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Sugar beets -
Cost of
production
O.S.

SUGAR BEET GROWING IN THE EAST MIDLANDS -
1949.

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SUGAR BEET GROWING IN THE EAST MIDLANDS - 1949

Introduction

In 1949, 24 farmers in Lincolnshire and Nottinghamshire co-operated with the Department throughout the growing season in providing details of costs and returns from their sugar beet crops. The information obtained is presented below.

In comparing costs from different farms consideration must be given to the differences in soil, in the degree of mechanisation, and in management.

From the farmer's point of view the sugar beet crop is a useful cash crop which enables him to maintain his soil fertility and the tops and beet pulp are an important source of animal feeding stuff. The removal of the subsidy on animal feeding stuffs means that for some time to come the costs of purchased feeding stuffs will be at a high level and this should encourage a greater effort to produce more fodder at home. In addition, now that the Ministry of Food is limiting its imports of sugar from dollar sources there is an increased opportunity for greater production of sugar beet in Great Britain.

For the ten years 1928-37 the average acreage under sugar beet in England and Wales was 302,000 acres. This figure has been exceeded in every year since 1938, the peak year occurring in 1946 with a total of 424,000 acres. In the following year, the acreage dropped to 386,000 acres but in 1948 it increased to 405,000 acres and it continued to rise in 1949 with a total of 413,000 acres.

In the East Midlands Province comprising Derbyshire, Nottinghamshire, Lindsey, Kesteven, Leicestershire and Rutland, the acreages showed roughly the same trend as did those for England and Wales, although the peak year was 1944 with a total of 74,576 acres. In 1947 there was a comparatively low acreage of 66,000 and although there were increases in 1948 and 1949 to 69,120 acres and 70,014 acres respectively the area grown was still substantially less than that of 1944.

Although the national acreage in 1949 was greater than that of 1948, the yield was only 3,961,263 tons compared with 4,319,207 tons in 1948. Even so, this 1949 tonnage is the third largest crop in the British Sugar Corporation's history. The yields per acre averaged 9.9 tons in 1949 which is slightly above the ten year average but below the 1948 figure of 10.8 tons. The sugar content was the lowest on record averaging only 15.25% as against 16.33% in 1948. The sugar produced in 1949 is estimated at 460,000 tons compared with an average for the last five years of 487,271 tons.¹

Weather Conditions

Weather conditions in the early part of the 1949 season were generally favourable and good progress was made with the preparation of the land and with drilling.

¹

British Sugar Beet Review, March, 1950.

By May the early sown beet had germinated satisfactorily but the persistence of dry conditions caused later sowings to be rather backward. With the exception of the last two weeks of July the summer was unusually dry and, was followed by autumn rains and mild weather which caused secondary growth in some cases and hence a low sugar content. In some areas lifting began in September and harvesting made good progress until the second half of October. Wet weather during the latter half of October hindered operations in several districts, particularly on the heavier soils. Harvesting was almost completed, however, by the end of December, although deliveries to some factories continued until early in February.

The Sample

was
Economic data/collected in respect of 29 fields.
Their sizes ranged as follows:-

<u>Size of Field</u>	<u>No. of Fields</u>
Under 5 acres	8
5 - 10 "	8
10 - 15 "	4
15 - 20 "	5
20 - 30 "	3
43 "	1

They were situated on 24 farms, 21 of which were in the Bourne and Sleaford districts of Lincolnshire and three in the Newark area of Nottinghamshire.

Soils

Because of the wide area from which the information was obtained the types of soil were by no means uniform. There were several fields of strong fenland soil, some of medium sand and others of medium loam.

Varieties and Quantities Grown

The most popular varieties were "Sharpe's Klein" and "Marsters", these two between them accounting for 18 fields out of the total of 29. "Battle's E" was the next most popular variety and the remaining fields were sown with various types including "Johnson's Perfection", "Bush E", "Maribo", "Hilleshog", "Garton's C.E." and "British S.K.W.".

The most usual quantities of seed sown per acre were from 14 to 18 lbs. One farmer sowed 30 lbs per acre and another only 7 lbs per acre. In both these cases yields were only about $8\frac{1}{2}$ tons per acre, but it is unlikely that the rate of seeding had any important effect upon the yield of beet. The highest yield in this sample, i.e. 15 tons 10 cwts per acre, was obtained from a field which was sown at the rate of only 12 lbs. per acre, but again, this may be due to factors other than the rate of sowing.

Preceding Crops

In 18 cases sugar beet followed cereals and in six the preceding crop was potatoes. In four cases beet followed peas or clover and in one sugar beet was grown on the same field for the second year in succession.

Manuring

Farmyard manure was applied on eight of the fields. The quantities applied varied from seven to 15 tons per acre but in every one of these cases farmyard manure was supplemented by artificials.

The rates of the artificial dressings varied from six to 20 cwts per acre but most farmers applied from ten to 12 cwts. Some of the fields had dressings of lime of up to three tons per acre and one farmer gave his field a dressing of 10 cwts of basic slag per acre before sowing. Five crops were given a top dressing; three had top dressings of nitro-chalk and two had dressings of sulphate of ammonia. These top dressings varied from 1.5 to 3 cwts per acre.

Cost of Production

The information given in this report relates only to the direct cost of growing sugar beet. It does not include any charges for depreciation and repairs to machinery, other than tractors, or for buildings, hedging, ditching, and the crops share of general establishment costs. In comparing the costs and returns it should be remembered that these other over-head costs have been excluded.

(a) Growing Costs. The costs of the preliminary cultivations showed wide variations depending on the state of the land following the preceding crop and on the number of operations that were necessary in order to obtain a satisfactory tilth.

Similarly costs of application of manures varied considerably depending to a large extent on the amount of and kind of manures applied. The eight cases in which farmyard manure was used showed the highest total costs due to the costs of applying the farmyard manure.

Costs of seeding and covering were more uniform and in only three cases did they exceed £1 per acre.

Costs of summer cultivations varied from £4.14s. 1d. to £17. 5s. 10d. per acre. The exceptionally high cost of £17. 5s. 10d. was due to the dirty state of the land which necessitated an unusual amount of weeding.

