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Yields of the Field Experiments 1973

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73/R/P/4 - Spacing & Fertiliser - Potatoes

Rothamsted Research

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73/R/P/4

POTATOES

SPACING AND FERTILISER

Object: To study the effects of different spacings within and between rows and of fertiliser rates on yields and size grades of two potato varieties - Stackyard.

Sponsors: G.A. Hide, J.R. Moffatt, F.V. Widdowson.

Design: 3 randomised blocks of 24 plots.

Whole plot dimensions: Narrow rows 2.84 x 15.2
Wide rows 3.66 x 15.2
Plot area harvested: Narrow rows 0.00217
Wide rows 0.00279

Treatments: All combinations of:

1. Varieties:	VARIETY
King Edward	Edward
Pentland Crown	Crown
2. Compound fertiliser (13:13:20) kg:	FERT
1510	1510
3020	3020
3. Row spacing cm:	ROWSPACE
71 (28 inches)	71
91 (36 inches)	91
4. Number of plants per hectare:	PLANT/HA
37100 (by spacing seed at 38 cm on rows 71 cm apart, 30 cm on rows 91 cm apart)	37100
29700 (seed 48 cm on 71 cm rows, 38 cm on 91 cm rows)	29700
22200 (seed 61 cm on 71 cm rows, 48 cm on 91 cm rows)	22200

Basal applications: Weedkillers: Linuron at 1.2 kg with paraquat at 0.4 kg ion in 450 l. Fungicide: Mancozeb at 1.3 kg in 430 l on narrow rows and in 340 l on wide rows. Insecticide: Demeton-s-methyl at 0.25 kg applied with the fungicide.

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Cultivations, etc.:— Ploughed: 4 Nov, 1972. Fertiliser treatments applied: 27 Mar, 1973. Rotary cultivated and seed planted: 18 Apr. Weedkiller applied: 18 May. Grubbed and ridged: 12 June. Insecticide with fungicide applied: 5 July. Fungicide applied: 24 July, 16 Aug. Sprayed with undiluted PCV at 220 l: 20 Sept. Lifted: 22 Oct. Previous crops: Wheat 1971, fallow 1972.

NOTE: Counts were made of plant and stem numbers after burning off and before lifting. Tubers were graded into 6 sizes.

Standard error per plot.

Total tubers, tonnes/hectare: 2.49 or 4.5% (46 d.f.)

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TABLES OF MEANS

TOTAL TUBERS: TONNES/HECTARE

VARIETY	FERT		ROWSPACE		PLANT/HA			Mean
	1510	3020	71	91	37100	29700	22200	
Edward	48.9	50.9	51.9	47.9	49.9	50.6	49.2	49.9
Crown	58.6	64.0	62.9	59.7	62.6	60.6	60.6	61.3
		FERT						
		1510	55.3	52.2	55.0	53.1	53.1	53.8
		3020	59.5	55.3	57.5	58.1	56.7	57.4
			ROWSPACE					
				71	57.5	57.8	56.9	57.4
				91	55.0	53.4	52.9	53.8
Mean					56.3	55.6	54.9	55.6
		ROWSPACE		71		91		
		PLANT/HA	37100	29700	22200	37100	29700	22200
VARIETY	FERT							
Edward	1510	51.6	50.7	50.2	48.1	46.8	45.9	
Edward	3020	53.1	53.8	52.0	46.7	51.1	48.6	
Crown	1510	60.1	60.1	58.9	60.4	54.7	57.4	
Crown	3020	65.3	66.5	66.4	64.7	61.1	59.6	

T3/P/P/4

TOTAL TUBERS: TONNES/HECTARE

STANDARD ERRORS OF DIFFERENCES

VARIETY	FERT	ROWSPACE	PLANT/HA	VARIETY FERT	VARIETY ROWSPACE	FERT ROWSPACE
0.59	0.59	0.59	0.72	0.83	0.83	0.83
VARIETY PLANT/HA	FERT PLANT/HA	ROWSPACE PLANT/HA	VARIETY FERT ROWSPACE PLANT/HA			
1.02	1.02	1.02	2.03			

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PERCENTAGE WARE: 4.44 CM (1.75 INCH) RIDDLE

VARIETY	FERT		ROWSPACE		PLANT/HA			Mean
	1510	3020	71	91	37100	29700	22200	
Edward	74.9	78.2	76.5	76.5	73.6	76.2	79.6	76.5
Crown	93.7	93.2	93.5	93.4	93.4	93.5	93.5	93.4
		FERT						
		1510	84.0	84.6	82.8	83.7	86.4	84.3
		3020	86.0	85.3	84.2	86.0	86.8	85.7
			ROWSPACE					
				71	83.8	84.5	86.7	85.0
				91	83.2	85.2	86.4	85.0
Mean					83.5	84.8	86.6	85.0

VARIETY	FERT	ROWSPACE			PLANT/HA		
		37100	29700	22200	37100	29700	22200
Edward	1510	71.0	72.9	78.9	73.2	74.3	78.8
Edward	3020	76.9	78.7	80.6	73.5	78.9	80.3
Crown	1510	93.5	93.3	94.3	93.4	94.3	93.6
Crown	3020	93.7	92.9	93.1	92.9	93.3	93.1