Potato Cost Production U.S.



THE WEST OF SCOTLAND AGRICULTURAL COLLEGE

(ECONOMICS DEPARTMENT)

# POTATO COSTINGS, 1954 CROP

## AVERAGES FOR 36 CROPS

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# POTATO COSTINGS: CROP OF 1954

## AVERAGES FOR 36 CROPS

## FOREWORD

This report summarises the cost records kept on 30 farms for the 1954 potato crop. As the treatment and disposal of the crop varied on different fields on some of the farms, the results from 36 records are shown. Of the crops costed, 16 were in West Perthshire, 7 in Dumfries-shire and the remaining 13 in the Glasgow area.

The year 1954 was far from being an ideal potato year and the costing figures reflect this, particularly in the time and cost aspects of lifting. The crop was planted under good conditions but the excessive rain from early July onwards made working difficult and the broken weather and, in some cases, the sodden condition of the land in late September and October made lifting slow and neither easy nor complete. However, only 1 acre was left and eventually lifted in January and a further ½ acre was considered worthless and left in the ground. There was also some loss due to bad keeping in the pits, partly from water logging and partly from the keen frost with high winds in January and February.

The maincrop potato acreage in Scotland, which had remained steady for the previous three years at about 145,000 acres, fell to 136,500 acres in 1954 and this fall, on a similar yield per acre, reduced supplies and made trade much brisker throughout the season than in 1953. Few potatoes were left on the farms after the end of April.

Grateful acknowledgment is extended to all co-operating farmers for their help and keen interest in this investigation.

## SUMMARY

The 36 crops have been arranged in four main groups:- Green Ware, Ware Dunged, Seed Dunged, and Seed Undunged. Two crops grown for ware were undunged; these are included in the general average but were not used to form a separate group.

The hours given for man, horse and tractor work are as complete as possible and include hours of contract work.

The average cost per acre and per ton include a substantial charge for "overhead" expenses.

Summaries of the general average and of the average for green ware are given below:-

| | General Average | Green Ware |
|---|---|---|
| Number of cost records | 28 | 8 |
| Total acreage costed | 388½ | 169½ |
| Average yield per acre - tons | 8.4 | 10.3 |
| Average net cost per acre | £90.17/- | £85.11/- |
| Average net cost per ton | £10.16/- | £8. 6/- |

Average hours worked per acre including the carting and spreading of dung:-

| | General Average | Green Ware |
|---|---|---|
| Man Hours | 193 | 196 |
| Horse Hours | 12 | 1 |
| Tractor Hours | 29 | 30 |

Included in the Appendix Tables (Tables 6, 7 and 8) are figures for individual costs - two growing for seed and one growing partly for ware and partly for seed.

Contents of the Appendix:-



## THE COSTING FIGURES

### Production Costs per Acre and Per Ton

In Table 1 of the Appendix is given the general average for 28 of the crops costed, excluding the 8 crops sold straight from the field as Green Ware. In Table 2 averages are given for 34 crops in four groups, Green Ware, Ware Dunged, Seed Dunged, Seed Undunged. The Ware Undunged group is omitted as it contained only 2 crops.

The information given in Tables 1 and 2 summarises as below. It has to be noted that costs quoted up to line 7 exclude any estimated charge to cover "overheads" but that this "overhead" charge is included with all costs from lines 9-15. Also, all costs up to line 9 exclude any adjustments for manurial and lea residues, but these adjustments have been made to the figures given in lines 13 and 15.

| | | Costs per Acre | | | |
|---|---|---|---|---|---|
| | General Average except Green Ware | Green Ware | Ware Dunged | Seed Dunged | Seed Undunged |
| No. of Cost Records | 28 | 8 | 6 | 13 | 7 |
| Acreage Costed | 388¼ | 169½ | 46 | 196½ | 122½ |
| Average yield per acre - tons | 8.4 | 10.3 | 7.7 | 7.4 | 9.8 |
| | £. s. | £. s. | £. s. | £. s. | £. s. |
| 1. Crop lifted | 67-17 | 67- 9 | 69- 1 | 69-19 | 68- 3 |
| 2. Add rent charge | 1-10 | 1-19 | 1-13 | 1- 5 | 1-14 |
| 3. | 69- 7 | 69- 8 | 70-14 | 71- 4 | 69-17 |
| 4. Less brock credit | 1- 7 | 11 | 1- 8 | 1- 2 | 1-16 |
| 5. | 68- 0 | 68-17 | 69- 6 | 70- 2 | 68- 1 |
| 6. Add Dressing | 8-13 | - | 5- 0 | 8- 4 | 11- 9 |
| 7. | 76-13 | 68-17 | 74- 6 | 78- 6 | 79-10 |
| 8. Add 'overhead' estimate | 19- 8 | 18-18 | 20-19 | 17- 7 | 22-11 |
| 9. Ready for market | 96- 1 | 87-15 | 95- 5 | 95-13 | 102- 1 |
| 10. Add residues from past | 3- 4 | 4- 7 | 3-13 | 1-19 | 4-15 |
| 11. | 99- 5 | 92- 2 | 98-18 | 97-12 | 106-16 |
| 12. Less residues to future | 8- 8 | 6-11 | 13-10 | 11- 2 | 3-10 |
| 13. NET COST PER ACRE | £90-17 | £85-11 | £85- 8 | £86-10 | £103- 6 |
| Costs per Ton (Including 'overhead' estimate ) | | | | | |
| 14. Before adjusting for residues | 11- 9 | 8-10 | 12- 7 | 12-19 | 10- 9 |
| 15. After adjusting for residues | £10-16 | £8- 6 | £11- 2 | £11-15 | £10-11 |

The average cost, including rent and after crediting brock potatoes, of growing potatoes to the stage of marketing was £76.13/- per acre and £9. 2/- per ton. After a charge was made for "overheads" and adjustment made for manurial residues the average cost was £90.17/- per acre and £10-16/- per ton. The average "overhead" charge was £19-8/- per acre.