Costs up to harvesting are given in Table 4. These costs varied from £7. 7s. 8d. to £19.15s. 4d. per acre. The highest costs were on the farm on which an unusual amount of labour was spent on weeding. The lowest cost (£7. 7s. 8d. per acre) was found on a farm where no work was done on a contract basis or at piecework rates.

(b) Harvesting Costs

Harvesting costs, generally, showed smaller variations than did growing costs due to the fact that in harvesting

the operations are generally the same on every farm.

Harvesting costs calculated on a basis of costs per ton of clean beet, as in Table 5, varied from 8s. 1d. per ton to £2. 8s. 4d. per ton. This latter very high figure was for the field which yielded only 3 tons per acre but, generally speaking, those fields with the higher yields had the lower per ton costs and those with the lower yields had the higher per ton costs. The field with the lowest harvesting costs, namely £3. 1s. 9d. per acre, or 8s. 1d. per ton (yield 7.65 tons per acre) was harvested entirely by mechanical harvester. Another field with low harvesting costs of only £5. 0s. 3d. per acre or 11s. 9d. per ton (yield 8.55 tons per acre) was harvested partly by mechanical harvester and partly by the traditional method. It must be understood, however, that the costs, as shown, do not include charges for depreciation and repairs on the mechanical harvester itself. They appear lower, therefore, than they would have done if these items had been allowed for, but, unfortunately there was not enough information available to arrive at a reliable figure.

In most of the fields investigated harvesting was done by the traditional methods, and not by mechanical harvester. It must not be presumed, however, from the two cases cited above that harvesting by mechanical means is invariably cheaper than by the traditional methods. Information from a larger number of mechanically harvested fields would have to be collected before a fair comparison could be made.

(c) Carting and Loading Costs

Carting and loading costs commonly ranged from £6 to £11 per acre. The variations within this range were due mainly to the differences in the yields of the individual fields. Field no. 2 had the exceptionally low yield of 3 tons to the acre which meant that the labour expended on loading and carting per acre was very much less than would have been necessary if the yield had been more nearly normal.

Of those with very low costs, also outside the above mentioned range, field no. 25 was one in which the beet was carted straight to the factory, thus eliminating carting to the roadside and an additional loading on to lorries for despatch to the factory.

Carting and loading costs calculated on a tonnage basis as in Table 5 show that, with the exception of field 25 mentioned in the preceding paragraph, they varied from 10s. 4½d. per ton to £2. 8s. 5d. per ton. This latter figure was high because of the distance of the field from the factory.

(d) Other Costs.

The cost of seed was fairly uniform but rents varied from £1 per acre to £4.10s. 0d. per acre, the average being £2.10s. 9d.

There is a wide range, too, in the allowances for manurial and cultural residues owing to the differences in amounts of manures applied to the sugar beet crop and to the previous crops and also the difference in the preceding crops themselves.

Yields and Sugar Content

The yield of clean beet varied from three tons to 15.5 tons per acre with yields of seven to 12 tons per acre being more usual. The average was 9.56 tons per acre.

The low yield of three tons per acre was off heavy clay land which was adversely affected by the dry weather conditions of the 1949 season. Although the crop started well the roots made very slow growth during the summer and were very small at harvesting.

The field which produced $15\frac{1}{2}$ tons per acre was of medium sandy soil. It was given a heavy dressing of 20 cwts of fertiliser and about three cwts of salt per acre.

The highest average sugar content was 17.2 per cent and the lowest was 12 per cent with an average of 15.1%. The autumn rains and mild weather which followed the prolonged summer drought were blamed for these very low percentages. In some cases also virus yellows was a contributing cause. There was no direct relationship, however, between high yields and high sugar content. The field which gave the highest tonnage had a sugar percentage of only 14.3 while the one with the highest sugar percentage of 17.2 yielded just over 11 tons per acre.

The estimated tonnage of sugar yielded per acre was in most cases between one and two tons, with only five cases falling below one ton and three cases exceeding two tons.

Returns to the Farmer.

As is to be expected with such wide variations in yields and sugar content the amounts of cash received by the farmer from the factory varied widely. The lowest figure was £14.11s. 6d. and the highest £77.10.10d. per acre. They can be grouped as follows:-

<u>£'s per Acre</u>	
£	
Under 30	2
30 - 40	5
40 - 50	9
50 - 60	5
60 - 70	6
over 70	2

Of the eight crops giving returns of more than £60 per acre, six were grown on fields in the Fen district. The other two on clay loam and medium sand respectively.

Conclusions

The collected information shows that costs of growing sugar beet during 1949 varied from £30. 6s. 7d. to £54.14s. 1d. per acre; the costs per ton of beet varied from £1.15s. 9d. to £7. 9s. 1d. The gross returns to farmers, with one exception varied from £32. 4s. 3d. to

£77.10s.10d. per acre. Table 3 shows the relationship between costs and returns per acre.

In assessing the profitableness of the sugar beet crop there are three main factors to take into account. There are the prices fixed per ton for beet, the yield and sugar content and the costs of growing, harvesting and transporting to the factory.

The price fixed for the 1949 crop was 1s. 9d. per ton above that fixed for the previous year but because of the lower yield and lower sugar content the returns per acre were below those obtained for the 1948 crop. The dry weather during the summer of 1949 had a particularly adverse effect on the crop on the light gravelly soils and in many cases the yields were most disappointing.

From this enquiry it seems that yields of less than 8 tons per acre meant generally speaking, in the 1949 season, a loss to the farmer. Out of a total of twenty-nine fields there were six which yielded less than 8 tons to the acre. Five of these were unprofitable to the grower. The sixth field showed a slight profit, but this was only because costs in this case were unusually low.

But yields of beet are not the only consideration. The weather conditions can greatly affect the sugar content of roots. It sometimes happens that a high yield of roots is associated with a low yield of sugar and a low gross return per acre. As mentioned earlier in this report in 1949 the slightly higher than average yield of roots was associated with an unusually low sugar content. If the national yield per acre had been up to the 1948 level the gross returns would, on the 1949 low sugar content have been £4.13s. 2d. per acre higher and if both yields and sugar content had been at the 1948 level the gross income would have been 18s.11d. per acre above that of 1948.

Farmers in 1949 had the advantages of an early spring and were able to make good progress with the spring work on the sugar beet crop. The dry weather conditions also minimised labour costs on weeding during the early summer. In the crop under review there were wide differences in the costs per acre which were due in part to the effect of drought conditions upon soils of different types and textures and in part to the differing degrees of mechanisation applied to the crops.

