% and 24% respectively.

It/

It was obvious from the number of sheep showing signs of shedding of the fleece in late May and June that the wool clip would be light, and in fact fleeces clipped out on average from ½ to 1 lb. lighter than in the previous year.

The condition of the ewe stock at weaning after a poor summer was not good, but dry weather towards the end of September and throughout October has led to a marked improvement, so that ewes are going to the tup this autumn in better order than seemed possible at one time; even so they are on average still a pound or two lighter in body weight than in the autumn of 1962 when average body weights were not considered satisfactory.

It has been decided to establish a North-country Cheviot ewe stock on the whole of Hairney Law and not only on half as hitherto and to this end North-country ewe lambs, bought at Lairg in the autumn, have been hefted on. Further Blackface wether lambs have been retained on the Schil to augment the small wether flock, kept for experimental purposes. Thirty Blackface and thirty South-country Cheviot gimmers are being tupped with Merinos to provide Merino "X" lambs for experimental purposes.

The store lamb trade experienced was only fairly satisfactory; principle prices were:-

Date Sold	Breed and No.	Class	Price (shillings)
15th August	52 S.C.C.	Wether	81
	32 S.C.C.	Wether	81
	30 S.C.C.	Ewe and Wether	60
	25 N.C.C.	Wether	109
	65 S.C.C.	Ewe and Wether	57
29th August	40 Blackface	Wether	91
26th September	20 N.C.C.	Wether	91
	38 N.C.C.	Ewe and Wether	70
	38 S.C.C.	Ewe and Wether	52

The average store price for all South-country Cheviot lambs sold to date is 56/8d., for North-country Cheviot lambs 84/6d. and for Blackface lambs 62/-. South-country Cheviot and Blackface lambs are being fattened on rape, the first cut away grading at 106/-.

The Hairney Law draft Cheviot ewes, together with all the Blackface draft ewes were transferred to Glensaugh. The remaining draft ewes, including those fully warranted, those warranted in udder only and those sold as feeders, averaged 56/4d.

CATTLE

With the advent of the severe snow in late December the attempt to bring the Galloway herd through the winter on concentrates alone, as was successfully done in the three previous winters had to be abondoned, and the entire herd, both Blue-grey and Galloway, numbering in all 55 in-calf cows and 8 bulling heifers was brought as close to the steading as possible, in early January. There they remained entirely dependant on hand feeding, some seven weeks elapsing before they were able to move out over the snow to pull some roughage from exposed parts of the hill. Feeding of the hill cows started on December 7th and was not finally stopped until May 7th, the total feeding cost per cow being estimated at £19 (Home-grown hay costed at £12/ton).

Calving/

Calving started on February 17th and the last calf was born two months later, five cows proving to be **barren**. Eight calves were lost, three being born dead, three dying of Vitamin A deficiency (Veterinary diagnosis) at 12-14 days old and a further two of "Hair-ball" when each was 1 month old. Two Friesian bullock calves were set on.

From the middle of August to weaning in October all calves were allowed access to creep feed, the calves consuming on average 2.7 lb./day over a 65 day period at a 'cost of feed' per head of £2 11s. At sale time calves were in wonderful condition. It may be recalled that no A.A. "X" calves were given creep feed last year so it is of interest to compare the weights of this year's calves with those of 1962.

	Aberdeen Angus X Blue-grey calves			
	Bullocks		Heifers	
	No.	Average Weight (lb.)	No.	Average Weight (lb.)
1962 No creep feed	10	497	8	433
1963 Creep fed	11	516	12	478

Creep feeding would appear to have resulted in little or no increase in average weight of the bullock calves, though heifer calves are heavier. It should be borne in mind however that most farmers considered their calves to be in nothing like so good a condition and of less weight this autumn than those sold in the previous autumn.

Nineteen Aberdeen Angus x Blue-grey calves averaged £34 7s. and ten Blue-grey calves averaged £34 9s. In the spring of 1963 twelve calves over wintered from 1962 made £41 10s./head.

