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*Hay - Cost
of production 0.5.*

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Report No.

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UNIVERSITY OF DURHAM

FARM ECONOMICS BRANCH, KING'S COLLEGE,
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H A Y C O S T S

1 9 4 5

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Introduction.

This report presents the results of an investigation into the costs of producing hay on 26 farms in Northumberland. Most of the farms were situated in the Tyne valley, the hay being grown almost entirely for consumption on the farm.

Taken generally, the season was unusually favourable for hay-making and in addition to good yields the quality of the hay produced was high. The season was comparatively short, approximately from the end of June to the end of July. The fine weather during this period greatly facilitated the winning of the hay. Only in a very few cases was a second turning necessary and in some cases the hay was not turned at all. Piking was done in every case, even in the three cases where the hay was baled before housing.

In all 32 lots of hay were costed, comprising 20 of seeds and 12 of meadow hay. The seeds samples were confined to first and second year leys, while all the meadows were at least 7 years old. Until the advent of war, Tynedale was a meadow hay area, grazing and dairying being practised. Under the ploughing-out campaign the old meadows were the first to go and what old land remained was needed entirely for grazing. During the war, therefore, farmers in this area have had to rely more on short leys for their hay.

Costings Method.

One representative field was chosen on each farm, excepting in a few cases where two or more fields were worked together. Preliminary costs comprising rent, seeds, manures and seeding cultivations were collected by the survey method. Details of hours spent in cutting and harvesting the crops were kept by the farmers on a prepared record form.

In the case of seeds, the cost of the seeds mixture was apportioned equally over the number of years for which it was laid down, up to a maximum of four years.

One-third of the preliminary costs covered by seeding, cultural treatment and rent was regarded as chargeable against the aftermath. Manual labour was charged at cost, Tractors at 2/6d. per hour and Horse Labour at 8d. per hour.

TABLE I. SUMMARY OF RESULTS.

	S E E D S		M E A D O W	
No. of cases	20		12	
Total Acreage	336.9		179.2	
Total estimated yield at leading - tons (a)	677		256	
Total yield, adjusted .(b)	508		192	
	Average	Your Farm	Average	Your Farm
Net cost per acre	£5. 3.0.		£2.12.5.	
" " " ton (led) ...	£2.11.2.		£1.16.8.	
" " " " (adjusted)	£3. 8.4.		£2. 9.0.	
Yield per acre (led)	40 cwts.		28.6 cwt	
" " " " (adjusted).	30.1 "		21.4 "	

(a) Yield at leading is the estimated weight based on numbers and sizes of pikes, stack measurements and similar observations.

(b) Adjusted yield is the first figure less 25% to allow for shrinkage in stack.

In all subsequent tables cost per ton refers to the cost per ton of hay led. If a deduction of 25% is allowed for shrinkage, the cost per ton will be increased by one-third.

TABLE II.

AVERAGE COST PER ACRE - ITEMISED

<u>Preliminary Costs</u>	<u>SEEDS HAY</u>			<u>YOUR FARM</u>			<u>MEADOW HAY</u>			<u>YOUR FARM</u>		
	£.	s.d.	%	£.	s.d.	%	£.	s.d.	%	£.	s.d.	%
Cultivations	7.1.	8					9.	2				
Seeds	1. 4.7.	29					-					
Manures (a)	1. 5.5.	31					5.1.	18				
Rent	1. 6.9.	32					1. 3.10	80				
Total Gross	4.3.10	100					1. 9.8	100				
Credit for Aftermath	1. 7.9.						9.10					
Total - Net	2.16.1.	54					19.10	38				
Cutting	6.0	6					4.4.	8				
Hay-making	15.11	16					13.4.	26				
Leading and Stacking	1. 1.0.	20					13.3.	26				
Other Items (b)	4.0.	4					1.8.	2				
Cost per Acre	5. 3.0.	100					2.12.5.	100				

TABLE III

RANGE IN COSTS PER ACRE

No. of farms with cost per acre:

	70/80	80/90	90/100	100/110	110/120	120/130	shillings
SEEDS HAY	1	3	4	7	3	2	

	30/40	40/50	50/60	60/70	70/80	80/90	shillings
MEADOW HAY	1	3	5	1	1	1	

- (a) Residual values brought or carried forward have been disregarded
- (b) No charges are included for general farm overheads. In all these cases hay was grown for consumption on the farm and overheads are considered to be more properly chargeable against final sale products.