The crops with the higher yields and more particularly with the higher gross return per acre were those produced on soil types less affected by the dry weather conditions. In some cases these crops had the higher costs per acre because the land justified heavier expenditure on fertilisers and because the land costs more to keep clean during the early stages of the plant's growth. But it is often the poor crop which costs most to keep clean, the thin crop being unable to smother the weeds. In some cases the higher costs expended on fertilisers and weeding were more than offset by the use of mechanical equipment for harvesting the crop.

In a number of instances the poor crops had the lower per acre costs of production but the yields were so disappointing the crops failed to yield a profit.

Labour is a costly item in the production of sugar beet. It is clearly important that close attention must be paid to the economical use of manual labour and farmers need to give close consideration to the advantages of greater use of mechanical appliances. Farmers using mechanical harvesters were able to effect a substantial saving in costs of manual labour. In one case a crop yielding 7 tons 13 cwt per acre was harvested by machine at £1.16s. 5d. per acre for manual labour whereas on another farm having a similar yield of beet the crop harvested by the old traditional method cost £7. 9s. 0d. per acre for manual labour.

From Table 6 it can be seen that labour represents about 70% of total costs, while other direct costs represent only 30%. By far the greatest proportion of labour costs are absorbed in summer cultivations, harvesting and carting. Economies in these operations are of great importance.

In this enquiry no attempt has been made to show the total profit or loss of the sugar beet crop but the collected information is sufficient to indicate that the crop was generally disappointing. In some cases the return failed to cover the direct costs. In others a balance between gross returns and direct costs were insufficient to cover the overhead costs. There are, of course, other considerations which have to be taken into account such as the value of the cleaning operations to succeeding crops and the feed value of sugar beet tops.

APPENDIX

Standard Charges used in the Compilation of costs.

Operational Costs:-

The charges for labour were as follows, unless the farmer paid more than the standard rate when the full amount was charges:-

Men	2s. 3d. per hour	
Youth	1s. 6d. " "	
Women	1s. 10d. " "	
Tractor	(light and medium)...	3s. 0d. " "	
"	(heavy i.e. crawlers)	4s. 6d. " "	
Lorry	4s. 0d. " "	

Contract work was taken at cost.

Seed was also taken at cost.

Manures. Artificials were taken at cost and F.Y.M. was charged at £1 ton.

Rent. The average farm rent per acre was charged except where Drainage Rates were paid, in which case these were included under the heading of "Rent".

Manurial Residues. The residual debit or credit was reached by deducting any residues chargeable from previous crops from the sum of residues to be credited to the present crop. The following is the basis on which they were calculated:-

Manurial residues: F.Y.M. applied for previous crops was debited at the rate of 10s. per ton if applied one growing season previously, at 5s. per ton if applied two growing seasons previously and at 2s. 6d. per ton if applied three growing seasons previously. If applied for the present crop a credit of 10s. per ton was allowed.

The residual value of artificials was calculated according to the Scott Watson tables for Residual Manurial Values of Fertilizers as follows:-

	<u>Residual values per ton of fertilizer.</u>		
	After one	After two	After three
	growing seasons		
<u>STRAIGHT FERTILIZERS</u>			
Superphosphate	£3.12s.	£1.16s.	18s.
Basic slag	£1. 4s.	12s.	6s.
	to £3. 6s.	to £1.13s.	to 16s.
<u>COMPOUND FERTILIZERS</u>			
Ammonium phosphate	£9.12s.	£4.16s.	£2.18s.
<u>National Compounds</u>			
No. 1	£2.17s.	£1. 8s.	7s.
No. 2	£2. 0s.	£1. 0s.	7s.
No. 3	£2.10s.	£1. 5s.	12s.
<u>Concentrated Compound Fertilizers</u>			
for sugar beet	£4.11s.	£2. 6s.	16s.
for potatoes	£4. 6s.	£2. 3s.	12s.

Cleaning benefits. Where potatoes or sugar beet or root crops preceded the 1949 sugar beet crop a debit for cleaning benefits was made at the rate of 35s. per acre in the case of potatoes and sugar beet and 30s. per acre in the case of other roots.

An allowance for the manurial benefit of tops was made at the rate of 3s. per ton of clean beet.

A.F.H.