Approximate Return From The Crop

The information in Table 3 summarises as follows:-

| | Return Per Acre and Per Ton | | | |
|---|---|---|---|---|
| | Green Ware | Ware Dunged | Seed Dunged | Seed Undunged |
| Yield per acre - tons | 10.3 | 7.7 | 7.4 | 9.8 |
| Per Acre | £ | £ | £ | £ |
| Value | 111 | 102 | 106 | 145 |
| Less Net cost before charging "overheads" | 67 | 64 | 70 | 81 |
| | 44 | 38 | 36 | 64 |
| Less "overhead" charges | 19 | 21 | 17 | 22 |
| Return | £25 | £17 | £19 | £42 |
| Per Ton | £. s. | £. s. | £. s. | £. s. |
| Value | 10-15 | 13- 6 | 14- 7 | 14-17 |
| Less Net cost before charging "overheads" | 6- 9 | 8- 8 | 9- 8 | 8- 5 |
| | 4- 6 | 4-18 | 4-19 | 6-12 |
| Less "overhead" charges | 1-17 | 2-14 | 2- 7 | 2- 6 |
| Return | £2- 9 | £2- 4 | £2-12 | £4- 6 |

The average return per acre for the crop ranged from £17 for Dunged Ware to £42 for Undunged Seed and, per ton, from £2. 4/- to £4. 6/- also for Dunged Ware and Undunged Seed.

The following table shows the margin after charging only direct expenses and farm labour and power.

| | Approximate Margin | | | |
|---|---|---|---|---|
| | Green Ware | Ware Dunged | Seed Dunged | Seed Undunged |
| | £ | £ | £ | £ |
| Value Per Acre | 111 | 102 | 106 | 145 |
| Less Direct Expenses | 51 | 42 | 43 | 52 |
| | 60 | 60 | 63 | 93 |
| Less Labour and Power | 12 | 18 | 21 | 24 |
| MARGIN | £48 | £42 | £42 | £69 |

The margin - after deducting Direct Expenses and all Farm Labour and Power from the total value - ranged from £42 for Dunged Ware and Dunged Seed to £69 for Undunged Seed. This margin, before leaving profit, must cover all other charges including a charge for the dung applied and for 'overheads'.

Direct and Indirect Expenditure

Table 4 shows the costings presented in a different manner. Under "Direct Expenses" have been grouped the outgoings incurred specially for this crop (which could be termed "out of pocket" expenses). They include the cost of fertilisers, all seed, contract work and squad labour. Also separately grouped is the cost of farm labour and power (farm staff, horse work and tractor work) which can be regarded as the extent to which this crop drew on the existing farm "pool" of labour, horses and tractors.

| | Costs Per Acre | | | |
|---|---|---|---|---|
| | Green Ware | Ware Dunged | Seed Dunged | Seed Undunged |
| No. of Cost Records | 8 | 6 | 13 | 7 |
| | £. s. | £. s. | £. s. | £. s. |
| Direct Expenses | 51- 0 | 41-15 | 43- 6 | 52- 9 |
| Farm Labour and Power | 12- 0 | 18- 5 | 20-14 | 23-12 |
| | 63- 0 | 60- 0 | 64- 0 | 76- 1 |
| Rent | 1-19 | 1-13 | 1- 5 | 1-14 |
| Sundry charges | 16 | 2- 6 | 3- 4 | 3-11 |
| Overhead expenses | 18-18 | 20-19 | 17- 7 | 22-11 |
| | 84-13 | 84-18 | 85-16 | 103-17 |
| Less Credit for Brock | 11 | 1- 8 | 1- 2 | 1-16 |
| | 84- 2 | 83-10 | 84-14 | 102- 1 |
| Add Dung applied and residues from past | 8- 0 | 15- 8 | 12-18 | 4-15 |
| | 92- 2 | 98-18 | 97-12 | 106-16 |
| Less Residues to future | 6-11 | 13-10 | 11- 2 | 3-10 |
| NET COST PER ACRE | £85-11 | £85- 8 | £86-10 | £103- 6 |

The Direct Expenses ranged from £41-15/- for Dunged Ware to £52- 9/- for Undunged Seed; Farm Labour and Power ranged from £12 for Green Ware to £23-12/- for Undunged Seed. The average total costs of the crop after allowance for sundries, overheads and the adjustment for manurial residues ranged from £85- 8/- per acre for Dunged Ware to £103- 6/- per acre for Undunged Seed, and per ton from £8- 6/- for Green Ware to £11-15/- for Dunged Seed.

The hours and cost of Labour and Power per acre for the 28 crops are shown in Table 5. If seed and ware crops are grouped separately and dung work excluded, the average hours worked per acre were:-

| | Ware | Seed |
|---|---|---|
| Man Hours | 158 | 186 |
| Horse Hours | 16 | 9 |
| Tractor Hours | 24 | 27 |

Casual labour, which is included above, was usually required for planting unless where a machine was used, and casual or squad labour was also used for gathering and dressing.

The above "hours per acre" exclude all dung work. Where dung was applied the average hours per acre for this operation were:-

| | Dung Work |
|---|---|
| Man Hours | 22 |
| Horse Hours | 2 |
| Tractor Hours | 7 |

Various methods of application were used in filling and spreading. The average application was 15 tons per acre.

## GENERAL

Green Ware is treated as a separate group because of the method of harvesting and disposal. Some of the crops in this group used boxed seed and digging began early in the season. In some cases digging was done almost wholly by a merchant's squad with a minimum use of the farm staff as the market demand for this crop usually coincided with the grain harvest. Dressing was done by sight on the field and the potatoes bagged ready for immediate sale. In this group dunged and undunged crops have been averaged together, dung and artificials being applied to 3 crops, artificials alone to 5 crops.

