

Potatoes - Cost of production

THE WEST OF SCOTLAND AGRICULTURAL COLLEGE

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POTATO COSTINGS

1966 CROP

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178 Bothwell Street,
Glasgow, C.2

Economics Department Report No. 117
1967

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*With the Compliments of the
College Economist and Staff*

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INTRODUCTION

Following the costing of the 1965 crop, this report summarises the results from the 1966 crop. It covers 23 costings kept on 20 farms in this College province. Ten of the farms were in Dumfriesshire, nine in Renfrewshire and one in west Perthshire. The acreage costed amounted to $318\frac{3}{4}$ acres.

The costings have been divided into two groups - one of 12 crops grown principally for seed and the other of 11 ware crops. The second group contained two farms where the crop was lifted by contract and sold straight off the field and a third farm where part of the crop was disposed of in a similar way.

As growers already know, the 1966 crop was a profitable one. It is true that one or two farms in this sample due to unsatisfactory seed planted and resultant poor yields showed very much lower profits than they might otherwise have reasonably expected, but nevertheless none of the crops costed made a loss - unlike the year before when almost half the sample showed a loss.

After a run of poor market prices for the 1963, 1964 and 1965 potato crops, the acreage planted in Scotland for the 1966 crop was 122,000 acres - the lowest since before the war.

Selling began with rather better prices and these improved as the season progressed, although the demand for seed slackened a little before rising again. Towards the end of the season all varieties of ware including white ware made very good prices.

In general, weather conditions seemed quite reasonable for the potato crops in this sample, and certainly in one or two cases the crop was more easily worked than in the previous year, and this was reflected in lower power and labour costs for the farms concerned.

This report is part of the study of the cost of growing potatoes being carried out by the Economics Departments of the three Scottish Agricultural Colleges.

Grateful acknowledgement is made of the help received from the growers who co-operated by keeping cost records.

SUMMARY OF RESULTS

It should be noted that yield per acre includes ware, seed and also chats and brock. Similarly the gross output per acre and the average prices per ton include the chats and brock which were valued at around £2 - £3 as feed for stock.

The average total cost for growing, lifting and dressing the crop was £132 per acre for the 12 seed crops and £123 per acre for the 11 ware crops. This total cost comprises all variable costs - seed, fertiliser, miscellaneous and sundry expenses, and contract and casual work, and all other costs - rent, depreciation on specialised equipment etc., farm labour and power (including work of farmer and family), and overheads (share of general farm expenses).

Averages per Acre

	<u>12 Seed</u>	<u>11 Ware</u>
	£	£
Gross Output	9.7 tons 235.6	9.7 tons 168.2
<u>Less Variable Costs</u>	<u>71.0</u>	<u>65.9</u>
Gross Margin	164.6	102.3
<u>Less Other Costs</u>	<u>60.9</u>	<u>57.1</u>
Surplus	<u>103.7</u>	<u>45.2</u>

Averages per Ton

	<u>12 Seed</u>	<u>11 Ware</u>
	£	£
Price	24.2	17.3
Cost	<u>13.6</u>	<u>12.7</u>
Surplus	<u>10.6</u>	<u>4.6</u>

The results are given in detail in the tables at the end of the report, including the gross margin presentation in Table III. There is also a Standard Appendix of tables prepared in an agreed form so that the various University and College costings can be more easily compared.

THE SAMPLE

ACREAGES

The potato acreages costed on the 20 farms in the sample fell within the group shown in the following table:-

<u>Potato Acreage</u>	<u>Number of Farms</u>
Under 5	1
5 - 10	7
10 - 20	8
20 - 30	1
40 - 50	<u>3</u>
	<u>20</u>

In all 23 costings were used for this report, since on some farms more than one variety was grown and separate records were kept. The table below shows the distribution by acreage of the 23 crops.

<u>Crop Acreage Costed</u>	<u>12 Seed</u>	<u>11 Ware</u>
Under 5	2	1
5 - 10	3	3
10 - 20	5	6
20 - 30	1	-
30 - 50	<u>1</u>	<u>1</u>
	<u>12</u>	<u>11</u>

VARIETIES AND YIELDS

The 23 costings covering in all $318\frac{3}{4}$ acres are placed in the categories in the following table according to crop type and potato variety.