TABLE 1

SUGAR BEET 1949 - LABOUR COSTS PER ACRE

Farm Code No.	Acres	Preliminary Cultivations	Sowing Manures	Seeding and Covering	Summer Cultivations	Harvesting	Carting	Total
		£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
7	18	2. 6. 3.	2. 5. 8.	6. 11.	17. 5. 10.	7. 16. 11.	9. 9. 10.	39. 11. 5.
19	5 $\frac{1}{4}$	4. 11. 2.	5. 0.	5. 5.	11. 1. 1.	9. 5. 0.	11. 3. 11.	36. 11. 7.
1	13	1. 10. 4.	5. 9. 11.	7. 6.	8. 18. 0.	8. 11. 2.	11. 11. 9.	36. 8. 8.
5	29	4. 7. 0.	5. 0.	1. 5. 0.	7. 15. 9.	10. 16. 2.	9. 3. 1.	33. 12. 0.
28	4 $\frac{1}{2}$	2. 9. 8.	2. 9. 4.	1. 2. 8.	9. 3. 4.	8. 15. 0.	8. 3. 2.	32. 8. 2.
20	17	1. 4. 10.	1. 17. 5.	12. 10.	7. 14. 4.	9. 5. 0.	10. 13. 10.	31. 13. 3.
23	5	2. 17. 6.	1. 0. 1.	1. 3. 9.	7. 14. 6.	9. 10. 0.	8. 15. 10.	31. 1. 8.
12	2	2. 8. 7.	1. 4. 4.	7. 5.	11. 11. 9.	4. 2. 10.	11. 5. 0.	30. 19. 11.
4 (c)	12	1. 5. 7.	1. 11.	10. 5.	7. 2. 3.	3. 1. 9.	18. 10. 4.	30. 12. 3.
11	2	2. 10. 6.	12. 0.	9. 1.	9. 11. 0.	9. 12. 2.	6. 19. 4.	29. 14. 1.
13	7	1. 14. 10.	13. 8.	12. 6.	7. 4. 8.	7. 12. 9.	10. 16. 3.	28. 14. 8.
10	19	1. 2. 2.	4. 5.	8. 5.	7. 2. 10.	8. 15. 0.	10. 3. 3.	27. 16. 1.
3	13	1. 19. 6.	1. 0. 6.	10. 1.	9. 16. 5.	8. 14. 4.	5. 13. 1.	27. 13. 11.
18	4	1. 18. 2.	1. 0. 6.	18. 1.	8. 15. 0.	9. 0. 3.	6. 0. 4.	27. 12. 4.
4 (a)	43	1. 5. 7.	1. 11.	10. 6.	7. 2. 5.	8. 16. 1.	8. 11. 4.	26. 7. 10.
6	27	18. 8.	6. 11.	16. 6.	9. 2. 10.	6. 17. 9.	7. 7. 0.	25. 9. 8.
14	8 $\frac{1}{2}$	2. 12. 7.	1. 11. 0.	5. 4.	8. 4. 2.	7. 10. 0.	5. 6. 2.	25. 9. 3.
21	2 $\frac{1}{2}$	1. 17. 2.	4. 1.	12. 3.	4. 14. 1.	7. 1. 2.	10. 19. 1.	25. 7. 10.
8	29	2. 12. 5.	4. 10.	4. 10.	7. 13. 11.	7. 13. 4.	6. 18. 3.	25. 7. 7.
24	12 $\frac{1}{2}$	1. 15. 2.	3. 4.	4. 6.	7. 13. 3.	8. 2. 1.	7. 7. 11.	25. 6. 3.
22	10	1. 2. 11.	3. 5.	4. 6.	7. 2. 3.	8. 1. 3.	8. 4. 1.	24. 18. 5.
9	18	1. 7. 11.	3. 4.	6. 4.	8. 8. 7.	7. 13. 9.	6. 11. 2.	24. 11. 1.
16	1 $\frac{1}{2}$	1. 11. 6.	1. 9. 7.	7. 11.	5. 11. 2.	7. 0. 0.	8. 8. 4.	24. 8. 6.
31	8	3. 2. 3.	12. 9.	10. 5.	7. 0. 8.	6. 16. 3.	6. 5. 0.	24. 7. 4.
29	8	1. 11. 3.	12. 9.	10. 5.	7. 0. 8.	6. 16. 3.	6. 5. 0.	22. 16. 4.
30	8	1. 11. 3.	12. 9.	10. 5.	7. 0. 8.	6. 16. 3.	6. 5. 0.	22. 16. 4.
4 (b)	18	1. 5. 7.	1. 11.	10. 6.	6. 16. 5.	5. 0. 3.	8. 13. 10.	22. 8. 6.
2	3	1. 19. 5.	5. 8.	8. 3.	9. 12. 6.	7. 5. 0.	2. 16. 5.	22. 7. 3.
25	8	2. 9. 6.	8. 3.	5. 2.	5. 3. 1.	7. 15. 9.	2. 11. 2.	18. 12. 11.

TABLE 2

SUGAR BEET 1949 - TOTAL COSTS PER ACRE

Farm Code No.	Acres	Total Labour Costs	DIRECT COSTS					Direct Costs + Labour Costs
			F.Y.M.	Artificials	Seed	Rent	Total	
		£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1	13	36-8-8.	12-0-0.	8-18-1.	1-10-7.	4-10-0.	26-18-8.	63-7-4.
7	18	39-11-5.	10-0-0.	6-10-8.	1-1-10.	1-8-3.	19-0-9.	58-12-2.
28	4½	32-8-2.	15-0-0.	5-13-1.	1-1-7.	2-5-0.	23-19-8.	56-7-10.
20	17	31-13-3.	10-0-0.	5-8-0.	1-1-5.	4-3-4.	20-12-9.	52-6-0.
19	5¼	36-11-7.	-	11-5-11.	17-6.	2-5-0.	14-8-5.	51-0-0.
3	13	27-13-11.	-	15-19-11.	1-6-3.	3-0-0.	20-6-2.	48-0-1.
5	29	33-12-0.	-	8-12-0.	1-10-2.	3-0-0.	13-2-2.	46-14-2.
14	8½	25-9-3.	10-0-0.	7-1-2.	1-0-9.	2-0-0.	20-1-11.	45-11-2.
12	2	30-19-11.	-	10-18-5.	1-7-6.	1-0-0.	13-5-11.	44-5-10.
23	5	31-1-8.	-	8-0-3.	1-1-7.	3-0-0.	12-1-10.	43-3-6.
18	4	27-12-4.	7-0-0.	4-4-0.	1-0-5.	2-5-0.	14-9-5.	42-1-9.
16	1½	24-8-6.	10-0-0.	4-16-0.	19-5.	1-10-0.	17-5-5.	41-13-11.
4 (c)	12	30-12-3.	-	5-5-0.	1-2-2.	4-0-0.	10-7-2.	40-19-5.
13	7	28-14-8.	-	8-14-3.	1-5-3.	2-4-10.	12-4-4.	40-19-0.
6	27	25-9-8.	-	9-6-0.	2-3-9.	3-16-0.	15-5-9.	40-15-5.
11	2	29-14-1.	-	7-4-0.	10-2.	1-11-0.	9-5-2.	38-19-3.
4 (a)	43	26-7-10.	-	5-12-11.	1-3-0.	4-0-0.	10-15-11.	37-3-9.
21	2½	25-7-10.	-	7-2-8.	1-3-7.	2-14-4.	11-0-7.	36-8-5.
8	29	25-7-7.	-	6-6-11.	1-3-0.	3-10-0.	10-19-11.	36-7-6.
24	12½	25-6-3.	-	5-6-9.	1-2-2.	4-2-0.	10-10-11.	35-17-2.
25	8	18-12-11.	-	13-19-6.	1-6-3.	1-10-0.	16-15-9.	35-8-8.
29	8	22-16-4.	-	10-4-3.	14-7.	1-10-0.	12-8-10.	35-5-2.
9	18	24-11-1.	-	6-9-9.	1-1-7.	3-0-0.	10-11-4.	35-2-5.
22	10	24-18-5.	-	6-0-0.	1-4-10.	2-15-0.	9-19-10.	34-18-3.
10	19	27-16-1.	-	3-15-9.	1-3-3.	1-13-2.	6-12-2.	34-8-3.
4 (b)	18	22-8-6.	-	4-15-0.	1-3-6.	4-0-0.	9-18-6.	32-7-0.
31	8	24-7-4.	-	4-14-3.	14-7.	1-10-0.	6-18-10.	31-6-2.
2	3	22-7-3.	-	5-13-9.	1-2-0.	1-5-8.	8-1-5.	30-8-8.
30	8	22-16-4.	-	4-14-3.	14-7.	1-10-0.	6-18-10.	29-15-2.

