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COSTS AND RETURNS FROM POTATO PRODUCTION IN NORTH OXFORDSHIRE IN 1950.

By

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THE SAMPLE.

This report summarises the costs and returns from potato production for the 1950 harvest on 34 farms in the Banbury district of Oxfordshire.

The total area of 272½ acres concerned was distributed over 39 fields, 25 fields were mainly red sandstone, 7 were of a rather heavy clay, 5 were of a stony gravelly nature and 2 had sandy soil.

Potatoes usually followed a cereal crop in the rotation 10 fields being after wheat, 10 after oats, 7 after barley, 1 after dredge corn. On the remaining fields, potatoes followed potatoes (3 fields), roots (3 fields), permanent grass (2 fields), linseed (1 field), sheep feed (1 field) and fallow (1 field).

COSTS PER ACRE.

While the overall cost of production of potatoes on the 34 farms averaged £50.7.6d. per acre, the costs on individual farms showed wide variations, ranging from £31.10.6d. to £84.3.5d. per acre, the distribution being as follows:-

Under £40 per acre	-	5 farms.
£40 and under £50 per acre	-	12 farms.
£50 and under £60 " "	-	11 farms.
Over £60 per acre	-	6 farms.

The main explanations for the range in costs are in the costs of seeds and manures and, in the case of the higher cost farms, the greater intensity of cultivations. Thus the amount of seed planted ranged from 8 cwts. per acre to 27 cwts. per acre, while the price of fresh seed varied from £12.13.8d per ton to £22 per ton. Home grown seed was charged at £9 or £12 per ton according to the value put on it by the farmer. The range in price was just as great for artificial

manures, varying from £6.8.0d. per ton for superphosphate to £21. per ton for compound fertilisers. Farmyard manure was charged at 10/- per ton. Only 8 farmers did any spraying, one farmer spraying four times. The long spell of wet weather however nullified the effect and several of the sprayed crops suffered attack from blight. One farmer used his own spraying equipment, and seven farmers sprayed by contract the cost ranging from 35/- to £3 per acre.

The largest single item of cost - labour and power, including outside contract labour - amounted to £24.9.0d per acre or 45.6% of the gross costs and was made up as follows:-

	Average per acre.	Percentage of Gross Costs.
Manual Labour	£14. 0. 6d.	26.2%
Horse Labour	8.10d.	0.8%
Tractor Labour	4.15. 4d.	8.9%
Contract Labour	5. 4. 4d.	9.7%
	£24. 9. 0d.	45.6%

Manual labour includes hired labour charged at actual cost, as well as unpaid family labour charged at the corresponding rates for hired labour. Horse labour was charged at 1/3d per hour, while tractor labour excluding the driver, was charged at 3/6d and 5/6d per hour for medium and high powered tractors respectively. Contract labour applies to work done by outside contract only. The high figure of £5.4.4d per acre for contract work reflects the increased use made of it by farmers in their attempt to catch up with the arrears of work due to the wet weather which impeded preliminary cultivations.

The remaining items of cost per acre were distributed as follows: seed £13.1.3d. or 24.4%; manures £10.16.8d or 20.2%; other requisites 12/4d or 1.1%; rent and overheads £4.13.6d. or 8.7%.

PRE-HARVESTING COSTS.

Pre-harvesting costs averaged £35.12.4d per acre, individual costs ranging from £17.9.8d to £55.11.10d per acre. These extremes were due (a) in the case of low costs to the bare minimum of cultivations, no application of farmyard manure and use of cheap home grown seed (b) in the case of the highest cost to the much greater intensity of cultivations both before and after planting, this included a considerable amount of expensive hand weeding.

PREPARATORY CULTIVATIONS.

The average cost for all preparatory cultivations on the 34 farms was £2.6.2d. per acre. The per acre costs of some individual items of cultivations calculated for the acreage on which they were carried out were as follows: ploughing 15/5; cultivating 5/8; rolling and harrowing 4/11. Some of these operations were carried out a number of times on the same field e.g. two ploughings (20 farms), three ploughings (3 farms), four ploughings (1 farm). Cultivating was carried out as many as six times on 2 fields and four times on a further four fields. Discing took place on 5 farms while harrowing or rolling occurred on only 14 farms.

SEED.

Nine of the 34 farmers relied entirely on Scotch seed, a further 14 got a part of their seed fresh from Scotland the balance being once-grown Scotch seed. One farmer used all Irish seed, whilst another used half Irish and half Scotch. Six farmers purchased once grown Scotch seed and two farmers purchased twice grown Scotch seed. Only one farmer used his own seed saved from the previous year. The total number of varieties grown on the 34 farms was only seven - Majestic was commonest (20 fields), with King Edward second (16 fields). 25 farmers grew only one variety, 7 farmers two varieties, 1 farmer three varieties and 1 farmer four varieties.

TABLE I.

COST OF PRODUCTION OF POTATOES FROM 272½ ACRES ON 34 FARMS IN 1950.

Costs per acre.	£. s. d.	Percentage of Gross Costs.	Your Farm.
Preparatory Cultivations	2. 6. 2.	4.3	
Applying F.Y.M. and Artificials	3. 7. 7.	6.3	
Planting	2. 0.11.	3.8	
Ridging Inter-Row Cultivations & Spraying	3.19. 9.	7.4	
TOTAL CULTIVATIONS	11.14. 5.	21.8	
Seed	13. 1. 3.	24.4	
F.Y.M. & Artificials	10.16. 8.	20.2	
TOTAL TO HARVESTING	35.12. 4.	66.4	
TOTAL HARVESTING COSTS	13. 6.11.	24.9	
Rent	1.12. 4.	3.0	
Overheads	3. 1. 2.	5.7	
GROSS COSTS -	53.12. 9.	100.0	
ADD Manurial Residues B/F:	19. 4.		
DEDUCT Manurial Residues C/F:	4. 4. 7.		
	£50. 7. 6.		

