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FODDER CROP COSTS ON NORTH COUNTRY FARMS, 1950

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Previous reports in this series:-

G.28. Fodder Crop Costs on North Country Farms, 1947.

G.31. " " " " " " " 1948.

G.34. " " " " " " " 1949.

FODDER CROP COSTS ON NORTH COUNTRY FARMS, 1950.

I. INTRODUCTION

This is the fourth of a series of annual bulletins presenting data for fodder crop production costs, on some north country farms. The contributing farms are all milk producing farms participating in the national investigation into the economics of milk production, and the costing of fodder crops is a necessary part of this major scheme. British farms are now dependent on home-grown fodders - both concentrates and bulk feeds - in such high degree that questions of production costs command widespread interest. Although there are important limitations to the general applicability of results obtained from small samples of farms, this contribution to the general subject may be considered to merit separate publication.

The report gives, for each of the main fodder crops, an average total cost per acre and per ton or per cwt; an average yield; and averages of the cost and labour time for the various operations in production and harvesting. Comparable figures of costs and yields are presented for the four years 1947-50. Weather data for 1950 and a commentary on sowing and harvesting conditions are also included.

II. ACCOUNTING METHODS and DEFINITIONS

The results presented are average results, and serious misunderstandings will occur if the meaning of the word "Average" as used here, is not fully grasped. The Farm Economics Branch has often had to deal with comments and inquiries which clearly show that the averages derived from samples of farms, which individually have many differences in their production practices, have been seriously misread because the explanations of accounting and tabulation methods have not been studied with sufficient care.

The meaning of "average" can be explained by taking as an illustration, the hay crop. In table 6, on page 14, it is stated that the average cost of hay in 1950 was £6. 18s. per acre and £4. 9s. per ton. These figures were calculated from the record of what was done on 37 farms on which, taken together, 1280¾ acres of hay were costed. (The area costed was not the total hay area but the area convenient for recording purposes). In calculating "the average production" costs over the 1280 acres, the operations and materials used on the separate farm acreages are added together and divided over the 1280 acres. On some farms it happened that the hay crop was cut by horse mower; on others by tractor; and on others by a combination of both. Some of the acres were mucked, others received artificial manures, and others had no manure. The greater part of the crops were of seeds hay, but some were old land hay, and even the seeds were of different ages and mixtures. In harvesting, the greater part of the total acreage was piked before leading but a few farmers were able to lead direct from winrow or cock. Several farms used a baler but not all in the same way. A pick-up baler was used on seven farms and a stationary baler on five.

These are just some illustrations of important differences in hay production practices between one farm and another. The illustrations do not cover all the differences. Obviously these differences will give rise to differences in production

costs between farm and farm. In calculating average cost, however, all that happens on each farm is added together and divided over the whole costed acreage. The man-labour hours, the tractor hours, the cost of manures and so on are evened out over the whole 1280 acres by the averaging, as though each acre received identical treatment. Such an average obviously fits or describes no particular farm. It is a mathematical abstraction and is only real in the sense that, taking one farm with another, lumping together the expensively produced, the cheaply produced and the in-betweens, the average cost of producing hay is what it is said to be. If a different mixture of farms had been drawn upon for the records, a different average cost would almost certainly have been arrived at. In fact, of course, out of the 1280 costed acres, some produced hay at one level of cost, and some at other levels of cost, according to the farms on which they were and the differences in farm practices and working efficiencies.

Here the hay crop has been used to illustrate the general meaning of average cost. Similar considerations apply to the calculation of the average cost of any other crop or farm product.

It may be noted that, on a smaller scale, the same considerations apply to any one farm where a similar crop is grown on two or more fields. Between one field and another there are likely to be differences in treatment and circumstances, giving rise to differences in production costs for each field. The differences may be in respect of seeds mixtures, or varieties, or manurial treatment, or rotational sequence, or in cultural and harvesting methods. The farmer, however, while aware that some fields produce more cheaply than others, is likely to average these differences in his own mind and think of his production costs for the particular crop after lumping together the several fields on which he grew that crop.

Presumably individual farmers will find it easy to appreciate what they will need to record and tabulate if they wish to know the separate costs, field by field. They should find it just as easy to realise the enormous amount of recording and tabulating which would be needed to arrive at separate statements of costs for each and every combination of methods used by individual farmers for any particular crop.

One further point of special importance in this discussion of accounting methods concerns the use of uniform rates of charge for certain items of cost, such as tractor and horse labour, and farm yard manure. Uniform rates are used simply to short-cut the accountancy and keep the whole investigation in measurable compass. But the use of the flat rates means that the total costs arrived at for each farm are made to appear more uniform than is likely to be the actual position. The investigators do not know what the costs of operating tractors or horses happen to be on any one of the farms. Neither do the farmers concerned, in all probability. Since neither the investigators nor the farmers are in a position to undertake the recording and accountancy needed to get these actual costs worked out, the flat rates are used all round, as a matter of practical expediency. The rates used are also averages. They are based on separate investigations, which, incidentally, reveal just as wide differences in tractor-hour and horse-hour costs between one farm and another, as there are shown to be between particular crop costs. The primary purpose in working out the average costs of growing fodder crops is to determine the rates at which the crops should be charged against dairy cows, as an item in the cost of milk production. The crop costs worked out for individual farms are calculated from the things done and the expenses incurred on those farms, except for those items which are charged at uniform rates.