TABLE 3

SUGAR BEET 1949 - COSTS, RETURNS, YIELDS PER ACRE.

Farm Code No. (1)	Acres (2)	Total Costs Direct + Labour (3)	Manurial & Cultural Residues (4)	Net Cost (5)	Returns (6)	Yields (7)	Difference between columns 5 and 6 (8)	Column 8 expressed as % of net cost (9)
		£. s. d.	£. s. d.	£. s. d.	£. s. d.	T. C. Q.	£. s. d.	%
22	10	34.18.3	- 3.5.8	31.12.7	69.3.5	12.9.2.	+ 37.10.10.	118.7
21	2 ¹ / ₂	36.8.5	- 2.0.	36.6.5	74.3.3	14.4.1.	+ 37.16.11.	104.3
24	12 ¹ / ₂	35.17.2	- 1.9.6	34.7.8	67.13.8	12.6.1.	+ 33.6.0.	96.9
16	1 ¹ / ₂	41.13.11	- 6.3.9	35.10.2	63.8.11	11.1.1.	+ 27.18.9.	78.7
23	5	43.3.6	- 3.4.6	39.19.0	66.15.1	11.19.2.	+ 27.0.11.	68.1
10	19	34.8.3	+ 1.8.9	35.17.0	59.19.10	13.0.0.	+ 24.2.10.	67.4
19	5 ¹ / ₂	51.0.0	- 15.3.	50.4.9	77.10.10	15.10.3.	+ 27.7.7.	54.8
20	17	52.6.0	- 6.10.4	45.15.8	68.1.9	12.1.2.	+ 23.6.1.	50.9
25	8	35.8.8	- 2.2.5	33.6.3	48.17.1	9.10.2.	+ 15.10.10.	46.7
	1	45.11.2	- 8.11.8	36.19.6	51.18.3	10.4.3.	+ 14.18.9.	40.4
				33.18.1	*22.13.2	9.1.3.	+ 12.12.5.	37.2
				18.8.	42.8.7.	8.11.0.	+ 10.9.11.	32.9
				9.2.	64.4.8.	8.13.0.	+ 15.15.6.	32.6
				6.0.	46.1.1.	9.10.2.	+ 8.15.1.	23.5
				9.2.	45.10.0.	8.7.2.	+ 7.9.3.	19.6
				9.2.	51.1.1.	9.9.2.	+ 8.3.9.	19.1
				6.0.	*40.7.8.	9.4.3.	+ 6.8.7.	18.9
				9.2.	46.18.9.	9.10.2.	+ 6.5.4.	15.4
				9.2.	45.12.0.	9.10.0.	+ 5.9.0.	13.6
				9.2.	42.11.1.	8.12.0.	+ 5.0.8.	13.3
				9.2.	*51.0.2.	10.15.0.	+ 3.17.6.	8.2
				9.2.	32.4.3.	6.3.2.	+ 1.17.8.	6.2
				9.2.	*57.0.4.	12.8.1.	+ 2.6.3.	4.2
				9.2.	40.5.10.	7.13.0.	- 10.6.	x 1.3
				9.2.	32.4.3.	6.3.2.	- 2.11.8.	x 7.4
				9.2.	47.6.6.	8.12.3.	- 4.14.3.	x 9.0
				9.2.	*41.12.3.	7.16.2.	- 4.11.10.	x 10.0
				9.2.	32.4.3.	6.3.2.	- 4.19.11.	x 13.5
				9.2.	14.11.6.	3.0.0.	- 17.9.4.	x 54.5

The "return" figure in Column 6 Table 3 for the farm Code No. 9. should read £46.10.6 and not £22.13.2.

* = estimated.
x = % deficit on net cost

TABLE 3

SUGAR BEET 1949 - COSTS, RETURNS, YIELDS PER ACRE.