In the other three groups the potatoes were stored in pits or sheds for sale later in the season.

In the seed groups the greater portion of the crop was sold as "graded" seed and in the ware group the greater portion was sold for household use, a small amount being retained as seed for home use the following year.

Fertiliser Use

An analysis of the kinds and weights of fertilisers used gave:-

| | No. of crops costed | No. of crops using fertiliser | Average Application cwts | Range cwts |
|---|---|---|---|---|
| Dunged Crops | | | | |
| Compound Potato Manure | 22 | 22 | 10.6 | 6.0 - 14.0 |
| Undunged Crops | | | | |
| Compound Potato Manure | 14 | 14 | 11.6 | 8.1 - 14.5 |

In addition to the above, 2 of the dunged crops and 1 of the undunged crops applied potash ranging from 2-3 cwts per acre. No lime, nitrogen, mineral phosphate or other phosphatic manures were applied as "straight" fertilisers to the crops in this sample. 20 of the dunged crops were grown after grain and 2 after short leas.

The average cost of potato manure was £15. 2/- per ton net (i.e. after deduction of subsidy) and of potash £18.19/- per ton net.

Seed and Planting

In the "ware" group, 82% of the seed was bought at an average cost of £15. 7/- per ton. The planting rate was 21 cwts per acre and the average cost for all seed was £16. 4/- per acre.

In the "seed" group, 82% of the seed was home grown. The average charge made for this was £14.10/- per ton while the cost of bought seed was £19. 2/- per ton. The average rate of planting was 30 cwts per acre at a cost of £23. 6/-. The average planting rate was appreciably heavier than in the "ware" group because of closer planting and for some crops because of the use of "ware-size" potatoes as seed.

Variety

In the Ware Groups, Kerr's Pink was grown on 56% of the acreage with Redskin, British Queen, Epicure and Golden Wonder making up the balance. In the Seed Groups, 17 varieties were grown, Arran Pilot and Majestic on 50% of the acreage, Redskin, Home Guard, King Edward and Kerr's Pink on 32% and the other 11 varieties on 18%.

172½ acres of the seed growing acreage were planted with Foundation Stock or Stock Seed.

23 crops were planted by hand and 13 by machine.

Spraying Against Disease

10 crops were sprayed as a disease preventive; 4 by contract, 6 by the farmer's own sprayer. Only 1 ware crop was sprayed. When the farmer used his own spray he repeated the operation as required.

Roguing

The amount of time spent roguing seed crops varied greatly on each farm, some went rapidly over the field, other growers went through the crop very thoroughly. Roguing and spraying are included in the section "Work:- Row crop, etc".

Shaw Destruction

The potato shaws were burnt down or destroyed on 14 crops, (one of which was grown for ware), either with a sulphuric acid spray or rotavator.

Storage

Two of the crops were stored in sheds, two partly in sheds and partly in pits and the remainder pitted in the field. The average cost of lifting "green ware" was £28. 2/- per acre which included field dressing. The average cost for the other 28 crops, including shaw destruction, was £15. 5/-.

Dressing

Dressing was done throughout the winter and spring, partly by the farm staff and partly by merchants' squads when a dresser was usually supplied. The average cost of dressing ware was 11/-d per ton and of seed £1. 2/-d per ton.

## COSTING METHOD

The costing figures were obtained, not by full farm costing but by "enterprise" costing. Thus, the items included are partly actual costs based on purchase price and partly estimated costs. The former, that is the actual costs incurred on each crop, include purchased seed, fertilisers, materials and any contract work done. Estimated cost items include the value of home-grown seed and the rates used per hour for tractor and horse work. Another estimate is the rate charged for work done on the crop by the farmer or by members of his family. This item is covered by the rates per hour given below.

The cost statement in Table 1 of the Appendix down to and including Cost (before adjusting for residues) takes into account - at actual purchase price or estimated cost - all current expenditure and outlays on the crop costed.

Dung applied is taken at estimated cost. All fertilisers at net cost (i.e. after the deduction of subsidies).

All the sections relating to "Work" include the cost of man, horse and tractor work and casual labour. All work done by the farmer or by his family has been charged.

Purchased seed was charged at cost price and home-grown seed at the selling price of similar seed from the farm costed, or, if there were no sales, the average price ruling in the district at that time. All "Materials" and other expenses were entered at actual cost. These include, contract work, spray materials, straw bought for happing pits, inspection fees and Stock Seed seals for bags.

The entry, "Depreciation on Special Machinery", covers depreciation not included in the "overhead charge", spraying machines, power potato dressers, dung loaders and spreaders, etc.

The rent charge is based on the agreed rental value of the field costed.

The "overhead" expenses, which are that share of farm general expenses apportioned to the crop being costed, are difficult to obtain since neither the complete financial account for the farm nor information as to the sharing of overheads between the different enterprises on the farm is available. The "overhead" figure applied has been based on a general average obtained from a sample of financial accounts of Scottish farms, and this is applied to the crop costings in proportion to the labour costs, to the number of tractor and horse hours (tractor-equivalent hours), and to the acreage used by the crop. The result of this is to give an "overhead" charge based on a national average instead of on the figures for each individual farm. Dairy farms were charged at the higher rate.

The calculation of manurial residues "from previous crops" and "to following crops" was based on the Department of Agriculture for Scotland's Advisory Leaflet 'Residual Values of Fertilisers and Feeding Stuffs'.

"Share of lea residues" represents the value of turf ploughed in and is based on the original cost of the sow out and the age of the lea.

The cost of applying dung is written off over the same period as the cost of the dung itself and this item appears as "Work:- dung application".

## CHARGES

A summary of these is as follows:-

The rates used for labour throughout the costings were:- Hired workers at actual hourly rate paid plus about 2d per hour to allow for holiday time, sick time, etc.

