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APRIL 1955

F.R. No. 129



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**SHEEP IN LINCOLNSHIRE
1953 - 1954**



Winter Sheep Folding

DEPARTMENT OF AGRICULTURAL ECONOMICS
UNIVERSITY OF NOTTINGHAM
SCHOOL OF AGRICULTURE
SUTTON BONINGTON
LOUGHBOROUGH

Price 1/6

*Sheep
Cost of
Production*

A C K N O W L E D G E M E N T .

The cover illustration is from a photograph of
Suffolk x Oxford Down hogs on kale taken by Geoffrey R. Close,
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SHEEP IN LINCOLNSHIRE.

Sheep on the Lincolnshire Wold and Heath.

An Interim Report on investigations into the Costs
and Returns from Sheep Flocks on the Lincolnshire
Wold and Heath 1953-54 and 1954-55.

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APRIL, 1955.

SHEEP FLOCKS ON THE LINCOLNSHIRE WOLD AND HEATH.

Interim Report.

An investigation is being made into the economics of sheep on the Lincolnshire Wold and Heath for the two years 1953-54 and 1954-55. This interim report presents briefly the results for the first year 1953-54.

Records from 46 flocks were obtained, 36 flocks both bred and Winter fed Sheep whilst 10 were breeding flocks selling the lambs store or fat during the Summer or early Autumn. The flocks were in two districts, 24 on the Lincolnshire Wold and 22 on the Lincolnshire Heath. A considerable range in size was obtained: 25 were mainly farmer shepherded flocks ranging from 42 to 163 ewes, and 21 were bigger flocks ranging from 175 to 492 ewes under a paid shepherd.

Ewe flocks in these two districts can be classified into three breed types, down x longwool, down and hill, and the distribution of these in the sample is given in Table I.

1. Down x Longwool.

The traditional breed of both districts is the Lincolnshire Longwool, now generally crossed with a Suffolk, Hampshire or Oxford ram to give a down x longwool ewe which is again crossed with a down ram to produce lambs for Winter feeding on beet tops and sheep feed.

2. Down.

Today many farmers prefer a down breed and flocks vary from commercially pure bred flocks of Suffolks to flocks with a mixture of two or more down breeds, generally Suffolk with a little Oxford. In such flocks there may be a trace of longwool.

3. Hill.

In seeking for a more prolific and better milking ewe some farmers have brought in stock from the hills of the Welsh Borders, North England and Scotland, and the sample includes flocks of Clun, Scotch Halfbred, Suffolk x Halfbred and Masham ewes. The Clun is a pure bred and replacements can be bred in Lincolnshire, but the replacements for the other types are brought annually from their native districts.

DISTRIBUTION OF BREEDING FLOCKS IN THE SAMPLES.

TABLE I.

Breed of Ewe.	Wold.		Heath.		Totals.
	Under 170 Ewes.	Over 170 Ewes.	Under 170 Ewes.	Over 170 Ewes.	
Down x Longwool.	7.	7.	5.	2.	21.
Down.	2.	3.	6.	3.	14.
Hill.	1.	4.	4.	2.	11.
Totals.	10.	14.	15.	7.	46.
	24.		22.		

In the main, the same techniques have been used as described in the report ⁽¹⁾ on an investigation from 1949 to 1952. This time crops grown for folding have not been costed in detail, but a series of standard costs have been used to correspond with the different cultural and manurial treatments. (see Notes on Methods, P.5).

It was known by the Autumn of 1953 that a change in marketing arrangements would take place in the Summer of 1954. Up to the end of June, 1954, the Ministry of Food was the sole buyer at prices notified after the 1953 Price Review. From the 5th July, fatstock auction markets and the Fatstock Marketing Corporation were the main outlets for fat sheep, whilst a certain number were sold direct from the farm to the butcher. Farmers were uncertain as to how the markets would function and took steps to test the market. Some decided to lamb a batch of ewes earlier than usual in order to sell lambs fat in June, July and August. Fat sheep prices were relatively high in July and August, 1954, and this encouraged the sale of lambs in the fat market rather than their retention to feed on arable crops and beet tops the following Winter.