Farm Code No. (1)	Acres (2)	Total Costs Direct + Labour (3)	Manurial & Cultural Residues (4)	Net Cost (5)	Returns (6)	Yields (7)	Difference between columns 5 and 6 (8)	Column 8 expressed as % of net cost (9)
		£. s. d.	£. s. d.	£. s. d.	£. s. d.	T. C. Q.	£. s. d.	%
22	10	34-18-3	- 3-5-8	31-12-7	69-3-5	12 9. 2.	+ 37-10-10	118.7
21	2 $\frac{1}{2}$	36-8-5	- 2-0-0	36-6-5	74-3-3	14-4-1	+ 37-16-11	104.3
24	12 $\frac{1}{2}$	35-17-2	- 1-9-6	34-7-8	67-13-8	12-6-1	+ 33-6-0	96.9
16	1 $\frac{1}{2}$	41-13-11	- 6-3-9	35-10-2	63-8-11	11-1-1	+ 27-18-9	78.7
23	5	43-3-6	- 3-4-6	39-19-0	66-15-1	11-19-2	+ 27-0-11	68.1
10	19	34-8-3	+ 1-8-9	35-17-0	59-19-10	13-0-0	+ 24-2-10	67.4
19	5 $\frac{1}{4}$	51-0-0	- 15-3-0	50-4-9	77-10-10	15-10-3	+ 27-7-7	54.8
20	17	52-6-0	- 6-10-4	45-15-8	68-1-9	12-1-2	+ 23-6-1	50.9
25	8	35-8-8	- 2-2-5	33-6-3	48-17-1	9-10-2	+ 15-10-10	46.7
14	8 $\frac{1}{2}$	45-11-2	- 8-11-8	36-19-6	51-18-3	10-4-3	+ 14-18-9	40.4
9	18	35-2-5	- 1-4-4	33-18-1	*22-13-2	9-1-3	+ 12-12-5	37.2
4 (b)	18	32-7-0	- 8-4-0	31-18-8	42-8-7	8-11-0	+ 10-9-11	32.9
28	4 $\frac{1}{2}$	56-7-10	- 7-18-8	48-9-2	64-4-8	8-13-0	+ 15-15-6	32.6
4 (a)	43	37-3-9	+ 2-3-0	37-6-0	46-1-1	9-10-2	+ 8-15-1	23.5
11	2	38-19-3	- 18-6-0	38-0-9	45-10-0	8-7-2	+ 7-9-3	19.6
12	2	44-5-10	- 1-8-6	42-17-4	51-1-1	9-9-2	+ 8-3-9	19.1
8	29	36-7-6	- 2-8-5	33-19-1	*40-7-8	9-4-3	+ 6-8-7	18.9
13	7	40-19-0	- 5-7-0	40-13-5	46-18-9	9-10-2	+ 6-5-4	15.4
18	4	42-1-9	- 1-18-9	40-3-0	45-12-0	9-10-0	+ 5-9-0	13.6
6	27	40-15-5	- 3-5-0	37-10-5	42-11-1	8-12-0	+ 5-0-8	13.3
5	29	46-14-2	+ 8-6-0	47-2-8	*51-0-2	10-15-0	+ 3-17-6	8.2
30	8	29-15-2	+ 11-5-0	30-6-7	32-4-3	6-3-2	+ 1-17-8	6.2
1	13	63-7-4	- 8-13-3	54-14-1	*57-0-4	12-8-1	+ 2-6-3	4.2
4 (c)	12	40-19-5	- 3-1-0	40-16-4	40-5-10	7-13-0	- 10-6-0	x 1.3
31	8	31-6-2	+ 3-9-9	34-15-11	32-4-3	6-3-2	- 2-11-8	x 7.4
7	18	58-12-2	- 6-11-3	52-0-11	47-6-6	8-12-3	- 4-14-3	x 9.0
3	13	48-0-1	- 1-16-0	46-4-1	*41-12-3	7-16-2	- 4-11-10	x10.0
29	8	35-5-2	+ 1-19-0	37-4-2	32-4-3	6-3-2	- 4-19-11	x13.5
2	3	30-3-8	+ 1-12-2	32-0-10	14-11-6	3-0-0	- 17-9-4	x54.5

* = estimated.

x = % deficit on net cost

TABLE 4

SUGAR BEET 1949 - LABOUR COSTS SUBDIVIDED INTO:

(a) Growing Costs per acre(b) Harvesting Costs per acre

Farm Code No.	Acres	Man			Horse			Tractor			Piecework and Contract			Total		
		£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
7	17	12.	12.	9.	1.	6.	3.	1.	6.	1.	4.	10.	3.	19.	15.	4.
1	13	3.	1.	3.	5.	8.		3.	15.	9.	9.	3.	2.	16.	5.	10.
19	5 $\frac{1}{4}$	12.	0.	5.	4.	5.		1.	6.	4.	2.	11.	5.	16.	2.	7.
12	2	12.	10.	10.	19.	3.		12.	0.		1.	10.	0.	15.	12.	1.
28	4 $\frac{1}{2}$	4.	12.	4.	-			4.	2.	8.	6.	10.	0.	15.	5.	0.
5*	29	-			-			-			13.	12.	9.			
3	13	4.	6.	7.	17.	7.		1.	6.	1.	6.	16.	3.	13.	6.	6.
11	2	3.	0.	3.	16.	4.		12.	0.		8.	14.	0.	13.	2.	7.
23	5	2.	16.	6.	1.	10.		2.	10.	5.	7.	5.	2.	12.	13.	11.
14	8 $\frac{1}{2}$	8.	10.	7.	11.	11.		1.	13.	11.	1.	17.	1.	12.	13.	6.
18	4	3.	8.	7.	11.	1.		2.	2.	0.	6.	10.	0.	12.	11.	8.
2	3	1.	4.	3.	6.	7.		10.	0.	0.	10.	5.	0.	12.	5.	10.
20	17	2.	18.	11.	11.	0.		1.	4.	6.	6.	15.	0.	11.	9.	5.
31	8	2.	9.	0.		9.		2.	16.	3.	6.	0.	0.	11.	6.	0.
6	27	1.	12.	5.	3.	7.		1.	17.	7.	7.	11.	4.	11.	4.	11.
8	29	2.	8.	7.	19.	4.		1.	12.	5.	6.	0.	0.	11.	0.	4.
9	18	2.	12.	9.	16.	7.		1.	10.	0.	6.	0.	0.	10.	19.	4.
13	7	2.	7.	1.	13.	4.		1.	4.	0.	6.	1.	3.	10.	5.	8.
24	12 $\frac{1}{2}$	2.	1.	3.	3.	7.		1.	10.	3.	6.	1.	3.	9.	16.	4.
29	8	1.	14.	11.		9.		1.	19.	4.	6.	0.	0.	9.	15.	0.
30	8	1.	14.	11.		9.		1.	19.	4.	6.	0.	0.	9.	15.	0.
16	1 $\frac{1}{2}$	6.	19.	2.	16.	8.		-			1.	5.	0.	9.	0.	10.
4a	43	1.	9.	1.	1.	5.		1.	8.	11.	6.	1.	1.	9.	0.	6.
4c	12	1.	8.	11.	1.	4.		1.	8.	10.	6.	1.	0.	9.	0.	0.
10	19	1.	12.	5.	5.	10.		1.	3.	8.	5.	18.	0.	8.	19.	11.
4b	18	1.	9.	1.	1.	5.		1.	8.	11.	5.	15.	0.	8.	14.	5.
22	10	1.	8.	5.	3.	0.		1.	0.	5.	6.	1.	3.	8.	13.	1.
25	8	3.	8.	1.	1.	8.		1.	13.	11.	3.	2.	4.	8.	6.	0.
21	2 $\frac{1}{2}$	5.	19.	5.	10.	3.		18.	0.		-			7.	7.	8.