Family labour at rates approximately equivalent to those for similar hired labour. Examples of hourly rates are:-

| | |
|---|---|
| Farmer | 3/2 |
| Sons (over 20) | 3/2 |
| Sons (18-19) | 2/5 |
| Sons (15-17) | 1/7 |

Horse and Tractor Work were charged at hourly rates of:-

| | |
|---|---|
| Horse work (excluding man) | 1/6 |
| Wheeled tractor (excluding man) | 3/9 |
| Tracklaying tractor (excluding man) | 5/9 |

The rates used for "overheads" in the 1954 costing year were:-

| | Dairy Farms | Other Farms |
|---|---|---|
| 1. For each acre costed. | 19/- | 15/6 |
| 2. For each £ of farm labour used on the crop. | 8/- | 7/3 |
| 3. For each "tractor-equivalent hour" i.e. the tractor hours plus one-quarter of the horse hours worked on the crop. | 7/9 | 4/- |

These three charges, added together, give the total of "overheads".

By means of these "overheads", estimated charges are brought into the cost for the following (and other)items:-

(i) The share of the farm bill for wages, fuel, light and power, and for tractor depreciation and repairs which cannot be allocated to any particular crop or department.

(ii) A share of car running and depreciation.

(iii) A share of miscellaneous farm expenses.

(iv) A share of repairs to buildings, fences and drains.

(v) Shares of implement repairs, rates, insurances and depreciation on tenants fixtures.

A credit was given for usable brock potatoes of £2.10/- per ton, or, if sold, the price realised.

The average yield per acre excludes brock, so that all per ton figures are calculated on the yield, excluding brock, which is however credited against cost.

TABLE 1.

POTATO CROP OF 1954.

AVERAGE COSTS FROM 28 CROPS.

The averages given were prepared from the totals of 4 groups; the group of "Sold as Green Ware" costings being excluded. The average yield per acre" excludes brock.

| | Groups:- Ware Crops | | Seed Crops | |
|---|---|---|---|---|
| | Dunged | Undunged | Dunged | Undunged |
| Number of cost records | 6 | 2 | 13 | 7 |
| Acreages costed | 46 | 23¼ | 196½ | 122½ |
| Average yield per acre (tons) | 7.7 | 11.0 | 7.4 | 9.8 |

| | COSTS PER ACRE £.- s. |
|---|---|
| Dung | 6 - 19 |
| Work:- Dung application | 2 - 11 |
| Depreciation on special machinery | 1 |
| Materials and sundries (i) | - |
| | 9 - 11 |
| Lime | - |
| All other fertilisers | 8 - 6 |
| Seed:- Home-grown | 16 - 5 |
| Purchased | 5 - 18 |
| Work:- Preparatory and planting | 5 - 12 |
| Depreciation on special machinery | 3 |
| Materials and sundries (ii) | Neg. |
| CROP IN GROUND | 45 - 15 |
| Work:- Rowcrop, spraying, etc. | 2 - 18 |
| Depreciation on special machinery | 2 |
| Materials and sundries (iii) | 15 |
| Work:- Lifting and storing | 15 - 5 |
| Depreciation on special machinery | 1 - 1 |
| Materials and sundries (iv) | 2 - 1 |
| CROP LIFTED | 67 - 17 |
| Work:- Dressing, etc. | 8 - 2 |
| Depreciation on special machinery | 5 |
| Materials and sundries (v) | 6 |
| CROP READY FOR SALE | 76 - 10 |
| Rent | 1 - 10 |
| Overheads (a) per acre | 17 |
| (b) per £ of labour | 10 - 4 |
| (c) per "tractor-equivalent" hour | 8 - 7 |
| | 97 - 8 |
| Deduct Credit for brock | 1 - 7 |
| COST (before adjusting for residues) | 96 - 1 |
| Adjusting for residues | |
| Add From previous crops:- | |
| Dung | - |
| Lime and fertilisers | 1 - 17 |
| Share of lea residues | 1 - 7 |
| Dung Application work | - |
| | 99 - 5 |
| Deduct To future crops:- | |
| Dung | 3 - 6 |
| Lime and fertilisers | 3 - 17 |
| Dung application work | 1 - 5 |
| NET COST PER ACRE | £90 - 17 |
| COST PER TON:- | |
| Before adjusting for residues | 11 - 9 |
| NET COST PER TON | £10 - 16 |

TABLE 2

POTATO CROP OF 1954

AVERAGE COSTS FROM 4 GROUPS

(The "average yield per acre" excludes brock potatoes)