Farmers tended to hold on to hogs, unfinished when they came off roots, in the hopes that prices would rise after 4th July, instead of fall as under the Ministry of Food's prices in previous years. This set of circumstances confused the feeding period and in some cases it proved difficult to decide when the period was ended and the sheep, then unfinished, were to be carried on as stores.

(1) F.R.No. 118. Profits from Arable Sheep Flocks. University of Nottingham, Department of Agricultural Economics, Sutton Bonington.

The data for breeding and feeding have been summarised separately in Appendix A and B respectively, (Pp. 7-10). These summaries give the averages per ewe or per feeding sheep for all flocks and for the farmer's own flock. In addition comparisons have been made between :-

1. Wold and Heath flocks.
2. Small and large flocks.
3. Down x Longwool, Down and Hill flocks.

Treating the sheep enterprise as a unit, these 46 flocks in 1953-54 showed a profit on both breeding and feeding of £3. 10s. per ewe, including a charge for beet tops or £4. 12s. per ewe, excluding a charge for beet tops. Although this is lower than £5. 16s. per ewe, before charging beet tops, made in 1950-51, it is a valuable contribution to farm profits. In 1953-54 the feeding enterprise was not so profitable partly due to a change in the sample whereby more hill flocks were included, several of which suffered losses on feeding.

The profits shown in the appendices have been broken down into those from the three breeds in each area and summarised in Table II.

PROFITS PER EWE AND PER FEEDING SHEEP.

Beet tops charged.

TABLE II

	Down x Longwool		Down		Hill	
	Wold	Heath	Wold	Heath	Wold	Heath
BREEDING ENTERPRISE :						
No. of flocks.	14.	7.	5.	9.	5.	6.
Profit per ewe, (Shillings)	60.	42.	100.	80.	90.	85.
FEEDING ENTERPRISE :						
No. of flocks.	12.	6.	3. Loss	7.	4. Loss	4. Loss
Profit per sheep, (Shillings)	6.	3.	9.	14.	30.	7.

Considering firstly the traditional breeds, down x longwool and down, the sheep enterprise treated as a whole, is profitable. To distinguish between breeding and feeding, lambs have been valued at Autumn store prices and on this basis the profit is derived mainly from breeding. The average figures show a tendency for the down type to be more profitable, to rear more lambs per ewe and to finish a higher proportion of lambs on Winter feed.

COMPARISON OF LAMBS FROM DOWN x LONGWOOL AND DOWN EWES.

TABLE III.

	Down x Longwool.	Down.
Number of lambs born per 100 ewes.	138.	140.
Number of lambs tailed per 100 ewes.	121.	129.
Percentage of lambs sold fat off Winter feed.	46.	56.
Average feeding period per sheep.	25.6 weeks.	22.3 weeks.

As a breeding enterprise, hill ewe flocks compare favourably with those of the traditional breeds. Whilst producing more lambs per ewe, the average value of lambs sold and carried forward is lower and the net output of lambs is similar to that from the Down group. Hill flocks cost 9s. Od. per ewe less to feed than the other breeds, but the cost of replacement, (deficit on ewes and rams) is 6s. Od. per ewe higher. The feeding of lambs from hill type ewes is not profitable. They were valued higher than home bred lambs of the other breeds, but did not warrant this extra value. On average they finished lighter by 5 lbs. to 7 lbs. estimated dressed carcass weight, and in consequence made about £1. a head less. In addition fewer fattened and the remainder made less as stores.

As between the two areas, Wold and Heath, and as between size of flocks, there is little to comment at this stage. The Wold breeding flocks made more profit than the Heath flocks, but lost this advantage on feeding the lambs. It is noticeable that the Heath feeders sell a much higher proportion of the feeding flock fat, 83 per cent, compared with 37 per cent from the Wold flocks.

NOTES ON METHODS.