MANURES AND MANURING.

The overall cost of manures applied amounted to £10.16.8d per acre or 20·2% of the gross costs. Two farmers manured their potato crops with farmyard manure only, while 8 farmers used only artificials. The remaining 24 farmers applied both farmyard manure and artificial fertilisers at rates ranging in the case of farmyard manure from 3 tons to 20 tons per acre and in the case of artificials from 3 cwts. to 14 cwts. per acre. On the 8 farms where only artificials were used the range was from 3 to 13¾ cwts. per acre. The very low dressing of 3 cwts. per acre is due to the fact that the potato crop followed old turf which had been fairly heavily stocked. 226½ acres were dunged at a cost of £8.17.1d per acre of which £3.10.6d was for carting and spreading. The cost per acre for artificial manures amounted to £7.1.9d including carting to the field and distributing.

PLANTING.

The overall average cost of planting was: £2.0.11d. per acre. Six farms had all the planting done by contract at prices ranging from 37/- to £2.10.0d per acre, 15 farms planted by hand and 18 farms used robot planters.

RIDGING, SPRAYING AND INTER-ROW CULTIVATIONS.

These operations which included opening and splitting the ridges, hand-weeding, horse and tractor hoeing, the final ridging up and spraying, together averaged £3.19.9d per acre. The average cost per acre of the individual items was as follows:- opening and splitting ridges 10/3d per acre (19 farms); hand-weeding £1.6.9d. (22 farms); horse and tractor hoeing 11/4d (26 farms); final ridging up 8/0d (27 farms).

In addition 5 farmers had the final ridging up done by contract at a standard rate of 10/- per acre. Two farmers ploughed in their potatoes instead of the normal ridging practice. Spraying was carried out on 8 farms, but, in the main, the farmers doubted if any benefit had resulted in view of the persistent wet weather experienced. This view was corroborated by the large quantities of blighted potatoes found when the pits were opened, one farmer who had sprayed four times lost quite a substantial proportion of his crop. The average cost of spraying was £1.16.8, with a maximum of £3 per acre. One farmer had his haulms burned off with acid at a cost of £2.10.0d per acre.

HARVESTING AND POST HARVESTING COSTS.

This heading covers all operations from spinning out the potatoes to clearing up the clamp site, i.e. it includes lifting, clamping, dressing and bagging the potatoes ready for dispatch to market. The overall average figure of £13.6.11d. per acre masks a wide range of costs for individual farms, determined in the main by three factors viz. yields, method of storage and treatment before sale.

The cost of lifting alone averaged £6.18.6d.per acre. This cost covers the following operations: spinning out, picking, harrowing out and picking up the harrowings. Spinning out was the method employed for uncovering the crop. Lifting was done by the regular farm staff supplemented by local casual workers. On one farm spinning out, picking and carting to clamp was done by outside contract at £9 per acre. Another farmer contracted for lifting only at £6.10.0d per acre. Only 17 farmers clamped the whole crop; 13 stored all the potatoes in barns and one farmer sold all his crop direct from the field. One farmer, with an eye to the winter employment of his men, stored his potatoes partly in clamp and partly in the barn. On the 16 farms where the whole crop was clamped by the farm staff the extra costs amounted to the equivalent of £7.9.2d. per acre of which £3.4.3d. was for carting, clamping straw and earthing up, £4.4.11d for opening up clamp, dressing weighing and clearing clamp site.

RENT AND OVERHEADS.

The rent of the fields costed ranged from £0.15.0d. to £3per acre, with an overall average of £1.12.4d per acre. Overheads have been computed at a flat rate of 12½% of the cost of manual, horse and tractor labour, and averaged £3.1.1d. per acre.

MANURIAL RESIDUES.

Residual values brought forward and carried forward have been calculated in the recognised manner. Where

farmyard manure was applied one half of the cost has been carried forward to the following crop. No allowance has been made on account of beneficial cultivations.

YIELDS AND RETURNS.

The total yield of potatoes from the 272½ acres costed was 1,531 tons, which gives an overall average of just over 5.6 tons per acre. The overall average of 5.6 tons per acre was divided as to 4.5 tons ware and 1.1 tons chats and seed.

Yields varied widely from farm to farm the lowest being only 1 ton 18 cwts. per acre and the highest 8 tons 2 cwts. per acre. The distribution of yields was as follows:- under 2 tons per acre (1 farm); 2 tons and under 4 tons (3 farms); 4 tons and under 6 tons (18 farms); 6 tons and under 8 tons (10 farms); 8 tons and over (2 farms).

The financial returns per acre ranged from £29.12.0d. to £86.15.0d. The overall average returns amounted to £62.13.10d. per acre made up of £42.7.8d. for ware, £10.6.2d. for seeds and chats and £10 statutory acreage payment.

The overall average surplus i.e. (receipts minus expenses) amounted to £12.6.4d. per acre or, excluding the subsidy to £2.6.4d. per acre. On 11 farms there was a loss even with the subsidy payment. Without the subsidy 20 farms would have shown a loss. The distribution of the surplus and deficit per acre was as follows:-

	Including Subsidy No. of farms.	Excluding Subsidy No. of farms.
Surplus per acre from £30 to £40	1	-
" " " " £20 to £30	6	1
" " " " £10 to £20	7	6
" " " under £10	9	7
Deficit per acre under £10	7	9
" " " from £10 to £20	3	7
" " " over £20	1	4

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