| | Groups:- Sold as Green Ware | Ware: Dunged | Seed: Dunged | Seed: Undunged |
|---|---|---|---|---|
| Number of cost records | 8 | 6 | 13 | 7 |
| Acreages costed | 169½ | 46 | 196½ | 122½ |
| Average yield per acre - tons | 10.3 | 7.7 | 7.4 | 9.8 |
| | COSTS PER ACRE | | | |
| | £. s. | £. s. | £. s. | £. s. |
| Dung | 3-13 | 11-15 | 10-19 | - |
| Work:- Dung application | 1- 7 | 5- 6 | 3-16 | - |
| Depreciation - special machinery | neg. | 1 | 1 | - |
| Materials and sundries (i) | - | - | - | - |
| | 5- 0 | 17- 2 | 14-16 | - |
| Lime | - | - | - | - |
| All other fertilisers | 9- 0 | 8-19 | 8- 1 | 8- 0 |
| Seed:- Home-grown | 14 | 11- 0 | 16- 4 | 21-10 |
| Purchased | 15- 5 | 7-11 | 4-14 | 5-16 |
| Work:- Preparatory and Planting | 6- 4 | 6- 1 | 5- 3 | 6- 6 |
| Depreciation - special machinery | 1 | 4 | 1 | 5 |
| Materials and sundries (ii) | 2 | - | neg. | - |
| CROP IN GROUND | 36- 6 | 50-17 | 48-19 | 41-17 |
| Work:- Rowcrop, etc. | 2- 5 | 2-16 | 2-16 | 3- 8 |
| Depreciation - special machinery | neg. | - | 1 | 3 |
| Materials and sundries (iii) | 2 | neg. | 11 | 1- 9 |
| Work:- Lifting and Storing | 28- 2 | 13- 5 | 14- 6 | 17-16 |
| Depreciation - special machinery | - | 3 | 17 | 1- 1 |
| Materials and sundries (iv) | 14 | 2- 0 | 2- 9 | 2- 9 |
| CROP LIFTED | 67- 9 | 69- 1 | 69-19 | 68- 3 |
| Work:- Dressing, etc. | - | 4-10 | 7-16 | 10-10 |
| Depreciation - special machinery | - | 8 | 3 | 8 |
| Materials and sundries (v) | - | 2 | 5 | 11 |
| | 67- 9 | 74- 1 | 78- 3 | 79-12 |
| Rent | 1-19 | 1-13 | 1- 5 | 1-14 |
| Overheads (a) per acre | 16 | 17 | 16 | 17 |
| (b) per £ of labour | 11-14 | 9- 6 | 9-14 | 11-15 |
| (c) per "T-E hour" | 6- 8 | 10-16 | 6-17 | 9-19 |
| | 88- 6 | 96-13 | 96-15 | 103-17 |
| Deduct Credit for brock | 11 | 1- 8 | 1- 2 | 1-16 |
| COST (before adjusting residues) | 87-15 | 95- 5 | 95-13 | 102- 1 |
| Adjusting for residues | | | | |
| Add From previous crops:- | | | | |
| Dung | - | - | - | - |
| Lime and fertilisers | 1-16 | 2-12 | 1-16 | 1-17 |
| Share of lea residues | 2-11 | 1- 1 | 3 | 2-18 |
| Dung application work | - | - | - | - |
| | 92- 2 | 98-18 | 97-12 | 106-16 |
| Deduct To future crops:- | | | | |
| Dung | 1-16 | 5-18 | 5- 9 | - |
| Lime and fertilisers | 4- 1 | 4-19 | 3-15 | 3-10 |
| Dung application work | 14 | 2-13 | 1-18 | - |
| NET COST PER ACRE | £85-11 | £85- 8 | £86-10 | £103- 6 |
| COST PER TON:- | | | | |
| Before adjusting for residues | 8-10 | 12- 7 | 12-19 | 10- 9 |
| NET COST | £8- 6 | £11- 2 | £11-15 | £10-11 |

## TABLE 3

## POTATO CROP OF 1954

### I - APPROXIMATE RETURN FROM THE CROP - BY 4 GROUPS

| | Sold as "Green" Ware | | | Ware: Dunged | | | Seed: Dunged | | | Seed: Undunged | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yield Per ac. | Per Acre | Per Ton | Yield Per ac. | Per Acre | Per Ton | Yield Per ac. | Per Acre | Per Ton | Yield Per ac. | Per Acre | Per Ton |
| | Tons | £ | £. s. | Tons | £ | £. s. | Tons | £ | £. s. | Tons | £ | £. s. |
| Ware Sold | 10.3 | 111 | 10-15 | 7.3 | 97 | 12-12 | 2.0 | 23 | 3- 4 | 2.1 | 24 | 2- 9 |
| Seed Sold | - | - | - | - | - | - | 4.1 | 64 | 8-12 | 6.1 | 99 | 10- 2 |
| Ware for house and perks. | neg. | neg. | neg. | .2 | 2 | 6 | .1 | 2 | 4 | .1 | 1 | 2 |
| Seed and ware retained for planting | - | - | - | .2 | 3 | 8 | 1.2 | 17 | 2- 7 | 1.5 | 21 | 2- 4 |
| | 10.3 | 111 | 10-15 | 7.7 | 102 | 13- 6 | 7.4 | 106 | 14- 7 | 9.8 | 145 | 14-17 |
| Less Net Cost, before charging "Overheads" | | 67 | 6- 9 | | 64 | 8- 8 | | 70 | 9- 8 | | 81 | 8- 5 |
| | | 44 | 4- 6 | | 38 | 4-18 | | 36 | 4-19 | | 64 | 6-12 |
| Less "Overhead" charge | | 19 | 1-17 | | 21 | 2-14 | | 17 | 2- 7 | | 22 | 2- 6 |
| | | £25 | £2- 9 | | £17 | £2- 4 | | £19 | £2-12 | | £42 | £4- 6 |

The yields given exclude brock potatoes, as the costs per acre and per ton given are after deducting the value of brock from production costs.

### II - APPROXIMATE MARGIN - PER ACRE - OVER DIRECT EXPENSES AND FARM LABOUR AND POWER

| | Green Ware | Ware: Dunged | Seed: Dunged | Seed: Undunged |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| Sold etc., per acre, as above | 111 | 102 | 106 | 145 |
| Less Direct Expenses (Table 4) | 51 | 42 | 43 | 52 |
| | 60 | 60 | 63 | 93 |
| Less Farm Labour and Power (Table 4) | 12 | 18 | 21 | 24 |
| MARGIN - For all other charges and profit | £48 | £42 | £42 | £69 |

