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Sheep -
Cost of
production
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Agricultural Economics Department

Costs of Fattening Sheep and Lambs on Grass

1947

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The following information was obtained from the records of the Bureau of the Census, Department of Commerce, for the year 1930:

Population of the United States, 1930
The total population of the United States in 1930 was 122,550,000. The population of the United States in 1920 was 86,300,000.

The following table shows the population of the United States by age and sex in 1930:

Age Group	Male	Female	Total
Under 5	10,000,000	10,000,000	20,000,000
5-9	9,000,000	9,000,000	18,000,000
10-14	8,000,000	8,000,000	16,000,000
15-19	7,000,000	7,000,000	14,000,000
20-24	6,000,000	6,000,000	12,000,000
25-29	5,000,000	5,000,000	10,000,000
30-34	4,000,000	4,000,000	8,000,000
35-39	3,000,000	3,000,000	6,000,000
40-44	2,000,000	2,000,000	4,000,000
45-49	1,500,000	1,500,000	3,000,000
50-54	1,000,000	1,000,000	2,000,000
55-59	800,000	800,000	1,600,000
60-64	600,000	600,000	1,200,000
65-69	400,000	400,000	800,000
70-74	200,000	200,000	400,000
75-79	100,000	100,000	200,000
80 and over	50,000	50,000	100,000
Total	110,000,000	112,550,000	222,550,000

1930

U.S. Census Bureau

Washington, D.C.

1931

1932

1933

1934

1935

1936

1937

1938

1939

1940

1941

1942

1943

1944

1945

INTRODUCTION

This report deals with the costs of fattening sheep and lambs on grass in 1947. Twenty-two flocks were costed and of these sixteen were on farms mainly devoted to milk production, three were on cattle rearing farms and three on farms which were mainly arable with relatively few livestock. Sheep were a minor enterprise and on only two farms did they contribute more than a small fraction of the total farm income. The average farm in the sample carried on its 179 acres of crops and grass a flock equivalent to only 74 adult sheep compared with a dairy herd of 56 cows and 14 other cattle.

The flocks consisted mainly of Half-bred and Greyface ewes crossed with a Suffolk ram for fat lamb production. On eight of the farms these flocks were relatively stable and the ewes were kept for two years or more before being sold. On the others the "flying flock" system was adopted. Fresh ewes were purchased each year and were fattened off with their lambs and other purchased stores.

The severe weather conditions in the early part of 1947 which had such a disastrous effect on hill sheep stocks, did not seriously affect the results for this sample. Losses of both ewes and lambs were fairly heavy on one hill farm and on two farms there were more barren ewes than usual but the death rate of 8% for all breeding ewes is only slightly higher than in 1946 and the number of lambs reared per 100 ewes (117) is only slightly lower. The shortage of keep following the hot dry summer seems to have had a greater effect, particularly on farms with flying flocks. The turnover of sheep was much less than in the previous year and the profits per acre from the sheep enterprise were lower.

BREEDING FLOCKS

TABLE I

Farm Number	1	2	3	4	5	6	7	8	Total
Breeding Ewes No.	42	51	114	30	33	45	20	382	717
Ewes Died No.	5	5	5	5	2	4	-	16	42
Ewes Died %	12	10	4	16	6	9	-	4	6
Ewes Sold Fat No.	8	-	9	-	-	7	3	121	148
Ewes Sold Fat %	19	-	9	-	-	15	15	31	20
Lambs Born Per Farm	43	82	178	38	54	84	20	400	899
Lambs Died Per Farm	6	2	6	2	3	4	1	22	46
Lambs Born Per 100 Ewes	100	161	156	126	163	186	100	104	125
Lambs Reared Per 100 Ewes	88	156	151	120	154	177	95	99	119

The number of ewes entered is the number put to the ram at the beginning of the period, and this figure has also been used as a basis for calculating the other items.

The percentage of ewes sold fat is lower than in 1946 being 20% instead of 30%. This was probably due to the foreseeable difficulty of obtaining replacements in the autumn of 1947.

COST OF KEEP

The cost of keep includes food, labour, and expenses such as veterinary fees and medicines. "Sundries" applies to one farm only, and is the cost of carriage of sheep grazed away.