All Blue-grey cows were mated to the Aberdeen Angus bull and the Galloways to the White Shorthorn. No further losses of cattle, apart from the calves already noted, occurred throughout the year. 2 Blue-grey and 6 Galloway cows have been cast, and in addition to 4 heifer calves being retained for stock, 11 calves are being over wintered. In November 1963 cattle numbers comprised:-

Cows and in-calf heifers	55
Bulling heifers	5
Heifer calves for herd	4
Calves for sale in spring	11
Bulls	2

Cattle Weights, October 1963

Cows			Sire of Calves	Weaning Weights of Calves			
				Male		Female	
Breed	No.	Weight October 1963 (lb.)		No.	Weight (lb.)	No.	Weight (lb.)
Galloway	25	1122	White Shorthorn	12	440	7	450
Blue Grey	29	1188	Aberdeen Angus	11	516	12	478

Heifers/

Heifers in Calf		Bulling Heifers	
Galloway	4 (964 lb.)	Galloway	1 (886 lb.)
Blue Grey	4 (1094 lb.)	Blue Grey	4 (838 lb.)

Muirburn

Because of adverse weather conditions a further year passed with no muirburn being carried out.

Cropping

A total of 56 acres was cut for hay to give an estimated yield of 67 tons of hay, of which some 50 tons was made in first-class order. Sixteen acres of grass and 6 acres of barley undersown with rye-grass were made into silage to give an estimated 130-135 tons of silage. Nine acres of rape grown to allow a continuation of rape-fattening experiments proved to have been sown too early considering the season, and was slightly over grown when the lambs went on to it. The Coogang field (6 acres) was directly reseeded with a rye-grass-timothy mixture and an excellent take of seeds has been established.

Buildings

A small hay shed has been erected on the Alderhope heft and the existing ones on both Rigg and Gairs have been doubled in size.

Fences

The snow storms of last winter caused extensive damage to considerable stretches of hill fencing. Contract labour repaired the "Hotts" fence, the Park Law Fasset fence and the Fasset-Rigg fence where the opportunity was taken to resite the fence line. Further stretches of fencing have been and are being repaired by farm labour as the opportunity arises though a tremendous amount still remains to be done. A marked deterioration in the state of the farm tracks has occurred and some "repair" work, at least, cannot be long delayed.

In closing this annual report it is fitting that especial mention should be made of the ceaseless and untiring efforts of all staff, both farm and experimental in overcoming day after day the problems which seemed constantly to arise as the winter storms of 1962-63 continued. Without such assistance, so cheerfully and readily given at all hours, what has since proved unfortunately to be a poor year, could have been close to disastrous.

II SUMMARY OF FLOCK RECORDS FOR 1962-63

A. GLENSAUGH

Table 1

Reconciliation of Flock Numbers, 1962-63

Heft	Ewes and Gimmers 12th Nov. 1962	Disposals				Gimmers brought in 12th Nov. 1963	Ewes and Gimmers 12th Nov. 1963	Hoggs Kept 1963
		Ewes Cast	Retained for Sheephouse	Retained for Inbye Flock	Deaths			
CAIRN	112	27Ø	-	-	5	37	117	43
FINELLA	130	9	-	17	5	43	142	45
BIG HILL	330	43	7	88	15	141+	318	90
LOCH HILLS	-	-	-	-	-	-	-	21++
Total	572	79	7	105	25	221+	577	199

Ø 27 one crop ewes transferred to the Big Hill hirsel.

\+ Includes the 27 one-crop ewes from the Cairn.

++ Hoggs retained for the mixed grazing trial on the Loch Hills enclosures and the Forest field.

Table 2

Lambing Percentages, 1962-63

Heft	Ewes to Tup	Tup Eild	+++ Ewes Dead	Lambs Born		Lambs Marked			Weaning %
				Total++	%	Total	%	% 1962	
CAIRN	112	10	3	123 (24)	110	110	98	113	96
FINELLA	130	6	-	168 (44)	129	133	102	94	99
BIG HILL									
Main Flock	107	9	2	114 (18)	106	95	89	102	+84
Lewis	31	1	-	35 (5)	113	31	100	110	100
INBREEDING EXPERIMENT									
Inbred Lambs	47	1	1	58 (13)	123	51	108	90	95
Outcross Lambs	59	1	2	72 (16)	122	54	91	118	+86
PROGENY FROM INBRED * EXPERIMENT									
Inbred Ewes	40	13	3	29 (5)	72	22	55	18*	50
Outcross Ewes	46	5	0	46 (5)	100	34	74	60	+72
BIG HILL TOTAL	330	30	8	354 (62)	107	287	87	93	81
FLOCK TOTAL	572	46	11	645 (130)	113	530	93	97	88

+++ Ewes dead from November to end of April
++ Pairs of twins noted in brackets
+ These figures are low due mainly to the high losses incured in the artificial rearing experiment.
* The progeny from the inbreeding experiment were all producing inbred lambs in 1962. In 1963 they all produced outcross lambs, hence the difference in the percentage of lambs marked.