TABLE 4

POTATO CROP OF 1954

DIRECT AND INDIRECT EXPENDITURE - 4 GROUPS

| | Groups:- Sold as Green Ware | Ware: Dunged | Seed: Dunged | Seed: Undunged |
|---|---|---|---|---|
| Number of cost records | 8 | 6 | 13 | 7 |
| | COSTS PER ACRE | | | |
| DIRECT EXPENSES | £. s. | £. s. | £. s. | £. s. |
| Lime applied, 1954 crop | - | - | - | - |
| Fertilisers applied, 1954 crop | 9- 0 | 8-19 | 8- 1 | 8- 0 |
| Seeds | 15-19 | 18-11 | 20-18 | 27- 6 |
| Contract Work | 10 | 4 | 1- 3 | 19 |
| Casual and squad labour | 25- 8 | 13- 9 | 12- 0 | 13- 9 |
| Sundry direct expenses | 3 | 12 | 1- 4 | 2-15 |
| Total - (1) | 51- 0 | 41-15 | 43- 6 | 52- 9 |
| FARM LABOUR AND POWER | | | | |
| Man work - Farmer | 12 | 2- 2 | 1- 8 | 1- 0 |
| Farm staff | 5-19 | 8-17 | 13- 1 | 16- 3 |
| Horse work | 1 | 1- 2 | 16 | 13 |
| Tractor work | 5- 8 | 6- 4 | 5- 9 | 5-16 |
| Farm lorry, etc. | - | - | - | - |
| Total - (2) | 12- 0 | 18- 5 | 20-14 | 23-12 |
| SUB-TOTAL (1) and (2) | £63- 0 | £60- 0 | £64- 0 | £76- 1 |
| Add Estimated charges for:- | | | | |
| Rent of land | 1-19 | 1-13 | 1- 5 | 1-14 |
| Depreciation on special machinery | 1 | 16 | 1- 3 | 1-17 |
| Sundries | 15 | 1-10 | 2- 1 | 1-14 |
| Overheads | 18-18 | 20-19 | 17- 7 | 22-11 |
| Value of dung applied | 3-13 | 11-15 | 10-19 | - |
| Share of lea residues | 2-11 | 1- 1 | 3 | 2-18 |
| Manurial residues from previous crops | 1-16 | 2-12 | 1-16 | 1-17 |
| | 92-13 | 100- 6 | 98-14 | 108-12 |
| Deduct Estimated credits for:- | | | | |
| Manurial residues to future crops | 6-11 | 13-10 | 11- 2 | 3-10 |
| Value of brock | 11 | 1- 8 | 1- 2 | 1-16 |
| NET COST PER ACRE | £85-11 | £85- 8 | £86-10 | £103- 6 |
| | COSTS PER TON | | | |
| | Green Ware | Ware: Dunged | Seed: Dunged | Seed: Undunged |
| | £. s. | £. s. | £. s. | £. s. |
| Cost - Direct Expenses | 4-19 | 5- 9 | 5-18 | 5- 7 |
| - Farm Labour and Power | 1- 3 | 2- 7 | 2-16 | 2- 8 |
| | 6- 2 | 7-16 | 8-14 | 7-15 |
| Add - Estimates for:- | | | | |
| Rent | 4 | 4 | 3 | 4 |
| Overheads | 1-17 | 2-14 | 2- 7 | 2- 6 |
| All other added above | 17 | 2- 6 | 2- 3 | 17 |
| | 8- 0 | 13- 0 | 13- 7 | 11- 2 |
| Deduct - Residues and brock | 14 | 1-18 | 1-12 | 11 |
| NET COST PER TON | £8- 6 | £11- 2 | £11-15 | £10-11 |

## TABLE 5

## POTATO CROP OF 1954

## HOURS AND COST OF LABOUR AND POWER PER ACRE FOR 28 CROPS

| PER ACRE | | Work Stages:- Dung Work | Crop in Ground | Summer Work | Lifting | Sub-Total | Dressing | Total |
|---|---|---|---|---|---|---|---|---|
| Contract: | Man Hours | - | .16 | .08 | .14 | .38 | - | .38 |
| | Horse Hours | - | - | - | - | - | - | - |
| | Tractor Hours | - | .16 | .08 | .14 | .38 | - | .38 |
| | Other Machine Hours | - | .16 | .08 | .14 | .38 | - | .38 |
| Gang Labour Hours | | - | - | - | 8.36 | 8.36 | 13.29 | 21.65 |
| Casual Labour Hours | | 1.44 | 7.71 | .53 | 61.78 | 71.46 | 3.41 | 74.87 |
| Farm Staff and Family Hours | | 10.53 | 16.81 | 9.86 | 27.16 | 64.36 | 31.88 | 96.24 |
| Total: | Man Hours | 11.97 | 24.68 | 10.47 | 97.44 | 144.56 | 48.58 | 193.14 |
| | Horse Hours | 1.22 | 4.12 | .76 | 5.67 | 11.77 | .02 | 11.79 |
| | Tractor Hours | 3.60 | 9.58 | 4.77 | 9.31 | 27.26 | 2.10 | 29.36 |
| | Other Machine Hours | - | .16 | .08 | .14 | .38 | - | .38 |

| COST PER ACRE | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. | £. s. d. |
|---|---|---|---|---|---|---|---|
| Contract Work, inclusive | - | 2- 2 | 4- 5 | 11- 4 | 17-11 | - | 17-11 |
| Gang Labour | - | - | - | 1- 9- 8 | 1- 9- 8 | 2- 9- 3 | 3-18-11 |
| Casual Labour | 3- 0 | 16- 6 | 3- 2 | 6-19- 9 | 8- 2- 5 | 7- 5 | 8- 9-10 |
| Farm Staff | 1-12- 8 | 2-11- 1 | 1-11- 3 | 4- 1- 5 | 9-16- 5 | 4-17- 6 | 14-13-11 |
| Farm Horse | 1-10 | 6- 2 | 9 | 8- 6 | 17- 3 | 4 | 17- 7 |
| Farm Tractor | 13- 6 | 1-16- 3 | 18- 8 | 1-14-11 | 5- 3- 4 | 7- 8 | 5-11- 0 |
| | £2-11- 0 | £5-12- 2 | £2-18- 3 | £15- 5- 7 | £26- 7- 0 | £8- 2- 2 | £34- 9- 2 |

Note: These figures relate to the 28 crops of Table 1.