The basis of charge for the various items entering into costs is given below.

Manual Labour. The rate per hour on each farm was calculated by dividing gross weekly wages by the total hours per week for each class of worker (i.e., men, youths, women). The resulting figure was raised by about 8% to cover overtime rates, sick leave and holidays.

Horse Labour is charged uniformly at 1/2d. per hour.

Tractor Labour. Charges were made uniformly as follows:-

Light tractors	3/8d.	per hour,
Medium "	4/0d.	" "
Heavy "	4/4d.	" "
Track layers	5/5d.	" "
Adapted cars for field work	3/0d.	" "

These rates are slightly higher than the rates used in previous years.

Manures. Farmyard manure was charged throughout at 10/- per ton. Artificial manures were charged at cost delivered to farm.

Rent. After deducting from total rent assessed rentals for farmhouse, cottages and farm buildings, the remainder was divided by the farm acreage to give rent per acre.

Miscellaneous expenses included binder twine, seed dressing, dust for roots, straw for covering stacks and clamps, etc.

Overheads

Depreciation of Implements and Machinery. Farm by farm the implements and machinery were grouped according to the class of crops on which they were used. The depreciation, plus one-eighth of the book value of the implements, to cover cost of repairs and renewals, was then divided by the crop acreage to produce a charge per acre for depreciation and repairs.

Hedging, ditching, etc. included the cost of fencing, hedge-laying, switching, stone-walling, cleaning out of ditches, draining, etc. The total cost for these items was spread evenly over the farm and charged at so much per acre. Where a new fence was erected or a whole field drained, the cost was spread over a number of years and charged proportionately to the field concerned.

General. This item included a portion of the general farm expenses, such as telephone, office expenses, postages, subscriptions, accountant's fees, market expenses, insurances, water rate and other miscellaneous items. General expenses also included 5% of the total labour bill to cover "unproductive time". This group of overheads was allocated crop by crop in the same proportions as the recorded crop labour bore to total labour charges.

Share of establishing leys (in costs of hay and silage). A portion of the cost of seed, cultivations, sowing and overheads, according to the anticipated duration of the ley.

Residual Manurial Values were allowed for at the rates recommended by the committee appointed by the Ministry of Agriculture.

Apportionment of cost between grain and straw. For oats, one-eighth of the net cost was allotted to straw. For mixed corn the portion varied between one-eighth, where the mixture was mainly oats with some peas, to one-twelfth where a fair proportion of beans was included. Nothing was allowed for bean straw.

III. WEATHER REPORT, 1950

On the whole, 1950 was a year of unsettled weather. A cold, showery spring was followed by a wet summer. Crops, though troublesome to harvest, yielded fairly well up to averages.

The weather during the first three months was fairly mild, apart from the last week in February, when some keen frosts and snow were experienced. During January good progress was made with the winter ploughing and in March, which was comparatively dry and sunny, much of the spring corn was sown, under very good conditions.

April and May brought cool, showery weather. The growth of corn and grass was checked by the cold winds and at the end of May pastures were poor. Work on the land for roots was difficult and it was not until the last two weeks in May that any real progress could be made; consequently root sowing was later than usual.

Warm, dry weather prevailed during the first half of June, when most of the first cuts of silage were taken. Showers were frequent later in the month. Hay crops made fairly rapid growth and pastures improved considerably. The last week in the month saw haymaking in full swing on most farms. During July catchy weather slowed up the work and by mid-August there was still a certain amount of hay to be carted on the lowland farms. On hill farms, haymaking was almost completely held up. Roots at this period promised only moderate crops.

The harvesting of grain was very slow and difficult. Many crops had become "laid" and had begun to show second growth. The adverse weather continued throughout September and some stooked grain began to sprout. It was well into October before carting and stacking was completed. A considerable amount of grain had to be threshed immediately, as it was rather soft and not in a fit condition to keep. A certain amount of combining was done but the weather was a severe test of this form of harvesting.

Of the root crops, kale was fairly good. Mangolds, swedes and turnips were rather disappointing.

November proved to be very wet and was followed by a wintry December; consequently work on the land was nearly at a standstill and by the end of the year very little ploughing had been done.