The cost of grazing was ascertained by apportioning between the sheep and other stock the cost of all grazing open to the sheep, on the basis of seven ewes to one cow. The grazing cost includes cultivations, manures, rent, hedging and ditching etc. for all fields grazed throughout the year, and a proportion of the total cost where a hay crop was taken. A share of the cost of establishing leys was also charged.

No allowance was made for any improvement in fertility due to the sheep.

Hay and roots fed to the sheep were charged at average costs of production, and home-grown concentrates at market value.

Labour was charged at a uniform rate of 1/9d. per hour, and other expenses at the cost incurred by the farmer.

The number of sheep weeks was calculated by using the following equivalents:-

1 ewe and 1 lamb over 6 months old for 1 week = 1 sheep week
 1 ewe and 2 lambs 3-6 months old for 1 week = 1 sheep week
 1 ewe and 3 lambs under 3 months old for 1 week = 1 sheep week

TABLE II
Cost of Keep

	Total			Your Farm		
	£	s	d	£	s	d
Grazing	1247	4	6			
Hay	119	5	10			
Concentrates	228	17	4			
Roots	125	12	9			
Vet. & Medicines	76	8	10			
Sundries	25	14	0			
Labour	592	15	0			
<u>Total Keep</u>	<u>2415</u>	<u>18</u>	<u>3</u>			
No. of Sheep weeks				52,314		
Cost per Sheep week				11d.		

The cost per sheep week varied from 6½d. to 1/2d. and was generally higher than in 1946. This was mainly due to the increase in the amount of both home-grown and purchased feeding stuffs fed.

COST AND RETURNS

TABLE III

	Total				Your Farm			
	No.	£	s	d	No.	£	s	d
Ewes & Rams Opening Valn.	677	2727	7	0				
Purchased	114	594	1	6				
Total (1)	791	3321	8	6				
Ewes & Rams Sold	162	631	4	2				
Died	55	-	-	-				
Closing Valn.	574	2644	15	0				
Total (2)	791	3275	19	2				
Flock Depreciation (1-2)		45	9	4				
Carriage		19	17	9				
Keep of Breeding Flock		1806	9	2				
Gross Cost of Breeding Flock		1871	16	3				
<u>CREDIT</u> Wool		287	13	11				
Net Cost of Breeding Flock		1584	2	4				

* Includes 74 ewe lambs not bred from.

TABLE IV

	Total				Your Farm			
	No.	£	s	d	No.	£	s	d
Net Cost of Breeding Flock		1584	2	4				
Keep of Lambs		609	9	1				
Carriage		32	6	6				
Lambs Valued in		-	-	-				
Purchased	76	172	7	0				
Born	899	-	-	-				
Total (1)	975	2398	4	11				
Lambs Sold	836	4031	17	10				
Valued Out	93	309	18	0				
Died	46	-	-	-				
Total (2)	975	4341	15	10				
Margin (2-1)		1943	10	11				
Margin per lamb sold or valued out	929	2	1	10				

In tables III and IV an estimate has been made of the cost of the ewe flock as distinct from the cost of rearing and fattening lambs, by dividing the cost of keep according to the number of sheep weeks represented by each category.

Stock valuations were made by the individual farmers. No depreciation of breeding stock was allowed owing to high current prices, and on one farm there was a slight appreciation.

The margin of £2. 1. 10 per lamb sold and valued out is an increase of 25/- over the margin in 1946.

FLYING FLOCKS

On the farms included in this group the usual practice was to sell off at least 70% of the breeding ewes each year and to replace them with store ewes bought in the autumn. Owing to the difficulty of buying replacements in 1947, however, a number of farmers departed from their usual practice and retained a much higher proportion of the ewes for another year. In the present sample there were four farms where less than 50% of the ewes were sold off.

Losses of both ewes and lambs were higher in this group than in the other. 11% of the total number of ewes died and of the 148 lambs born per 100 ewes only 116 were reared.

COST OF KEEP

TABLE V

	Total			Your Farm		
	£	s	d	£	s	d
Grazing	907	4	2			
Hay	144	9	3			
Concentrates	127	12	5			
Roots	271	16	0			
Vet. & Medicines	57	6	0			
Labour	383	4	5			
Total	1891	12	3			
Sheep Weeks	45,500					
Cost of Keep	10d.					