TABLE 6.

POTATO CROP - 1954.

DETAILED INDIVIDUAL COST NO. 1.

Medium acreage grown for seed.
Regular farm staff available:- 4 - 6 men.
No horse work used - tractor work only.
Yield - 11.8 tons per acre.
Remarks - Good source of casual labour for planting and lifting; dressing mainly by merchant's squad.

PER ACRE

| | Quantity | Hours of:- Farm Staff | Casual | Tractor | Cost £. S. D. |
|---|---|---|---|---|---|
| Ploughing | | 3.43 | | 3.43 | 1. 4. 8 |
| Sowing Fertiliser | | .57 | | .29 | 3. 0 |
| Sulphate of Potash | 2 cwts. | | | | 1.19. 4 |
| Cultivating | | 1.78 | | 1.78 | 12.10 |
| Harrowing | | .57 | | .57 | 4. 1 |
| Gathering Stones | | .76 | | .38 | 4. 1 |
| Drilling | | 1.14 | | 1.14 | 8. 3 |
| Sowing Fertiliser | | 1.14 | | .57 | 6. 1 |
| Potato Fertiliser | 13½ cwts. | | | | 9.10. 0 |
| Planting | | 5.14 | 13.21 | .83 | 2. 8.10 |
| Seed | 30½ cwts. | | | | 23.18. 8 |
| Covering | | 1.62 | | 1.62 | 11. 8 |
| Crop in Ground | | 16.15 | 13.21 | 10.61 | 41.11. 6 |
| Harrowing down (i) | | 1.33 | | 1.33 | 9. 9 |
| Cultivating (i) | | .82 | | .82 | 5. 2 |
| Setting up (i) | | .67 | | .67 | 4. 8 |
| Cultivating (ii) | | 1.21 | | 1.21 | 8. 6 |
| Setting up (ii) | | .82 | | .82 | 6. 0 |
| Spraying (Disease) | | 1.56 | | 1.56 | 11. 3 |
| Spraying Materials | | | | | 2.11. 7 |
| Rogue and Carry off | | 12.67 | | .79 | 2. 6. 6 |
| Digging and Pitting | | 21.78 | 93.46 | 12.44 | 16. 1. 5 |
| Winter Happing | | 7.30 | | | 1. 5. 1 |
| Dressing and loading | | 12.22 | 57.14 | 1.90 | 12.16.10 |
| | | 76.53 | 163.81 | 32.15 | 78.18 .3 |
| Sundry expenses | | | | | 5.14. 3 |
| | | | | | 84.12. 6 |
| Rent Charge | | | | | 1.15. 0 |
| Estimated 'Overhead Charge' | | | | | 27. 8. 6 |
| | | | | | 113.16. 0 |
| Less Sundry credits | | | | | 2.10. 6 |
| | | | | | £111. 5. 6 |

Sundry expenses include depreciation of special machinery not included in 'Overhead Charge'; also baskets, straw, potato inspection fees.

Sundry credits represent the net manurial residue balance and a credit for usable brock potatoes.

TABLE 7

POTATO CROP - 1954

DETAILED INDIVIDUAL COST No. 2

Medium acreage grown for seed.
Regular farm staff available:- 5 - 7 men.
Work mostly done by tractor with some horse work.
Yield - 11.2 tons per acre.
Remarks - Good source of casual labour for planting and lifting.

| | | PER ACRE Hours of:- | | | | |
|---|---|---|---|---|---|---|
| | Quantity | Farm Staff | Casual | Horse | Tractor | Cost £. S. D. |
| Ploughing | | 6.92 | | | 6.82 | 2- 5- 2 |
| Gathering Stones | | .60 | | | .20 | 2- 1 |
| Harrowing | | .43 | | | .43 | 2-11 |
| Drilling | | 1.27 | | | 1.27 | 8- 7 |
| Carting out Fertiliser | | .40 | | | .20 | 1- 8 |
| Sowing Fertiliser | | .85 | | | .85 | 3-10 |
| Potato Fertiliser | 9 cwts | | | | | 4-16- 0 |
| Carting out Potatoes | | 1.74 | | | .87 | 7- 3 |
| Planting | | 5.83 | 12.33 | 2.00 | .28 | 2- 4- 9 |
| Seed | 42 cwts | | | | | 30-15- 0 |
| Covering | | 2.68 | | 5.37 | | 16- 2 |
| Crop in Ground | | 20.72 | 12.33 | 7.37 | 10.92 | 42- 3- 5 |
| Harrowing down (i) | | .43 | | | .43 | 2-11 |
| Grubbing (i) | | .75 | | | .75 | 5- 1 |
| Setting up (i) | | .72 | | | .72 | 4-10 |
| Gathering stones | | .38 | | .38 | | 1- 9 |
| Harrowing down (ii) | | .50 | | | .50 | 3- 5 |
| Cultivating (ii) | | .93 | | | .93 | 6- 5 |
| Setting up (ii) | | .92 | | | .92 | 6- 3 |
| Cleaning endrigs | | .43 | | | .23 | 1-10 |
| Rogue and carry off | | .67 | | | | 1- 8 |
| Spraying (burning shaws) | | 3.52 | | 1.30 | .13 | 13- 2 |
| Spraying materials | | | | | | 1- 7- 6 |
| Digging and pitting | | 48.60 | 83.33 | 12.60 | 9.53 | 18-13- 2 |
| Dressing and loading | | 54.10 | | neg. | 5.79 | 8- 7- 1 |
| | | 132.67 | 95.66 | 21.65 | 30.85 | 72-18- 6 |
| Sundry expenses | | | | | | 4- 8- 2 |
| | | | | | | 77- 6- 8 |
| Rent charge | | | | | | 2- 0- 0 |
| Estimated 'Overhead Charge' | | | | | | 26- 2- 6 |
| Other estimated charges | | | | | | 1-12-10 |
| | | | | | | £107- 2- 0 |

Sundry expenses include depreciation of special machinery not included in 'Overhead charge'; also baskets, straw, potato inspection fees.