RAINFALL, SUNSHINE & MEAN MAXIMUM TEMPERATURES, 1950

	Cockle Park, Northumberland			Newton Rigg, Cumberland			Durham University, Durham		
	Rain	Sun	Max. Temp.	Rain	Sun	Max. Temp.*	Rain	Sun	Max. Temp.
	Ins.	Hrs.	Deg.	Ins.	Hrs.	Deg.	Ins.	Hrs.	Deg.
Jan.	1.62	29.9	43.7	3.20	42.3		1.64	22.8	43.5
Feb.	3.64	92.6	45.0	4.27	79.1		3.02	95.9	43.0
Mar.	.99	140.6	51.1	1.87	112.0		.82	148.4	52.0
April	2.03	123.9	50.0	3.09	120.3		1.31	132.4	51.0
May	1.90	133.3	56.3	1.80	176.3		1.49	115.3	55.3
June	1.92	215.8	66.8	1.51	180.0		.77	234.1	69.0
July	3.89	172.4	66.2	2.46	105.6		3.96	167.8	67.7
August	3.88	140.8	64.8	5.33	116.9		4.81	148.8	66.0
Sept.	3.71	124.1	59.0	6.49	111.5		4.02	114.1	59.9
Oct.	1.22	98.4	53.9	3.64	95.3		.90	101.1	55.1
Nov.	5.41	70.7	45.1	4.34	56.1		5.54	64.1	47.0
Dec.	2.30	49.8	36.5	2.85	41.2		3.17	43.9	37.9
Totals	32.51	1392.3	-	40.85	1236.6		31.45	1388.7	-
Av.for several years	28.79	1380.5	-	35.47	1281.3		25.60	1318.0	-

* Not available.

IV. RESULTS

The total acreage costed for each crop, and the numbers of farms contributing to the acreages, were:-

	No. of farms	Acres Costed
Oats	32	632¼
Mixed Corn	12	175¼
Beans	8	46½
Hay	37	1280¼
Silage - grass ...	13	353¼
Silage - arable ..	10	138
Swedes and Turnips	21	95¼
Mangolds	22	46¾
Kale	20	55½
Grazing	49	4350½ *

* includes allowance for aftermath grazing.

Hay

Hay yields were generally rather higher than in 1949 but quality was not quite so good, the hay being harvested under less favourable conditions. Haymaking commenced about the normal time for the district but was very prolonged and several crops were severely weathered before they could be collected.

The majority of the costed hay was made from young seeds mixtures, 64.5% being under 4 years old, of which nearly half was first year. Only about one-fifth of the total acreage was classed as meadow hay, though actually only a portion of this was real old land meadow. Round about 90% of the hay acreage was of a temporary nature, 3-year mixtures being the most favoured.

Harvesting involved several methods. Making the hay safe in the field by "piking" was carried out on the greater portion of the farms, though several carted the hay direct from the winrow or cock. Baling was increasing, especially by the pick-up baler, which was employed by seven farmers to bale all or part of their hay. On five farms a stationary baler was used, but even on this small group the work on the hay prior to baling varied. Some was swept to the baler from the winrow, some was piked first and in one case it was stacked before baling. The average cost of £6. 18s. per acre hides the differences in costs of these various methods of haymaking. Although the sample was not sufficiently large to make a fair comparison of the costs when the hay was baled and not baled, an analysis was made which showed that the average cost per acre where the hay was not baled was £6. 7s. (£6. 8s. where piked and £6. 4s. where carted from cock) and the cost when all the hay was baled was £8. 11s. The respective costs per ton were £4. 3s. and £4. 16s.

Labour accounted for two-fifths of the average gross farm cost per acre, over the whole sample, and manures about one-quarter. Next in order of importance came total overheads (13.5%), rent (13%) and share of establishment cost (10.2%). Miscellaneous expenses were very small.

The average cost per ton was much about the same as in 1949, despite the increase in yields. This was due mainly to higher costs for labour and manures.

Grain Crops

Grain crops were sown in good time and under favourable soil and weather conditions. The greater portion of the seed was home-grown and the average rate of sowing was: oats 13½ stones, mixed corn 14 stones, and beans 14 stones per acre.

Reasonable growth was maintained throughout the season and there were no reports of widespread damage by pests. The early season prospects were promising. The weather during harvest, however, caused much damage. Laid corn was prevalent and some crops became over-ripe before the binder could operate; consequently a fair amount of grain was lost through shedding. Cutting commenced rather later than usual and proved very tedious. Stooks stood out so long, in many cases, that sprouting was common. For all that, yields proved to be satisfactory, though no doubt the quality was impaired.

The average cost per acre increased for all the grain crops and although yields were rather better, the average cost per ton was higher than in 1949.

The total average hours worked pre-harvest was very similar to the previous year, except for beans, which had a larger application of farmyard manure. The time spent on harvesting, however, was decidedly higher and was caused primarily by the necessity to re-set and shift stooks. The total labour costs, therefore, were appreciably higher than in 1949 and comprised over 50% of the gross cost. The average cost of seed was lower, due to a large amount of home-grown seed being used. The remaining cost items did not disclose any significant difference, except farmyard manure in the case of beans.

Root Crops

Root crops appeared to find it difficult to make up for the late sowing; therefore yields were rather disappointing, especially for mangolds, which were well below normal. There was a certain amount of re-sowing of swedes and kale after damage by "fly" in early June. On some farms, part of the root acreage failed completely and was resown with a green crop for sheep.

The average net cost per acre of mangolds, swedes and turnips was slightly lower than in 1949. Although the total hours of labour decreased, the total labour cost was much about the same, owing to the rise in wage rates and charges for tractor and horse labour. The cost for manures was rather less, while the other cost items showed little change. Kale showed a rise in the net cost per acre, mainly through increases in labour costs.