SEEDS HAY

Preliminary Costs include all costs up to the time of cutting. Cultivations include those carried out when the field was sown away and those done prior to cutting, i.e., rolling and harrowing in 1945. In all but one case some sort of cultivation was done in 1945. Manures were applied in all but five cases.

The cost of cutting averaged 6/- per acre. Of the 337 acres costed 184 were cut by tractor and 153 by horse power. Included in cutting is time spent sharpening knives and raking out hedge backs.

Hay-making, which averaged almost 16/- per acre, included turning, raking, kyling, sweeping and piking. In only two cases was horse labour not employed in any of these operations, while tractors were not used in five cases.

Tractor labour was most prominent in leading and stacking, being employed in all but two cases. Horse labour was done without in six cases. Leading and stacking was the most costly of the three stages in harvesting and amounted to 21/- per acre.

Other items included thatching straw, stack pins, etc. and also the cost of hiring balers. Baling was only done in 3 cases.

MEADOW HAY

Cultivations represented only a very small proportion of the cost, only four of the samples receiving any cultural treatment prior to cutting. Manures were applied in four cases, comprising almost 40% of the acreage.

The cutting cost of 4/4d. per acre was lower than in the case of seeds hay. The acreage cut by tractor was 116, while horses were used to cut the other 63 acres.

For hay-making, horses were used in every case, while tractors were used in 50% of the cases.

With seeds hay, tractor power was again prominent in leading and stacking, being employed in all but one case. Horses were only used on half the farms for these operations.

Baling was carried out in one case only.

Table III gives the range in cost per acre between the extremes of 77/8d. and 129/7d. for seeds hay and between 33/11d. and 87/9d. for meadow hay. The overall average cost per acre was 103/- for seeds hay and 52/5d. for meadow hay.

TABLE IV.

AVERAGE DETAILED COSTS PER TON

	SEEDS HAY			MEADOW HAY		
	£.	s.	d.	£.	s.	d.
Preliminary Costs (after deducting $\frac{1}{3}$ for aftermath)	1.	7.	10.	13.	10.	
Cutting	3.	0.	6	3.	0.	8
Hay-making	8.	0.	16	9.	4.	26
Leading and Stacking	10.	4.	20	9.	4.	26
Other Items	2.	0.	4	1.	2.	2
Cost per Ton of Hay Led	2.	11.	2.	1.	16.	8.
" " " " " after adjustment for shrinkage	3.	8.	3.	2.	8.	10

RANGE IN COSTS PER TON

No. of farms with costs per ton between:

	20/ 25	25/ 30	30/ 35	35/ 40	40/ 45	45/ 50	50/ 55	55/ 60	60/ 65	65/ 70	70/ 75	75/ 80	shillings
SEEDS	-	-	-	2	3	6	4	3	1	-	-	1	
MEADOW	1	2	1	4	1	1	1	1	-	-	-	-	

The cost per ton of seeds hay averaged 51/2, individual costs ranging from 37/1 to 77/-. The highest cost was that obtained from the only sample which received a dressing of farmyard manure. This accounts for its extreme position in the range.

Meadow hay averaged 36/8d. per ton, the extremes being 22/2d. and 56/3d. per ton.

TABLE V.

No. of farms with yields in cwts. per acre within the stated ranges:

	15/20	20/25	25/30	30/35	35/40	40/45	45/50	50/55
Seeds	-	-	1	4	5	1	5	4
Meadow	2	1	2	5	1	-	1	-

TABLE VI.

RELATION BETWEEN YIELD AND COST PER TON

	Cwts. per acre	No. of farms	Cost per ton led		
			£.	s.	d.
<u>SEEDS</u>	25 - 30	1	3.	16.	11.
	30 - 35	4	2.	13.	11.
	35 - 40	5	2.	14.	4.
	40 - 45	1	2.	9.	7.
	45 - 50	5	2.	7.	3.
	50 - 55	4	2.	2.	5.
<u>MEADOW</u>	15 - 20	2	2.	15.	3.
	20 - 25	1	1.	18.	5.
	25 - 30	2	1.	14.	9.
	30 - 35	5	1.	13.	8.
	35 - 40	1	1.	9.	6.
	40 - 45	-	-	-	-
	45 - 50	1	1.	19.	11.