Farm Code No.	Acres	Man			Horse			Tractor			Piecework and Contract			Total		
		£.	s.	d.	£.	s.	d.	s.	d.	£.	s.	d.	£.	s.	d.	
5*	29	-			-			-			-			10.	16.	2.
11	2	6.	7.	2.	-			-			3.	5.	0.	9.	12.	2.
23	5	-			-			-			9.	10.	0.	9.	10.	0.
19	5 $\frac{1}{4}$	-			-			-			9.	5.	0.	9.	5.	0.
20	17	-			-			-			9.	5.	0.	9.	5.	0.
18	4	15.	9.		1.	4.	6.	-			7.	0.	0.	9.	0.	3.
4a	43	19.	5.		11.			8.	5.		7.	7.	4.	8.	16.	1.
10	19	3.	9.		-			5.	1.		8.	6.	2.	8.	15.	0.
28	4 $\frac{1}{2}$	-			-			-			8.	15.	0.	8.	15.	0.
3	13	16.	3.		1.	5.	4.	-			6.	12.	9.	8.	14.	4.
1	13	-			-			-			8.	11.	2.	8.	11.	2.
24	12 $\frac{1}{2}$	16.	2.		-			13.	2.		6.	12.	9.	8.	2.	1.
22	10	4.	10.		-			6.	5.		7.	10.	0.	8.	1.	3.
7	17	14.	10.		19.	9.		-			6.	2.	4.	7.	16.	11.
25	8	6.	9.		-			9.	0.		7.	0.	0.	7.	15.	9.
9	18	9.	0.		-			12.	0.		6.	12.	9.	7.	13.	9.
8	29	8.	8.		-			11.	7.		6.	13.	1.	7.	13.	4.
13	7	-			-			-			7.	12.	9.	7.	12.	9.
14	8 $\frac{1}{2}$	-			-			-			7.	10.	0.	7.	10.	0.
2	3	18.	0.		-			12.	0.		5.	15.	0.	7.	5.	0.
21	2 $\frac{1}{2}$	3.	7.		-			4.	10.		6.	12.	9.	7.	1.	2.
16	1 $\frac{1}{2}$	-			-			-			7.	0.	0.	7.	0.	0.
6	27	-			-			-			6.	17.	9.	6.	17.	9.
29	8	2.	10.		-			3.	9.		6.	9.	8.	6.	16.	3.
30	8	2.	10.		-			3.	9.		6.	9.	8.	6.	16.	3.
31	8	2.	10.		-			3.	9.		6.	9.	8.	6.	16.	3.
4b	18	3.	18.	3.	6.	7.		15.	5.		-			5.	0.	3.
12	2	3.	10.	10.	-			12.	0.		-			4.	2.	10.
4c	12	1.	16.	5.	8.	2.		17.	2.		-			3.	1.	9.

* The costs of field No. 5 were estimated by the farmer. No records of hours were kept.

TABLE 4 (contd.)

SUGAR BEET 1949 - LABOUR COSTS

(c) Carting and Loading Costs per acre

Farm Code No.	Acres	Man			Horse			Tractor			Piecework and Contract			Total		
		£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
4c	12	9.	16.	10.	19.	7.	4.	7.	4.	3.	6.	7.	18.	10.	4.	
1	13		14.	9.	-		1.	7.	8.	9.	9.	4.	11.	11.	9.	
12	2	3.	17.	8.	18.	8.	-			6.	8.	8.	11.	5.	0.	
19	5 $\frac{1}{4}$	1.	13.	4.	-		1.	12.	0.	7.	18.	7.	11.	3.	11.	
21	2 $\frac{1}{2}$	4.	5.	1.	11.	7.	-			6.	2.	5.	10.	19.	1.	
20	17	3.	3.	3.	-		1.	4.	0.	6.	11.	7.	10.	18.	10.	
13	7	4.	10.	0.	1.	12.	0.	-		4.	14.	3.	10.	16.	3.	
10	19		5.	1.	3.	11.	5.	1.		9.	9.	2.	10.	3.	3.	
7	17	3.	8.	0.	12.	3.	17.	9.		4.	11.	10.	9.	9.	10.	
5*	29	-			-		-			-			9.	3.	1.	
23	5	2.	6.	10.	-		19.	10.		5.	9.	2.	8.	15.	10.	
4b	18	3.	9.	2.	5.	9.	1.	12.	4.	3.	6.	7.	8.	13.	10.	
4a	43	3.	17.	10.	6.	0.	1.	14.	5.	2.	13.	1.	8.	11.	4.	
16	1 $\frac{1}{2}$	2.	5.	0.	18.	8.	-			5.	4.	8.	8.	8.	4.	
28	4 $\frac{1}{2}$	2.	5.	0.	-		1.	4.	0.	4.	19.	2.	8.	8.	2.	
22	10	2.	0.	1.	-		1.	4.	0.	5.	0.	0.	8.	4.	1.	
24	12 $\frac{1}{2}$	1.	2.	2.	7.	6.	4.	0.		5.	14.	3.	7.	7.	11.	
6	27	1.	0.	10.	7.	5.	-			5.	18.	9.	7.	7.	0.	
11	2	1.	14.	10.	9.	4.	-			4.	15.	2.	6.	19.	4.	
8	29		13.	11.	-		-			6.	4.	4.	6.	18.	3.	
9	18		6.	10.	-		-			6.	4.	4.	6.	11.	2.	
29	8	-			-		-			6.	5.	0.	6.	5.	0.	
30	8	-			-		-			6.	5.	0.	6.	5.	0.	
31	8	-			-		-			6.	5.	0.	6.	5.	0.	
18	4	1.	2.	6.	9.	11.	-			4.	7.	11.	6.	0.	4.	
3	13		18.	3.	-		1.	1.	8.	3.	13.	2.	5.	13.	1.	
14	8 $\frac{1}{2}$		13.	6.	2.	4.	-			4.	10.	4.	5.	6.	2.	
2	3	1.	2.	6.	4.	8.	-			1.	9.	3.	2.	16.	5.	
25	8	1.	1.	11.	-		1.	9.	3.	-			2.	11.	2.	

* The costs of field No. 5 were estimated by the farmer. No records of hours were kept.

TABLE 5

SUGAR BEET 1949 - LABOUR COSTS PER TON OF CLEAN BEET.