Silage Crops

Silage making continued to extend and the acreage made during 1950 on the farms in the Milk Costs Investigation exceeded that of the previous year by 35%.

Nearly all the grass silage was made from temporary grass, 73% being first or second year "seeds". On 292¼ acres only one cut of silage was taken, 48 acres of which was hay aftermath. Two cuts were obtained from 56 acres and three cuts from 5 acres. The cutting of some first crops commenced towards the end of May but the general cutting time was the first week in June. Second crops were harvested during the latter part of July.

Several methods were adopted to harvest the grass. A hired cutlift was used on two farms. On the remainder the crop was cut by reaper and collected either by green crop loader, buckrake, or winrowed and hand forked. All the crops were pitted, except 3½ acres, which were stacked.

There was great variation in the mixtures for arable silage. Oats, peas, beans and vetches formed the main basis. In some cases ryegrass or clover or both were added to one or more of the main components. Kale and rape were grown on one farm, with a mixture of grasses and clover. Other crops grown and ensiled were rye and vetches, oats and barley and oats alone.

Cutting was done by binder on three farms and by reaper on the remainder. Most of the material was hand forked, mechanical collectors being used on three farms only. A small amount of silage was made in a tower silo and some was stacked. The majority, however, was made in pits.

In comparison with 1949 the average net cost per acre was higher in the case of grass silage, the main cause being increased labour costs. Arable silage, on the other hand, cost less per acre and the chief reason was the lower cost for seed, which was principally home-grown. Yields followed a similar trend to the per acre figures, which resulted in the average cost per ton for grass silage showing a decrease and for arable silage a slight rise. The highest cost and yield per acre was for a crop which was cut twice and the lowest was where the silage was made from hay or aftermath.

The hours of labour employed in cutting and carting grass silage showed very little difference from 1949. There was, however, a slight reduction for arable silage, which was understandable owing to lighter crops.

No attempt was made to group the costs for the different methods employed in harvesting. The sample was not large enough.

Grazing Costs

An analysis of the grazing costs on 49 farms showed that the average cost per acre was 61/8d. The average stock carried was one cow equivalent per acre for 24.3 weeks at an average cost of 2/6½d. per week.

3730½ acres were pasture land. 620 acres were added to this as being equal to the aftermath grazing. The pasture acreage included a small area of rough grass but also a fair proportion of young "seeds".

Establishment Costs

The average cost per acre of establishing different leys was as follows:-

	£.	s.	
1 year leys	2.	12.	per acre
2 " "	3.	2.	" "
3 " " (or longer)	4.	10.	" "
Reseeding (mainly permanent)	7.	6.	" "
Autumn grazing only	2.	0.	" "
Lucerne	10.	0.	" "

These costs exclude rent and manures, which were charged direct to the crop for which they ley was used.

TABLE 1.

GENERAL COMPARISON OF AVERAGE CROP COSTS IN 1947, 1948, 1949 and 1950

	1947			1948			1949			1950		
	Yield per acre	Cost per acre	Cost per ton	Yield per acre	Cost per acre	Cost per ton	Yield per acre	Cost per acre	Cost per ton	Yield per acre	Cost per acre	Cost per ton
	Cwts.	£. s.	£. s.	Cwts.	£. s.	£. s.	Cwts.	£. s.	£. s.	Cwts.	£. s.	£. s.
Oats	18.4)	11. 9.	10. 18.	22.8)	12. 18.	9. 18.	21.0)	12. 8.	10. 6.	22.5)	13. 10.	10. 10.
Oat straw	18.4)		1. 12.	23.2)		1. 8.	17.5)		1. 16.	20.1)		1. 15.
Mixed corn	19.9)	11. 19.	10. 15.	20.9)	14. 19.	12. 18.	24.6)	14. 11.	10. 13.	24.9)	15. 5.	10. 17.
" " straw .	18.8)		1. 5.	23.6)		1. 5.	21.2)		1. 6.	20.7)		1. 15.
Beans	12.0	12. 10.	20. 18.	14.4	16. 15.	23. 5.	12.2	13. 7.	22. 0.	13.1	18. 14.	28. 8.
Hay	33.9	6. 1.	3. 11.	33.8	6. 7.	3. 15.	28.2	6. 8.	4. 10.	31.0	6. 18.	4. 9.
Silage - grass ..,	-	-	-	89.0	8. 7.	1. 18.	80.9	7. 16.	1. 18.	97.3	8. 12.	1. 16.
" - arable	-	-	-	196.0	19. 10.	2. 0.	147.0.	16. 18.	2. 6.	132.5	15. 10.	2. 7.
	Tons			Tons			Tons			Tons		
Swedes and Turnips	13.5	26. 17.	2. 0.	16.4	28. 1.	1. 14.	12.8	28. 18.	2. 5.	13.0	27. 16.	2. 3.
Mangolds	12.2	29. 15.	2. 9.	17.2	31. 19.	1. 17.	20.0	35. 0.	1. 15.	13.7	34. 2.	2. 10.
Kale	18.5	29. 5.	1. 12.	19.0	31. 11.	1. 13.	17.2	31. 18.	1. 17.	16.3	35. 9.	2. 4.