Period : Breeding year. On each farm the breeding year starts on the day the flock is made up, varying throughout the three months, August, September and October.

Feeding Season. On each farm, the feeding starts on the day the flock is made up and ends either when the last batch of fat sheep are sold, or when the flock comes off fold to be retained on grass until the Autumn sheep sales.

Size of Flock : Breeding flock. The number of ewes put to the rams.

Feeding flock. The total number of sheep brought in to feed.

Folded Crops : Catch crops : £3. per acre.

Beet Tops : £2. per ton estimated consumption.

Kale, Turnips, Swedes : The sum of the following items :
Cultivations, seeds, etc. :

	£.	s.		
(i) as sown.	5.	0.	per	acre.
(ii) gapped.	10.	0.	"	"
(iii) singled and hand hoed.	12.	10.	"	"
F.Y.M. when applied.	5.	0.	"	"
Fertilisers.			Actual.	
Rent.			Actual.	

The quantity of folded crops consumed has been calculated by the starch equivalent difference method.

Supplementary Homegrown Foods :-

The following values have been used approximately at cost :-

	<u>Per cwt.</u>	
	s.	d.
Barley.	15.	0.
Oats and mixed corn.	14.	0.
Seeds hay.	7.	0.
Mangolds.	2.	1½.

Grazing : Fields used wholly or mainly for sheep were costed and allowances made for other stock grazing the same field. No charge was made for overheads and no credit allowed for residual benefits of sheep grazing.

All other grazing at 6d. per sheep week.

Labour : Shepherds at cost less allowance for other work.

All other labour at the following rates per hour.

	s.	d.
Man including farmer.	3.	0.
Jeep, van and car.	3.	0.
Wheeled tractors.	4.	0.
Tracklaying tractors.	5.	6.
Horses.	1.	4.

Equipment : Wear and tear allowance at standard taxation rates plus actual expenditure on repairs.

Overheads : Per £. expended on man labour on sheep : 5s. 0d.

Per acre of crop used by sheep :

	£.	s.	d.
Folded crops :	1.	0.	0.
Catch crops :		5.	0.
Leys :		2.	6.
Grazing :		1.	3.

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APPENDIX A.

SHEEP INVESTIGATION 1953-54 : BREEDING.