Other estimated charges represent the net manurial residue balance less a credit for usable brock potatoes.

TABLE 8

POTATO CROP - 1954

DETAILED INDIVIDUAL COST No. 3

Medium acreage grown for seed and ware.
Regular farm staff - 3 men.
No horse work used - tractor work only.
Yield - 6.5 tons per acre.
Remarks - Very little casual labour available, potatoes kept badly in pits.

PER ACRE

| | Quantity | Hours of:- Farm Staff | Casual | Tractor | Cost £. S. D. |
|---|---|---|---|---|---|
| Carting and Cooping Dung | | 12.73 | | 8.42 | 3-11- 4 |
| Spreading Dung | | 8.52 | | | 1- 6- 5 |
| Ploughing | | 4.01 | | 4.01 | 1- 7- 7 |
| Harrowing | | .42 | | .42 | 2-11 |
| Cultivating (twice) | | 1.68 | | 1.68 | 11- 8 |
| Harrowing | | .42 | | .42 | 2-11 |
| Sowing Fertiliser | | .84 | | .84 | 5-10 |
| Potato Fertiliser | 12 cwts | | | | 9-13- 3 |
| Drill, Plant, Cover (Machine) | | 8.85 | | 2.96 | 1-18-11 |
| Seed | 2½ cwts | | | | 20-12- 8 |
| Crop in Ground | | 37.47 | - | 18.75 | 39-13- 6 |
| Drill Harrowing (i) | | .84 | | .84 | 5-10 |
| Setting up (i) | | .84 | | .84 | 5-10 |
| Saddle Harrowing (i) | | .42 | | .42 | 2-11 |
| Drill Harrowing (ii) | | .84 | | .84 | 5-10 |
| Setting up (ii) | | .84 | | .84 | 5-10 |
| Saddle Harrowing (ii) | | .42 | | .42 | 2-11 |
| Cultivating | | .42 | | .42 | 2-11 |
| Setting up (iii) | | .84 | | .84 | 5-10 |
| Rotovating (Contract) | | | (.97) | (.97) | 2-11- 6 |
| Digging and Pitting | | 18.89 | 72.16 | 9.68 | 13-13- 7 |
| Dressing and loading | | 15.79 | 13.47 | 1.58 | 5-13- 7 |
| | | 77.61 | 85.63 | 35.47 | 63-10- 1 |
| Sundry expenses | | | | | 2- 3- 6 |
| | | | | | 65-13- 7 |
| Rent charge | | | | | 17- 6 |
| Estimated charge for dung | 12 tons | | | | 10-10- 0 |
| Estimated 'Overhead charge' | | | | | 16-15- 2 |
| | | | | | 93-16- 3 |
| Less Sundry Credits | | | | | 10-12- 7 |
| | | | | | £83- 3- 8 |

Sundry expenses include depreciation of special machinery not included in 'Overhead Charge'; also baskets, straw, potato inspection fees.

Sundry credits represent the net manurial residue balance and a credit for usable brock potatoes.

TABLE 9

POTATO CROP OF 1954

SOME OPERATION COSTS

Per Acre:-

| | No. of Records | Acreage Represented | Man Hours | Horse Hours | Tractor Hours | Total Cost |
|---|---|---|---|---|---|---|
| | | | | | | £. s.d. |
| Carting and cooping Dung(a) | 12 | 158 | 15.03 | 3.00 | 5.68 | 3-12-0 |
| Hand spreading | 12 | 158 | 8.26 | | | 1- 3-0 |
| Ploughing (from lea) | 12 | 290 | 5.72 | | 5.71 | 2- 0-0 |
| " (from stubble) | 15 | 224 | 3.79 | | 3.79 | 1- 7-0 |
| Harrowing | 24 | 684 | .48 | | .48 | 3-4 |
| Discing | 5 | 125 | 1.13 | | 1.13 | 8- 0-0 |
| Opening Drills | 15 | 226 | 1.05 | | 1.05 | 7-6 |
| Sowing Manure (Horse) (b) | 5 | 74 | 1.14 | 1.09 | | 5-0 |
| " " (Tractor) (b) | 15 | 236 | 1.11 | | .99 | 7-3 |
| Planting (by hand) | 21 | 370 | 15.97 | 1.05 | .08 | 1-18-0 |
| Open Drills & Sow Manure | 5 | 146 | 1.52 | | 1.52 | 11-0 |
| Open Drills, Plant, Cover | 6 | 101 | 7.03 | | 2.62 | 1-11-0 |
| Covering | 17 | 309 | 1.49 | | 1.49 | 10.6 |
| Row crop work (tractor | 25 | 471 | 4.74 | | 4.74 | 1-13-0 |
| (horse & tractor) | 8 | 100 | 5.95 | 2.20 | 3.91 | 1-16-0 |
| Disease spraying (c) | 4 | 321 | .52 | | .52 | 3-9 |
| Disease spraying by contract(d) | 6 | 63 | .47 | | .47 | 1- 7-0 |
| Burning Shaws by contract (e) | 8 | 75 | .49 | | .49 | 2- 5-0 |
| Digging - Green Ware | 6 | 111 | 135.69 | .79 | 11.12 | 23-15-0 |
| Lifting and Pitting | 23 | 301 | 97.26 | 5.40 | 8.97 | 14- 4-0 |
| Dressing and loading | 17 | 200 | 47.99 | .04 | 2.79 | 7-10-0 |

(a) The average application was 15 tons per acre.
Cooping = Preliminary small heaps on the field.

(b) By broadcast machine.

(c) Labour and power only - cost of material excluded.

(d) Including cost of material.

(e) Including cost of material.