TABLE 2.

AVERAGE COST OF PRODUCTION OF OATS, MIXED CORN and BEANS, 1950. (Prime cost structure) Per acre

	OATS				MIXED CORN				BEANS			
	Average of 32 farms			Your farm	Average of 12 farms			Your farm	Average of 8 farms			Your farm
COSTS:	Hours	£. s.	%	£. s.	Hours	£. s.	%	£. s.	Hours	£. s.	%	£. s.
Labour: Manual	34.0	3.15.	28.1		34.8	3.17.	26.4		43.0	5. 0.	26.2	
Horse	2.8	3.	1.1		4.0	5.	1.7		1.2	1.	.3	
Tractor	8.8	1.15.	13.3		8.4	1.13.	11.3		15.4	3. 1.	16.0	
Contract	-	1. 8.	10.5		-	1.17.	12.6		-	1.18	10.0	
Total Labour		7. 1.	53.0			7.12.	52.0			10. 0.	52.5	
Seed		1.17.	13.9			2. 9.	16.8			2.12.	13.6	
Manures: Artificials		18.	6.8			19.	6.5			17.	4.5	
Farmyard manure		-	-			5.	1.7			2. 9.	12.9	
Rent		1. 6.	9.8			1. 0.	6.8			1. 3.	6.0	
Miscellaneous Expenses		7.	2.6			9.	3.1			6.	1.6	
Overheads: Equipt. deprecn. & repairs		1. 2.	8.3			19.	6.5			18.	4.7	
Hedging, ditching, etc...		4.	1.5			6.	2.1			2.	.5	
General		11.	4.1			13.	4.5			14.	3.7	
GROSS FARM COST		13. 6.	100			14.12.	100			19. 1.	100	
Manurial Residues +		4.				13.				-		
-		-				-				7.		
NET FARM COST		13.10.				15. 5.				18.14.		
Total acreage costed		632¼				175¼				46½		
Average yield per acre grain		22.5 cwts.				24.9 cwts.				13.1 cwts.		
straw		20.1 "				20.7 "				-		
Average cost per cwt. grain		10s. 6d.				10s.10d.				28s. 5d.		
straw		1s. 9d.				1s. 9d.				-		
Range in net cost per acre - Highest		£19. 7s. 4d.				£21. 2s. 0d.				£26. 7s.10d.		
Lowest		£ 8.10s. 0d.				£11.11s. 5d.				£10. 8s. 6d.		
Range in net cost per cwt. - Highest (grain)		£ 1. 2s. 0d.				19s. 0d.				£ 2. 5s. 2d.		
Lowest		6s. 3d.				7s.10d.				13s.11d.		
Range in yield per acre - Highest (grain)		36.2 cwts.				31.5 cwts.				26.7 cwts.		
Lowest		11.6 "				17.1 "				9.1 "		

TABLE 3.

OPERATIONAL COSTS and HOURS PER ACRE

	OATS					MIXED CORN					BEANS				
Number of farms	32					12					8				
Total Acreage Costed	632¼					174¼					46½				
	Man	Horse	Trac-tor	Con-tract	Total Cost	Man	Horse	Trac-tor	Con-tract	Total Cost	Man	Horse	Trac-tor	Con-tract	Total Cost
	Hrs.	Hrs.	Hrs.	£.s.d.	£. s. d.	Hrs.	Hrs.	Hrs.	£.s.d.	£. s. d.	Hrs.	Hrs.	Hrs.	£.s.d.	£. s. d.
Ploughing	2.9	1.4	2.3	3.	17. 4.	2.7	1.0	2.2	-	16. 4.	2.4	-	2.4	-	15. 0.
Cultivations	1.2	.1	1.1	-	7. 1.	1.8	.2	1.7	-	11. 1.	1.6	-	1.6	-	10. 1.
Carting & Spreading: Arts.	.5	.2	.2	1.2.	3. 6.	.2	.1	.1	-	11.	.3	-	.3	-	1.10.
FYM.	-	-	-	-	-	1.1	.9	-	-	3. 6.	13.3	.8	5.4	-	2.13. 8.
Sowing	1.6	.1	.7	2.	6. 7.	1.3	.4	.5	-	5. 7.	1.1	-	.6	-	5. 0.
After Cultivation	1.0	.1	.7	-	5. 3.	1.0	.3	.8	-	5. 8.	1.0	-	.9	-	5. 9.
TOTAL PRE-HARVESTING	7.2	1.9	5.0	1.7.	1.19. 9.	8.1	2.9	5.3	-	2. 3. 1.	19.7	.8	11.2	-	4.11. 4.
Cutting	3.0	.1	1.2	2.	12. 0.	2.2	.2	1.0	-	9. 1.	1.8	-	.9	-	8. 0
Stooking	6.8	-	-	-	14. 9.	4.5	-	-	-	9.10.	3.8	-	-	-	8.11.
Carting & stacking	7.9	.8	2.4	-	1. 6.10.	9.7	.9	2.1	-	1.10. 1.	9.9	.4	3.3	-	2. 0. 7.
Thatching	1.6	-	-	-	3. 9.	1.5	-	-	-	3. 2.	1.2	-	-	-	2.11.
TOTAL HARVESTING	19.3	.9	3.6	2.	2.17. 4.	17.9	1.1	3.1	-	2.12. 2.	16.7	.4	4.2	-	3. 0. 5.
Threshing	7.5	-	.2	1.6.0.	2. 4. 3.	8.8	-	-	1.16.9	2.16.10.	6.6	-	-	1.18.3	2. 8. 6.
TOTAL LABOUR	34.0	2.8	8.8	1.7.9.	7. 1. 4.	34.8	4.0	8.4	1.16.9	7.12. 1.	43.0	1.2	15.4	1.18.3	10.0. 3