Group.	All.	Wold.	Heath.	Small.	Large.	Down x Longwool.	Down.	Hill.	Farmer's own flock.
Number of flocks.	46.	24.	22.	25.	21.	21.	14.	11.	
Average number of ewes.	185.	212.	154.	98.	288.	189.	177.	186.	
OUTPUT : LIVESTOCK AND WOOL : Per ewe	£. s.	£. s.	£. s.	£. s.	£. s.	£. s.	£. s.	£. s.	
Lambs.	8. 17.	8. 12.	9. 5.	9. 4.	8. 15.	8. 8.	9. 8.	9. 2.	
Other sheep.	5.	4.	7.	3.	6.	7.	6.	2.	
Total.	9. 2.	8. 16.	9. 12.	9. 7.	9. 1.	8. 15.	9. 14.	9. 4.	
Deficit on ewes and rams.	1. 10.	1. 9.	1. 12.	1. 12.	1. 9.	1. 10.	1. 7.	1. 13.	
Net output of livestock.	7. 12.	7. 7.	8. 0.	7. 15.	7. 12.	7. 5.	8. 7.	7. 11.	
Wool Sales.	2. 7.	2. 8.	2. 4.	2. 6.	2. 6.	2. 9.	2. 1.	2. 6.	
Net output livestock and wool.	9. 19.	9. 15.	10. 4.	10. 1.	9. 18.	9. 14.	10. 8.	9. 17.	
COSTS : Per ewe.									
Feed :									
Beet Tops.	13.	9.	18.	15.	12.	13.	16.	9.	
Folded crops.	11.	11.	11.	10.	11.	13.	10.	9.	
Crazing.	1. 12.	1. 12.	1. 11.	1. 12.	1. 12.	1. 13.	1. 9.	1. 13.	
Hand-fed foods.	1. 11.	1. 14.	1. 7.	1. 12.	1. 10.	1. 19.	1. 5.	1. 0.	
Total foods.	4. 7.	4. 6.	4. 7.	4. 9.	4. 5.	4. 18.	4. 0.	3. 11.	
Labour.	1. 6.	1. 1.	1. 13.	1. 2.	1. 7.	1. 8.	1. 4.	1. 4.	
Sundries and overheads.	13.	12.	16.	13.	14.	14.	13.	14.	
TOTAL COSTS :	6. 6.	5. 19.	6. 16.	6. 4.	6. 6.	7. 0.	5. 17.	5. 9.	
Profit or loss.	3. 13.	3. 16.	3. 8.	3. 17.	3. 12.	2. 14.	4. 11.	4. 8.	
Profit - free beet tops.	4. 6.	4. 5.	4. 6.	4. 12.	4. 4.	3. 7.	5. 7.	4. 17.	
AVERAGE VALUES :									
Ewes brought forward.	7. 18.	7. 18.	7. 19.	7. 18.	7. 18.	7. 15.	7. 18.	8. 6.	
Home reared gimmers.	10. 10.	10. 5.	11. 8.	10. 5.	10. 14.	10. 9.	10. 11.	10. 19.	
Purchased ewes and gimmers.	9. 13.	10. 0.	9. 9.	9. 19.	9. 8.	11. 0.	8. 9.	9. 17.	
Total incoming.	8. 10.	8. 10.	8. 12.	8. 10.	8. 10.	8. 8.	8. 9.	8. 17.	
Total flock disposal.	7. 3.	7. 3.	7. 3.	7. 1.	7. 4.	7. 1.	7. 4.	7. 6.	
Ewes carried forward to breed.	8. 3.	8. 5.	8. 0.	7. 18.	8. 5.	8. 0.	8. 5.	8. 6.	
Lambs :									
Sold fat/store.	7. 12.	7. 6.	8. 9.	7. 8.	7. 15.	7. 12.	8. 4.	6. 16.	
Carried forward at end of year.	6. 18.	6. 17.	7. 1.	6. 19.	6. 18.	6. 18.	7. 3.	6. 15.	

A P P E N D I X A.

SHEEP INVESTIGATION 1953-54 : BREEDING.

Group.	All.	Wold.	Heath.	Small.	Large.	Down x Longwool.	Down.	Hill.	Farmer's own flock.
Number of flocks.	46.	24.	22.	25.	21.	21.	14.	11.	
Average number of ewes.	185.	212.	154.	98.	288.	189.	177.	136.	
FLOCK REPLACEMENT : per cent.									
Ewes brought forward.	73.	72.	74.	71.	74.	76.	66.	74.	
Home reared gimmers.	19.	23.	13.	15.	20.	19.	23.	14.	
Purchased ewes and gimmers.	8.	5.	13.	14.	6.	5.	11.	12.	
Total.	100.	100.	100.	100.	100.	100.	100.	100.	
Sales - fat and store.	9.	10.	10.	11.	10.	12.	9.	8.	
Casualties and deaths.	8.	8.	7.	8.	8.	7.	9.	7.	
Culled at end of year.	7.	7.	6.	4.	7.	8.	5.	6.	
Carried forward.	76.	75.	77.	77.	75.	73.	77.	79.	
Total.	100.	100.	100.	100.	100.	100.	100.	100.	
LAMBS PER 100 EWES :									
Fat.	22.	21.	25.	24.	22.	16.	27.	26.	
Store.	17.	27.	2.	25.	14.	21.	16.	13.	
Casualties and deaths.	5.	4.	5.	5.	4.	4.	4.	6.	
Carried forward.	84.	75.	99.	80.	86.	80.	82.	94.	
Tailed.	128.	127.	131.	134.	126.	121.	129.	139.	
Deaths.	13.	13.	14.	17.	11.	17.	11.	10.	
Born.	141.	140.	145.	151.	137.	138.	140.	149.	
OTHERS :									
Incoming.	30.	37.	21.	19.	34.	27.	21.	46.	
Carried forward to breed.	17.	19.	15.	14.	19.	22.	10.	17.	
FEED ALL SHEEP : Cwts. per ewe.									
Purchased cakes and meal.	0.38	0.40	0.34	0.34	0.39	0.39	0.41	0.32	
Home grown grains.	0.51	0.47	0.55	0.47	0.52	0.68	0.37	0.33	
Hay and chaff.	0.17	0.19	0.15	0.15	0.17	0.17	0.15	0.19	
Mangolds and swedes.	4.99	6.33	3.61	6.60	4.32	6.51	3.95	3.30	
Folded crops and beet tops.	16.51	16.03	17.10	14.92	17.14	20.42	14.75	11.03	
Leys : sheep weeks.	43.41	46.70	38.60	36.30	46.30	40.60	44.50	47.50	
Permanent grass : " "	9.04	8.30	10.40	13.70	7.20	7.80	8.60	12.00	
Folded and other crops " "	9.60	8.70	11.00	9.37	9.70	11.50	8.90	6.80	
LABOUR :									
Man : Hours per ewe.	7.10	6.00	8.80	6.40	7.40	7.70	6.80	6.20	
Horse : " " "	0.80	0.30	1.30	0.40	0.90	1.30	0.40	0.20	
Tractor, etc. : " " "	0.60	0.40	0.90	0.40	0.60	0.50	0.40	0.10	