Table 3

Weights of Ewes, Hoggs and Fleeces (lb.) 1962-63

Heft	EWES				HOGGS			
	Weights			Fleece July 1963	Weights			Fleece June 1963
	Nov. 1962	Mar. 1963	Nov. 1963		Nov. 1962+	Mar. 1963	Nov. 1963	
CAIRN	103	99	111	3.5	72 (39)	67	97	3.7
FINELLA	103	103	102	4.2	74 (45)	67	99	3.6
BIG HILL								
Main Flock	93	90	101	3.1	72 (42)	66	95	3.7
Lewis	85	82	91	2.7	63 (14)	57	80	2.9
INBREEDING EXPERIMENT								
*Foundation Ewes	98	94	-	3.1	-	-	-	-
Inbred Progeny	82	75	92	2.8	61 (32)	56	77	3.3
Outcross Progeny	90	85	98	3.4	69 (31)	62	89	3.8
BIG HILL TOTAL	92	88	97	3.1	68 (119)	61	87	3.3
FLOCK TOTAL	96	93	102	3.4	70 (203)	63	92	3.5

\+ Number of hoggs given in brackets.

* The 1958 age ewes which formed the basis of the inbreeding experiment have reached casting age and therefore no weight is given in the November weight column.

Table 4

Weaning Weights (lb.) and Losses of Lambs, 1962-63

Heft	Weaning Weights				Wt. of Lamb Weaned per ØEwe		Losses of Lambs			
	Singles		Twins*				Birth to Mark.	Mark. to Wean.	Total No. Dead	%
	No.	Wt.	No.	Wt.	Mated	Rearing++				
CAIRN	66	64	30	53	57	60	13	3	16	13
FINELLA	70	69	26	55	64	65	35	4	39	23
BIG HILL										
Main Flock	71	53	x-	-	41	51	19	5	24	21
Lewis	23	52	6	37	49	52	4	-	4	11
INBREEDING EXPERIMENT										
Ewes with Inbred Lambs	28	60	8	43	53	62	7	6	13	22
Ewes with Outcross Lambs	35	61	x-	-	48	56	18	3	21	29
PROGENY FROM INBRED EXPERIMENT										
Inbred Ewes	15	46	2	36	23	40	7	2	9	31
Outcross Ewes	27	50	x-	-	36	46	12	1	13	28
BIG HILL TOTAL	199	55	16	40	42	53	67	17	84	24
FLOCK TOTAL	335	60	72	51	49	57	115	24	139	22

* Exclusive of twins reared as singles.
x All the twins in these groups were used in the artificial rearing experiment.
++ Ewes rearing lambs at marking.
Ø Inclusive of twins reared as singles.

B. LEPHINMORE

Table 5

Reconciliation in Numbers of Ewes by Hirsel, 1962-63

	Ewes and Gimmers Nov. 1962	Ewes		Deaths* Nov./Nov.	Gimmers brought in Nov. 1963	Ewe Transfers		Ewes and Gimmers Nov. 1963
		Draft	Cast			(-)	(+)	
Barnacarry	190	24	6	9 (2)	38	4	-	185
Low End	194	35	2	16 (8)	46	-	-	187
Mid Hill	267	36	2	29 (10)	79	-	4	283
Total	651	95	10	54 (20)	163	-	-	655

* Inclusive of Black Loss noted in brackets.

N.B. 6 Gimmers transferred from Barnacarry to Mid Hill in addition to the 4 ewes.

Table 6

Lambing Percentages, 1962-63

	Ewes to Tup	Tup Eild	Ewes Dead Nov./April	Lambs Born		Lambs Marked			Lambs Weaned %
				Total	%	Total	%	% 1962	
Barnacarry	190	17	6 (2)	174 (14)	91.6	130	68.4	73.6	61.6
Low End	194	32	8 (7)	156 (12)	80.4	144	74.2	76.1	67.0
Mid Hill	267	14	19 (10)	242 (27)	90.6	219	82.0	91.3	74.2
Lanark Cross	73	3	5 (5)	61 (6)	83.6	53	72.6	87.5	61.6
N.Stewart Cross	87	6	4 (2)	81 (10)	93.1	76	87.4	87.7	80.5
Lewis Cross	36	1	1 (1)	34 (3)	94.4	31	86.1	92.1	83.3
Swaledale Cross	71	4	9 (2)	66 (8)	93.0	59	83.1	101.8	74.6
Totals	651	63	33 (19)	572 (53)	87.9	493	75.7	81.5	68.4

Pairs of twins noted in brackets under Total Lambs Born.
Black Loss noted in brackets under Ewes Dead.