Farm No.	Tons per acre	Costs up to	Harvesting	Carting and	Total
		to Harvesting	Costs	Loading Costs	
		£. s. d.	£. s. d.	£. s. d.	£. s. d.
2	3.0	4. 1. 11.	2. 8. 4.	18. 10.	7. 9. 1.
7	8.6	2. 5. 9.	18. 2.	1. 1. 11.	4. 5. 10.
4c	7.7	1. 3. 6.	8. 1.	2. 8. 5.	4. 0. 0.
31	6.2	1. 16. 7.	1. 2. 1.	1. 0. 3.	3. 13. 11.
28	8.7	1. 15. 3.	1. 0. 3.	19. 5.	3. 14. 11.
29	6.2	1. 11. 7.	1. 2. 1.	1. 0. 3.	3. 13. 11.
30	6.2	1. 11. 7.	1. 2. 1.	1. 0. 3.	3. 13. 11.
11	8.4	1. 11. 4.	1. 2. 11.	16. 7.	3. 10. 10.
3	7.8	1. 14. 0.	1. 2. 3.	14. 5.	3. 10. 8.
12	9.5	1. 12. 11.	8. 9.	1. 3. 9.	3. 5. 5.
5	10.8	1. 5. 5.	1. 0. 1.	17. 0.	3. 2. 6.
13	9.5	1. 1. 7.	16. 0.	1. 2. 8.	3. 0. 3.
6	8.6	1. 6. 2.	16. 0.	17. 1.	2. 19. 3.
1	12.4	1. 6. 3.	13. 9.	18. 8.	2. 18. 8.
18	9.5	1. 6. 6.	18. 11.	12. 8.	2. 13. 1.
4a	9.6	18. 11.	18. 6.	18. 0.	2. 15. 5.
9	9.1	1. 4. 1.	16. 11.	14. 5.	2. 15. 5.
4b	8.6	1. 0. 5.	11. 9.	1. 0. 4.	2. 12. 6.
20	12.1	19. 0.	15. 4.	18. 1.	2. 12. 5.
23	12.0	1. 1. 2.	15. 10.	14. 8.	2. 11. 8.
8	9.2	1. 3. 10.	12. 7.	14. 11.	2. 11. 4.
14	10.2	1. 4. 9.	14. 8.	10. 4.	2. 9. 9.
19	15.5	1. 0. 9.	11. 11.	14. 5.	2. 7. 1.
16	11.0	16. 4.	12. 8.	15. 2.	2. 4. 2.
10	13.0	13. 10.	13. 5.	15. 7.	2. 2. 10.
24	12.3	15. 11.	13. 2.	12. 0.	2. 1. 1.
22	12.5	13. 10.	12. 11.	13. 2.	1. 19. 11.
25	9.5	17. 5.	16. 4.	5. 4.	1. 19. 1.
21	14.2	10. 5.	9. 11.	15. 5.	1. 15. 9.

TABLE 6

SUGAR BEET 1949 - COSTS EXPRESSED AS PERCENTAGES.

Farm No.	Direct Costs as % of Total Costs	Labour Costs as % of Total Costs	% of Direct Costs			% of Labour Costs					
			Manures	Seed	Rent	Preliminary Cults.	Sowing Manures	Seeding and Covering	Summer Cultivations	Harvesting	Carting
1	42.5	57.5	77.6	5.7	16.7	4.1	15.1	1.0	24.4	23.5	31.9
2	26.5	73.5	70.5	13.6	15.9	8.8	1.3	1.8	43.1	32.4	12.6
3	42.3	57.7	78.7	6.5	14.8	7.1	3.7	1.8	35.5	31.5	20.4
4a	29.0	71.0	52.3	10.6	37.1	4.8	0.4	2.0	27.0	33.3	32.5
4b	30.7	69.3	47.9	11.8	40.3	5.7	0.4	2.3	30.4	22.4	38.8
4c	25.3	74.7	50.7	10.7	38.6	4.2	0.3	1.7	23.2	10.1	60.5
5	28.1	71.9	65.6	11.5	22.9	12.9	0.8	3.7	23.2	32.2	27.2
6	37.5	62.5	60.8	14.3	24.9	3.7	1.4	3.2	35.9	27.0	28.8
7	32.5	67.5	86.9	5.7	7.4	5.8	5.8	0.9	43.7	19.8	24.0
8	30.2	69.8	57.7	10.5	31.8	10.3	1.0	1.0	30.3	30.2	27.2
9	30.1	69.9	61.4	10.2	28.4	5.7	0.7	1.3	34.3	31.3	26.7
10	19.2	80.8	57.3	17.6	25.1	4.0	0.8	1.5	25.7	31.4	36.6
11	23.8	76.2	77.8	5.5	16.7	8.5	2.0	1.5	32.2	32.3	23.5
12	30.0	70.0	82.2	10.3	7.5	7.8	3.9	1.2	37.4	13.4	36.3
13	29.8	70.2	71.3	10.3	18.4	6.1	2.4	2.2	25.2	26.6	37.5
14	44.3	55.7	84.9	5.2	9.9	10.3	6.1	1.0	32.3	29.5	20.8
16	41.4	58.6	85.7	5.6	8.7	6.4	6.1	1.6	22.8	28.7	34.4
18	34.4	65.6	77.4	7.1	15.5	6.9	3.7	3.3	31.7	32.6	21.8
19	28.3	71.7	78.3	6.1	15.6	12.5	0.7	0.7	30.2	25.3	30.6
20	39.5	60.5	74.6	5.2	20.2	3.9	5.9	2.0	24.4	29.2	34.6
21	30.3	69.7	64.7	10.7	24.6	7.3	0.8	2.4	18.5	27.8	43.2
22	28.6	71.4	60.1	12.4	27.5	4.6	0.7	0.9	28.5	32.4	32.9
23	28.0	72.0	66.3	8.9	24.8	9.2	3.2	3.8	24.9	30.6	28.3
24	29.4	70.6	50.6	10.5	38.9	6.9	0.7	0.9	30.3	32.0	29.2
25	47.4	52.6	83.2	7.8	9.0	13.3	2.2	1.4	27.6	41.8	13.7
28	42.5	57.5	86.1	4.5	9.4	7.7	7.6	3.5	28.3	27.0	25.9
29	35.3	64.7	82.1	5.9	12.0	6.8	2.8	2.3	30.8	29.9	27.4
30	23.3	76.7	67.9	10.5	21.6	6.8	2.8	2.3	30.8	29.9	27.4
31	22.2	77.8	67.9	10.5	21.6	12.8	2.6	2.1	28.9	28.0	25.6
Average	32.1	67.9	69.9	9.2	20.9	7.4	3.0	1.9	29.7	28.3	29.7