A P P E N D I X B.

SHEEP INVESTIGATION 1953-54 : FEEDING.

Group.	All.	Wold.	Heath.	Small.	Large.	Down x Longwool.	Down.	Hill.	Farmer's own flock.
Number of flocks.	36.	19.	17.	19.	17.	18.	10.	8.	
Average number of sheep.	249.	279.	216.	130.	383.	215.	241.	338.	
Weeks per flock.	28.9	27.1	31.0	29.4	28.4	29.8	29.6	26.1	
Weeks per sheep.	22.8	22.6	23.3	24.0	22.4	25.6	22.3	19.4	
RETURNS : Per sheep.	£. s.	£. s.	£. s.	£. s.	£. s.	£. s.	£. s.	£. s.	
Average value on disposal.	8. 18.	8. 8.	9. 11.	9. 10.	8. 13.	9. 3.	9. 4.	8. 4.	
Average value incoming.	6. 3.	6. 2.	6. 4.	6. 8.	6. 1.	5. 19.	6. 5.	6. 8.	
Net increase in value.	2. 15.	2. 6.	3. 7.	3. 2.	2. 12.	3. 4.	2. 19.	1. 16.	
Wool sales.	8.	11.	5.	8.	9.	13.	11.	1.	
NET OUTPUT :	3. 3.	2. 17.	3. 12.	3. 10.	3. 1.	3. 17.	3. 10.	1. 17.	
COSTS : Per sheep.									
Feed :									
Beet tops.	9.	8.	10.	6.	10.	10.	11.	5.	
Folded crops.	1. 5.	1. 7.	1. 4.	1. 9.	1. 4.	1. 5.	1. 5.	1. 7.	
Grazing.	3.	2.	4.	4.	2.	3.	2.	1.	
Hand-fed foods.	14.	14.	14.	17.	14.	18.	11.	13.	
Total.	2. 11.	2. 11.	2. 12.	2. 16.	2. 10.	2. 16.	2. 9.	2. 6.	
Labour.	9.	8.	10.	9.	9.	10.	10.	7.	
Sundries and overheads.	6.	6.	6.	7.	5.	6.	6.	5.	
TOTAL COSTS :	3. 6.	3. 5.	3. 8.	3. 12.	3. 4.	3. 12.	3. 5.	2. 18.	
Profit or loss.	- 3.	- 8.	+ 4.	- 2.	- 3.	+ 5.	+ 5.	- 1. 1.	
Profit or loss - free beet tops.	+ 6.	nil.	+ 14.	+ 4.	+ 7.	+ 15.	+ 16.	- 16.	
AVERAGE VALUES :									
Lambs brought forward.	6. 0.	5. 18.	6. 2.	6. 6.	5. 18.	5. 17.	6. 1.	6. 5.	
Lambs purchased.	7. 6.	7. 4.	7. 11.	7. 13.	7. 4.	8. 4.	7. 6.	7. 3.	
All lambs into flock.	6. 3.	6. 2.	6. 5.	6. 10.	6. 1.	5. 19.	6. 4.	6. 9.	
All wethers into flock.	8. 10.	8. 12.	8. 1.	8. 1.	8. 12.	8. 19.	8. 4.	7. 9.	
All ewes into flock.	5. 2.	5. 0.	5. 5.	5. 7.	5. 0.	5. 0.	5. 1.	5. 6.	
Fat lambs.	9. 18.	9. 11.	10. 2.	10. 4.	9. 15.	10. 2.	10. 4.	9. 5.	
Fat wethers.	10. 1.	10. 0.	10. 7.	10. 14.	9. 19.	10. 12.	9. 6.	10. 4.	
Fat ewes.	6. 17.	6. 17.	6. 17.	6. 15.	6. 18.	7. 0.	6. 17.	6. 11.	
ESTIMATED DRESSED CARCASS WEIGHT :	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
Fat lambs.	70.	69.	71.	72.	69.	71.	73.	66.	
Fat wethers.	82.	83.	79.	82.	82.	87.	77.	71.	
Fat ewes.	90.	90.	91.	91.	89.	90.	94.	88.	