N.B. Abortions not shown above - Barnacarry 6 ewes
Low End 9 ewes
Mid Hill 13 ewes
These abortions were brought about by severe weather conditions.

Table 7

Weights of Ewes and Hoggs and Fleeces (lb.), 1962-63

	Ewes				Hoggs			
	Oct. 1962	Apr. 1963	Oct. 1963	Fleece	Oct. 1962	Apr. 1963	Oct. 1963	Fleece
Barnacarry	106.5	87.0	106.7	3.4	63.2	58.8	88.6	3.6
Low End	106.2	89.9	103.7	3.7	65.3	60.4	94.1	4.2
Mid Hill	100.1	89.0	98.4	3.4	61.8	64.3	92.6	4.2
Average	103.8	88.7	102.4	3.5	63.1	61.7	90.8	4.0

Table 8

Weaning Weights (lb.) and Losses of Lambs, 1962-63

	Weaning Weights				Wt. of lamb weaned per ewe mated	Losses of Lambs				
	Singles		Twins			Birth to Marking	Marking to Weaning	Total	%	% 1962
	No.	Wt.	No.	Wt.						
Barnacarry	88	55.4	14	49.6	31.7	45+	13	58	33.3	23.4
Low End	109	57.9	12	48.8	38.2	11+	12	23	14.7	18.6
Mid Hill	156	56.4	26	54.7	41.5	23++	20	43	17.7	10.1
Lanark Cross	39	57.2	-	-	35.0	8	8	16	26.2	9.7
N.Stewart Cross	51	55.2	12	52.7	44.5	5	6	11	13.6	6.0
Lewis Cross	27	58.5	2	53.0	48.2	3	1	4	11.8	13.9
Swaledale Cross	39	55.8	12	57.1	42.0	7	5	12	18.2	11.4
Totals	353	56.6	52	52.0	37.7	79	45	124	21.7	15.6

\+ Includes 4 born dead.
++ Includes 7 born dead.

C. SOURHOPE

Table 9

Reconciliation of Ewe Numbers, 1962-63

Heft	Ewes and Gimmers Nov. 1962	Cast Ewes	Deaths of Ewes and Gimmers Nov./Nov.	Gimmers brought in Nov. 1963	Hoggs Born 1963	Ewes and Gimmers Nov. 1963
S.C. Cheviot						
Fasset	149	16	14	25*	45	144
Rig	138	20	9	28	36	139+
Gairs	126	15	13	26	31	124
Park Law	195	17 + 2+	8	32	50	200
Auchope	206	37	8	40	53	201
Hairney Law	124	25	9	22*	-	112
Total	938	130	61	173	215	920
N.C. Cheviot						
Hairney Law						
Near End	141	32	5	33	38	137
Far End	-	-	-	-	35	-
Blackface						
Schil	370x	63	19	61*	80	349
Flock Total	1449	225	85	267	368	1406

\+ 2 Ewes cast from Park Law put back to Rigg.
x Includes 1 overage draft returned to the hill.
* Excludes 3 cast from Fasset, 1 cast from Hairney Law, 1 cast from Schil.