A small percentage of all three crops was combined and a small quantity of oat and mixed corn straw was baled. These costs have been included under threshing.

The average amount of grain threshed per 8 hour day was 9 tons 13 cwt. oats; 7 tons 18 cwts. mixed corn and 4 tons 18 cwts. of beans and the average number of workers employed at the thresher was 8.2 (oats), 8.7 (mixed corn) and 8.0 (beans) excluding men hired with the thresher.

TABLE 4.

AVERAGE COST OF PRODUCTION OF SWEDES & TURNIPS, MANGOLDS and KALE (Prime cost structure) Per acre

	SWEDES and TURNIPS				MANGOLDS				KALE			
	Average of 21 farms			Your farm	Average of 22 farms			Your farm	Average of 20 farms			Your farm
COSTS:	Hours	£. s.	%	£. s.	Hours	£. s.	%	£. s.	Hours	£. s.	%	£. s.
Labour: Manual	112.5	12. 6.	41.5		133.0	15. 1.	41.4		126.4	14.11.	39.3	
Horse	16.9	1. 0.	3.4		15.1	18.	2.5		22.6	1. 6.	3.5	
Tractor	21.9	4. 7.	14.7		26.0	5. 3.	14.1		39.7	7.18.	21.3	
Contract	-	-	-		-	1.	.1		-	1.	.1	
Total Labour		17.13.	59.6			21. 3.	58.1			23.16	64.2	
Seed		10.	1.7			1. 7.	3.7			15.	2.0	
Manures: Artificials		2.17.	9.6			3.15.	10.3			2.16.	7.6	
Farmyard manure		4. 2.	13.9			5. 2.	14.0			5. 0.	13.5	
Rent		1. 4.	4.1			1. 3.	3.2			1. 3.	3.1	
Miscellaneous Expenses		6.	1.0			7.	1.0			3.	.4	
Overheads: Equipt. deprecn. & repairs		1. 2.	3.7			1. 2.	3.0			1. 0.	2.7	
Hedging, ditching, etc....		3.	.5			3.	.4			3.	.4	
General		1.15.	5.9			2. 6.	6.3			2. 5.	6.1	
GROSS FARM COST		29.12.	100			36. 8.	100			37. 1.	100	
Manurial Residues +-		- 1.16.	-			- 2. 6.	-			- 1.12.	-	
NET FARM COST		27.16.	-			34. 2.	-			35. 9.	-	
Total acreage costed		95¼				46¾				55½		
Average yield per acre ..... tons		13.0				13.7				16.3		
Average cost per ton		£2.2.10.				£2.10.0.				£2.3.7.		
Range in net cost per acre - Highest		£45.8.5.				£48.10.10.				£53.19. 2.		
Lowest		£13.9.4.				£20.12. 0.				£18. 7. 5.		
Range in net cost per ton - Highest		£ 3.8.5.				£ 9. 6.10.				£ 7.12. 0.		
Lowest		£ 1.2.5.				£ 1.10.10.				£ 1.10.10.		
Range in yield per acre - Highest		24.0 tons				24.0 tons				25.0 tons		
Lowest		6.8 "				3.0 "				4.7 "		

TABLE 5.