	<u>Seed</u>	<u>Ware</u>	<u>Total</u>	
Number of costs	12	11	23	
<u>VARIETY</u>	<u>Seed Acreage</u>	<u>Ware Acreage</u>	<u>Total Acreage</u>	<u>Average yield per acre (tons)</u>
Redskin	1	$153\frac{3}{4}$	$154\frac{3}{4}$	9.8
Majestic	$75\frac{3}{4}$	-	$75\frac{3}{4}$	9.3
Red Craigs Royal	$42\frac{1}{4}$	-	$42\frac{1}{4}$	9.5
Pentland Dell	$18\frac{1}{2}$	-	$18\frac{1}{2}$	10.9
Record	$8\frac{1}{4}$	-	$8\frac{1}{4}$	13.1
Golden Wonder	-	$6\frac{1}{2}$	$6\frac{1}{2}$	8.1
Arran Pilot	6	-	6	6.9
Kerr's Pink	$2\frac{1}{2}$	$1\frac{1}{4}$	$3\frac{3}{4}$	9.7
Arran Banner	$2\frac{1}{4}$	-	$2\frac{1}{4}$	9.7
Pentland Crown	$\frac{3}{4}$	-	$\frac{3}{4}$	13.3
Total acreage	<u>$157\frac{1}{4}$</u>	<u>$161\frac{1}{2}$</u>	<u>$318\frac{3}{4}$</u>	
Average yield per acre (tons)	9.7	9.7	9.7	

The average yields per acre for the two groups were made up as follows:-

	<u>12 Seed</u> <u>tons</u>	<u>11 Ware</u> <u>tons</u>
Ware	2.8	8.5
Seed	6.5	0.4
Chats and brock	0.4	0.8
	<u>9.7</u>	<u>9.7</u>

There was a very wide range in yield. Some of the heaviest individual yields, all over 12 tons per acre were among the varieties, Record (one small field of this variety cropped just over 15 tons per acre), Redskin, Pentland Dell and Pentland Crown, Red Craigs Royal and Majestic. The lowest yield was just under four tons per acre for a very small field of Golden Wonder which nevertheless due to high selling prices still managed to cover costs. It also happened that some Arran Pilot, Pentland Dell, Redskin, Majestic and Red Craigs Royal yielded less than eight tons per acre.

Altogether 40 fields or sections of fields went to make up the 23 costings. The distribution of yield per acre from these 40 plantings is shown in the table below.

<u>Average Yield per Acre</u> <u>tons</u>	<u>Number</u>
Over 15	1
14 - 15	2
13 - 14	2
12 - 13	3
11 - 12	7
10 - 11	8
9 - 10	3
8 - 9	7
7 - 8	2
6 - 7	3
5 - 6	1
4 - 5	-
Under 5	<u>1</u>
	<u>40</u>

THE CROP

PLACE IN ROTATION

The usual practice is for the potato crop to follow a grain crop or be taken out of lea. The summary below shows what happened.

Following:-	<u>Seed</u>	<u>Ware</u>
Grain	7	6
Grass	4	5
Roots	1	-

Actually on three of the farms a small acreage of the potatoes grown followed roots and on one of these three a small field of grass was ploughed for potatoes, but mainly grain was their previous crop.

FARMYARD MANURE

Of the 12 seed crops, five were dunged and two were partly dunged. The estimated rate of dunging on the acres actually covered was 17 tons per acre. The remaining five crops received no dung at all.

Four of the 11 ware crops were dunged and one was partly dunged. The remaining six were not dunged at all. The estimated rate on the areas actually covered was 10½ tons per acre.

FERTILISERS

In all cases compound potato fertilisers were applied. One very small acreage which had been in grass also received a dressing of basic slag and on another farm a light application of muriate of potash was also given to part of the potato acreage.

Over the whole sample the average weight of all types of fertiliser applied per acre was as follows:-

	<u>12 Seed</u>	<u>11 Ware</u>
Cwt. per acre	10.0	9.4

When measured in units per acre this worked out at the following rates:-

	<u>12 Seed</u>			<u>11 Ware</u>		
	N	P	K	N	P	K
Units per acre	105	117	166	130	130	181