Table 10

Lambing Percentages, 1962-63

Heft	Ewes to Tup	Tup Eild and Abortions	Ewes Dead	Lambs Born		Lambs Marked			Lambs Weaned	
				Total	%	Total	%	% 1962	Total	%
S.C. Cheviot										
Southside										
Fasset	149	9 (17)	9	124 (10)	83	97	65	96	92	62
Rigg	138	7 (16)	7	122 (13)	88	101	73	100	97	70
Gairs	126	4 (3)	10	121 (12)	96	99	79	87	88	70
	413	20 (36)	26	367 (35)	89	297	72	94	277	67
Park Law										
Free Grazing	97	9 (10)	3	79 (4)	81	57	59	89	49	51
Controlled Grazing	98	6 (14)	2	83 (7)	85	65	66	98	64	65
	195	15 (24)	5	162 (11)	83	122	63	93	113	58
Auchope										
Selection	99	2 (5)	2	101 (10)*	102	80	80	91	76	77
Control	107	5 (5)	1	113 (17)	106	91	85	88	86	80
	206	7 (10)	3	214 (27)	104	171	83	89	162	79
Hairney Law	124	5 (5)	6	128 (20)	103	87	70	87	77	62
TOTAL S.C.C.	938 776	47 (75)	40	871 (93)	93 112	677	72	92	629	67
N.C. Cheviot										
Hairney Law	141 130	3 (6)	2	153 (23)	109 118	131	93	110	119	84
Blackface										
Schil										
Banks and Brow	190	11 (14)	11	167 (13)	88	124	65	98	116	61
Alderhope	180	16 (5)	6	179 (26)	99	120	67	113	113	63
TOTAL B.F.	370 307	27 (19)	17	346 (39)	94 113	244	66	106	229	62

* Includes 1 set of triplets.

Table 11

Weights of Ewes, Hoggs and Fleeces (lb.), 1962-63

Heft	Ewes					Hoggs				
	Weights			Fleece July 1963	Deaths %	Weights			Fleece June 1963	Deaths %
	Nov. 1962	Apr. 1963	Nov. 1963			Nov. 1962	Apr. 1963	Nov. 1963		
S.C. Cheviot										
Southside										
Fasset	111	94	111	3.9	9	69	47	87	2.7	35
Rig	110	93	104	3.1	7	67	50	88	3.1	20
Gairs	111	96	109	3.8	10	69	51	89	2.8	26
Average	111	94	108	3.6	9	68	49	88	2.9	27
Park Law										
Free Grazing	110	89	109	3.6	5	66	46	87	2.9	24
Controlled Grazing	116	96	114	4.0	3	74	48	94	2.3	48
Average	113	93	112	3.8	4	70	47	89	2.7	36
Auchope										
Selection	102	91	100	3.0	5	64	46	86	2.5	20
Control	103	92	102	3.5	3	63	49	89	2.7	20
Average	102	92	101	3.2	4	63	47	88	2.6	20
Hairney Law	109	98	108	4.1	7	65	51	92	3.6	15
S.C.C. Average	109	94	107	3.6	7	67	49	89	2.9	26
N.C. Cheviot										
Hairney Law	125	112	124	3.4	4	78	62	108	3.3	8
Blackface										
Schil										
Banks and Brow	106	90	106	3.1	6	72	52	94	3.2	26
Alderhope	112	95	107	3.2	4	71	55	95	3.0	21
B.F. Average	109	92	106	3.1	5	71	53	94	3.1	24

Table 12

Weaning Weights (lb.) and Losses of Lambs, 1962-63

Heft	Weaning Weights				Weight of lamb weaned per ewe mated	Weight of lamb weaned per ewe rearing	Losses of Lambs			
	Singles		Twins				Birth to Marking	Marking to Weaning	Total	%
	No.	Wt.	No.	Wt.						
S.C. Cheviot										
Southside										
Fasset	77	41.4	10	43.6	25.5	38.3	27	5	32	26
Rig	75	44.8	19	40.8	30.8	44.7	21	4	25	20
Gairs	71	44.8	11	41.5	30.4	39.1	22	11	33	27
	223	43.7	40	41.7	28.7	40.7	70	20	90	25
Park Law										
Free Grazing	45	40.6	2	34.0	20.2	33.8	22	8	30	38
Controlled Grazing	53	44.0	4	35.5	28.0	45.6	18	1	19	23
	98	42.4	6	35.0	24.1	39.9	40	9	49	30
Auchope										
Selection	64	43.5	4	40.3	33.1	43.1	21	4	25	25
Control	64	42.5	12	36.7	33.2	42.2	22	5	27	24
	128	43.0	16	37.6	33.1	42.6	43	9	52	24
Hairney Law	58	43.5	6	31.7	26.3	38.9	41	10	51	40
TOTAL S.C.C.	507	43.2	68	39.3	28.5	40.8	194	48	242	28
N.C. Cheviot										
Hairney Law	87	53.0	20	43.5	43.0	49.7	22	12	34	22
Blackface										
Schil										
Banks and Brow	108	49.4	4	46.3	30.0	46.3	43	8	51	31
Alderhope	96	51.1	6	40.7	31.8	48.4	59	7	66	37
TOTAL B.F.	204	50.2	10	42.9	30.9	47.3	102	15	117	34