OPERATIONAL COSTS and HOURS PER ACRE

	SWEDES and TURNIPS					MANGOLDS					K A L E				
	21					22					20				
	95¼					46¾					55½				
	Man	Horse	Trac-tor	Con-tract	Total Cost	Man	Horse	Trac-tor	Con-tract	Total Cost	Man	Horse	Trac-tor	Con-tract	Total Cost
	Hrs.	Hrs.	Hrs.	£.s.d.	£. s. d.	Hrs.	Hrs.	Hrs.	£.s.d.	£. s. d.	Hrs.	Hrs.	Hrs.	£.s.d.	£. s. d.
Ploughing	4.1	1.0	3.6	-	1. 3. 7.	4.4	.5	4.1	-	1. 7. 2.	4.7	.4	4.6	-	1. 9. 6.
Cultivations.....	7.2	1.8	5.2	-	1.18. 0.	5.3	.8	4.6	4	1.11.10.	5.0	.6	4.4	7.	1.10. 6.
Carting & Spreading: Arts.	1.3	.4	.6	-	5. 4.	1.2	.3	.8	7	6. 5.	1.4	.4	.7	-	6. 4.
FYM	16.8	2.6	4.7	-	2.19. 3.	24.5	2.5	7.9	-	4. 9.10.	24.0	5.9	5.1	-	4. 2. 3.
Sowing	1.4	1.3	.1	-	4.11.	1.4	1.1	.3	-	5. 7.	1.2	.9	.2	-	4. 8.
Singling	29.1	-	-	-	3. 4.11.	33.1	-	-	-	3.15. 4.	29.5	-	-	-	3. 6. 5.
Row crop cultivation and second hoeing	9.4	2.1	1.6	-	1.11. 8.	10.6	2.2	1.4	-	1.13. 2.	17.9	2.5	2.1	-	2.13. 8.
TOTAL PRE-HARVESTING	69.3	9.2	15.8	-	11. 7. 8.	80.5	7.4	19.1	11	13. 9. 4.	83.7	10.7	17.1	7	13.13. 4.
Cutting & carting (kale)	-	-	-	-	-	-	-	-	-	-	42.7	11.9	22.6	-	10. 2. 8.
Pulling	22.8	-	-	-	2. 9. 3.	28.0	-	-	-	3. 3. 9.	-	-	-	-	-
Carting & pitting	20.4	7.7	6.1	-	3.15.10.	24.5	7.7	6.9	-	4. 9.10.	-	-	-	-	-
TOTAL HARVESTING	43.2	7.7	6.1	-	6. 5. 1.	52.5	7.7	6.9	11	7.13. 7.	42.7	11.9	22.6	-	10. 2. 8.
TOTAL LABOUR	112.5	16.9	21.9	-	17.12. 9	133.0	15.1	26.0	11	21. 2.11	126.4	22.6	39.7	7	23.16. 0.

TABLE 6.

COST OF PRODUCTION OF HAY. 1950

(Prime cost structure)

Costs per acre

	Average of 37 farms			Your Farm
	Hours	£. s.	%	£. s.
COSTS:				
Labour: Manual	18.2	2. 0.	22.6	
Horse	2.2	3.	1.7	
Tractor	5.4	1. 1.	11.9	
Contract	-	5.	2.8	
Total Labour		3. 9.	39.0	
Manures: Artificials		1. 4.	13.6	
Farmyard Manure		16.	9.0	
Rent		1. 3.	13.0	
Miscellaneous expenses		3.	1.7	
Overheads: Equipt. deprecn. and repairs		14.	7.9	
Hedging, ditching, etc.		4.	2.2	
General		6.	3.4	
Share of Establishing Leys		18.	10.2	
GROSS FARM COST		8.17.	100.0	
Manurial residues +		-	-	
-		6.	-	
TOTAL NET FARM COST		8.11.	-	
Share to grazing, silage & dried grass		1.13.	-	
NET FARM COST OF HAY		6.18		
Total acreage costed		1280¾		
Average yield per acre - cwts.		31.0		
Average cost per ton		£4.9.0.		
Range in net cost per acre — Highest		£13. 0. 0.		
Lowest		£ 3.19.10.		
Range in net cost per ton — Highest		£ 8. 2.10.		
Lowest		£ 1.19. 7.		
Range in yield per acre — Highest		42.8 cwts.		
Lowest		18.5 cwts.		

Only 69 acres were cut a second time, 3½ acres for hay, 41½ for silage and 24 for dried grass.

TABLE 7.

OPERATIONAL COSTS and HOURS PER ACRE

H A Y

25 farms 821 acres Yield 30.5 cwts. per acre

	Man	Horse	Tractor	Contract	Total Cost
	Hrs.	Hrs.	Hrs.	£. s. d.	£. s. d.
Carting & spreading: Arts.	-	-	-	7	7
FYM..	3.0	.7	.9	-	10. 5.
Rolling, harrowing, etc...	.6	.1	.5	-	3. 4.
Total	3.6	.8	1.4	7	14. 4.
Cutting	1.3	.2	.9	9	7. 3.
Turning and tedding	1.0	.2	.2	-	3. 4.
Sweeping, cocking & piking	4.5	.6	.6	-	12. 9.
Carting and stacking	6.9	.7	1.7	-	1. 2.10.
Thatching	.8	-	-	-	1. 9.
Total harvesting	14.5	1.7	3.4	9.	2. 7.11.
TOTAL LABOUR	18.1	2.5	4.8	1. 4.	3. 2. 3.

No hay was baled on the above farms. On 19 of them the hay was piked before carting and on the remainder the hay was carted from the cock.

12 farms 459¾ acres Yield 31.7 cwts. per acre

Carting & spreading: Arts.	.1	.1	-	2. 0.	2. 3.
FYM	3.1	-	1.5	-	12.10.
Rolling, harrowing, etc...	1.1	.3	.7	-	5.11.
Total	4.3	.4	2.2	2. 0.	1. 1. 0.
Cutting	1.4	.3	1.0	5.	7.10.
Turning and tedding	1.3	.2	.4	-	5. 0.
Sweeping, cocking & piking	3.1	.4	.6	-	9.10.
Baling	1.9	-	.5	8. 1.	14. 6.
Carting & stacking	6.1	.4	1.7	-	1. 1. 3.
Thatching	.3	-	-	-	9.
Total harvesting	14.1	1.3	4.2	8. 6.	2.19. 2.
TOTAL LABOUR	18.4	1.7	6.4	10. 6.	4. 0. 2.