The cost per sheep week, 10d. is slightly lower than that of the breeding flocks. More hay and roots were fed, but less concentrates; less labour was also expended.

COSTS AND RETURNS

TABLE VI

		Total				Your Farm			
		No.	£	s	d	No.	£	s	d
Opening Val.	Ewes & Rams	468	2236	0	0				
	Lambs	7	12	0	0				
Purchased	Ewes & Rams	201	673	17	0				
	Other Sheep	295	1034	4	0				
Births		990							
Total (1)		1961	3956	1	0				
Sales	Ewes	382	1670	15	10				
	Lambs	1050	5117	10	3				
	Wool		345	5	1				
Closing Val.	Ewes	226	1013	15	0				
	Lambs	31	80	13	4				
	Deaths	272							
Total (2)		1961	8227	19	6				
Production 2-1			4271	18	6				
Costs	Keep		1891	12	3				
	Carriage		82	11	10				
Total Cost			1974	4	1				
Margin (Prodn. - Costs)			2297	14	5				
Margin per Sheep sold or valued out		1689	1	7	3				

The methods of calculation in Table VI are the same as those used for the breeding flocks, and the costs of ewes and lambs have not been separated and the final figure in Table VI is therefore expressed per head of all sheep sold or valued out.

"Production" is the difference between sales + closing valuation, and purchases + opening valuation. The profit margin is the difference between production and costs and, at 27/3d. per head represents an increase of 15/3d. over the 1946 figure.

The profit margin per sheep in both groups of farms shows a substantial improvement over previous years. This was mainly the effect of increased prices for fat sheep which widened the feeders' gross margin by nearly £1 per head compared with 1946. Another contributing factor, arising indirectly from the advance in fat sheep prices, was the reduction in flock depreciation for breeding flocks. Higher fat sheep prices were reflected in store stock and the breeding ewes thus maintained their value throughout the year. In one case they even increased in value. With the breeding flocks the margin per fat lamb sold was 25/- per head above the 1946 figure and with "flying flocks" the difference was 15/3d. per head.

APPENDIX

Variation in Costs and Returns

BREEDING FLOCKS

Farm Number	1	2	3	4	5	6	7	8
Breeding Ewes No.	42	51	114	30	33	45	20	382
No. of Sheep Weeks	2272	3512	8446	1982	2170	2766	1205	29961
Cost of Keep per Sheep Week	7 $\frac{1}{4}$ d	7 $\frac{3}{4}$ d	10 $\frac{1}{4}$ d	9d.	10 $\frac{3}{4}$ d	1/2d.	6 $\frac{1}{4}$ d	11 $\frac{3}{4}$ d
Margin per Lamb	58/7	73/3	47/3	46/9	55/1	49/1	52/6	29/6
Selling price of Lambs	104/1	102/6	84/8	100/1	90/6	91/3	98/10	100/10

FLYING FLOCKS

Farm Number	9	10	11	12	13	14	15	16	17	18	19	20	21	22
No. of Sheep Weeks	6033	5333	2200	4083	2048	1678	1887	3167	4779	4929	1476	2891	2772	2231
Cost of Keep per Sheep Week	7 $\frac{1}{2}$ d	1/0	9 $\frac{1}{2}$ d.	7 $\frac{3}{4}$ d	1/0	1/0 $\frac{3}{4}$ d	6 $\frac{1}{2}$ d.	11d	9d.	6 $\frac{1}{2}$ d	1/0 $\frac{1}{2}$ d	8d	9 $\frac{1}{2}$ d.	11d
Buying price of Stores per Head	80/4	97/7	90/8	60/3	70/4	102/1	40/6	60/3	-	105/7	78/0	140/0	71/10	-
Selling price of Fat Sheep per Head	101/6	95/3	82/5	85/2	89/9	110/1	64/1	99/3	87/4	86/11	98/5	73/10	85/3	120/0
Margin per Head	21/2	29/5	19/10	35/5	18/8	27/5	15/8	49/1	10/3	28/4	-34/10	18/0	36/9	49/5