A P P E N D I X B.

SHEEP INVESTIGATION 1953-54 : FEEDING.

Group.	All.	Wold.	Heath.	Small.	Large.	Down x Longwool.	Down.	Hill.	Farmer's own flock.
Number of flocks.	36.	19.	17.	19.	17.	18.	10.	8.	
Average number of sheep.	249.	279.	216.	130.	383.	215.	241.	338.	
Weeks per flock.	28.9	27.1	31.0	29.4	38.4	29.8	29.6	26.1	
Weeks per sheep.	22.8	22.6	23.3	24.0	22.4	25.6	22.3	19.4	
FLOCK STRUCTURE : per cent.									
Lambs brought forward.	79.	75.	84.	79.	79.	85.	81.	70.	
Lambs purchased.	11.	14.	7.	12.	11.	3.	10.	23.	
Total.	90.	89.	91.	91.	90.	88.	91.	93.	
Wethers.	3.	4.	1.	2.	3.	3.	4.	1.	
Ewes.	7.	7.	8.	7.	7.	9.	5.	6.	
DISPOSALS :									
Lambs : fat.	47.	27.	74.	65.	40.	46.	56.	39.	
stores.	16.	24.	3.	6.	19.	17.	7.	23.	
losses.	3.	4.	3.	2.	4.	3.	6.	3.	
Carried forward.	24.	34.	11.	18.	27.	22.	22.	28.	
Wethers fat.	2.	4.	1.	2.	3.	3.	4.	1.	
Ewes fat.	6.	6.	8.	6.	7.	8.	4.	6.	
FOODS CONSUMED : Cwts. per sheep.									
Folded crops and beet tops.	26.68	30.28	21.45	22.59	28.21	29.80	23.79	24.76	
Purchased cakes and meals.	0.33	0.36	0.31	0.33	0.34	0.40	0.28	0.28	
Home grown grains.	0.35	0.30	0.42	0.44	0.32	0.39	0.26	0.38	
Hay and chaff.	0.05	0.06	0.04	0.05	0.05	0.01	0.11	0.06	
LABOUR : Hours per sheep.									
Man.	2.70	2.50	2.80	2.80	2.60	3.00	3.10	1.80	
Horse.	0.10	0.10	0.10	0.10	0.10	0.10	0.30	0.10	
Power.	0.20	0.10	0.40	0.10	0.20	0.10	0.10	0.30	