On the above farms the hay was all or partly baled. Pick-up balers were more widely employed, being used on 7 farms.

TABLE 8. AVERAGE COST OF PRODUCTION OF SILAGE, 1950 (PRIME COST STRUCTURE) PER ACRE

	GRASS SILAGE				ARABLE SILAGE			
	Average of 13 farms			Your Farm	Average of 10 farms			Your Farm
COSTS:	Hours	£. s.	%	£. s.	Hours	£. s.	%	£. s.
Labour: Manual	18.5	2. 2.	19.7		28.7	3. 7.	21.3	
Horse	1.3	2.	.9		1.2	1.	.3	
Tractor	8.7	1. 15.	16.4		15.4	3. 1.	19.4	
Contract	-	7.	3.3		-	2.	.6	
Total Labour		4. 6.	40.3			6. 11.	41.6	
Seed		-	-			2. 17.	18.2	
Manures: Artificials		1. 13.	15.5			2. 3.	13.7	
Farmyard Manure		10.	4.7			19.	6.1	
Rent		1. 1.	9.9			1. 0.	6.4	
Miscellaneous Expenses		3.	1.4			7.	2.2	
Overheads: Equipt. deprecn. & repairs		15.	7.1			1. 3.	7.3	
Hedging, ditching, etc.		3.	1.4			3.	1.0	
General		6.	2.8			11.	3.5	
Share of Establishing Leys		1. 10.	14.1			-	-	
Share from Hay		6.	2.8			-	-	
GROSS FARM COST		10. 13.	100.0			15. 14.	100.0	
Manurial residues +		-	-			-	-	
-		5.	-			4.	-	
TOTAL NET FARM COST		10. 8.	-			15. 10.	-	
Share to grazing, hay & dried grass		1. 16.	-			-	-	
NET FARM COST OF SILAGE		8. 12.	-			15. 10.	-	
Total acreage costed		353¼				138		
Average yield per acre - cwts.		97.3				132.5		
Average cost per ton		£1. 15. 7.				£2. 6. 10.		
Range in net cost per acre - Highest		£23. 7. 11.				£41. 7. 11.		
Lowest		£ 4. 12. 3.				£10. 13. 4.		
Range in net cost per ton - Highest		£ 2. 19. 2.				£ 3. 8. 10.		
Lowest		£ 1. 0. 10.				£ 1. 9. 2.		
Range in yield per acre - Highest		228.6 cwts.				240 cwts.		
Lowest		40.0 "				84.7 "		

TABLE 9. OPERATIONAL COSTS and HOURS PER ACRE

GRASS SILAGE

Number of farms, 13. Total acreage costed 353¼

	Man	Horse	Tractor	Contract	Total Cost
	Hrs.	Hrs.	Hrs.	£. s. d.	£. s. d.
Carting & spreading: Arts.	.9	.3	.5	1. 6.	6. 0.
FYM.	2.4	.6	.7		9. 3.
Rolling, harrowing, etc...	.2	.1	.1		1. 1.
Total	3.5	1.0	1.3	1. 6.	16. 4.
Cutting, carting, filling, etc.	14.7	.3	7.4	3. 2.	3. 6. 7.
Preparing pit	.3	-	-	1.10.	2. 8.
TOTAL LABOUR	18.5	1.3	8.7	6. 6.	4. 5. 7.

ARABLE SILAGE

Number of farms, 10. Total acreage costed, 138

Ploughing	2.4	.6	2.1	-	14. 6.
Cultivations	1.5	-	1.5	-	9. 4.
Carting & Spreading: Arts.	.7	-	.4	1. 1.	4. 2.
FYM.	3.0	.3	.7	-	10. 8.
Sowing seed	1.3	.1	.6	-	5. 7.
After cultivations	.7	-	.7	-	4. 2.
Total	9.6	1.0	6.0	1. 1.	2. 8. 5.
Cutting, carting and filling, etc.....	19.1	.2	9.5	-	4. 1. 8.
Preparing pit	-	-	-	8.	8.
TOTAL LABOUR	28.7	1.2	15.5	1. 9.	6.10. 9.

TABLE 10

GRAZING COSTS, 1950

Costs per Acre

		Average of 49 farms
		£. s. d.
COSTS:		
Labour:	Manual	2. 6.
	Horse	2.
	Tractor	1. 11.
	Contract	1. 5.
	Total Labour	6. 0.
Manures:	Artificials	13. 10.
	F.Y.M.	10.
Rent		18. 10.
Overheads:	Equipt., deprecn. & repairs	2. 7.
	Hedging, ditching, etc.	3. 3.
	General	7.
Share of establishing leys		4. 5.
Share from hay and silage costs		14. 10.
	GROSS FARM COST	3. 5. 2.
Manurial residues	+	-
	-	3. 6.
	NET FARM COST	3. 1. 8.
Acreage costed (including allowance for aftermath grazing)		4350½
Number of cow unit weeks per annum		24.3
Cost per cow unit week		30.5d.