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Yields of the Field Experiments 1974

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74/R/P/5 Spacing and Fertiliser - Potatoes

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74/R/P/5

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 - Pastures.

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 17.1, Wide rows - 3.66 x 17.1.
Area harvested: Narrow rows - 0.00243, Wide rows - 0.00312.

Treatments: All combinations of:-

1. Varieties:

King Edward
Pentland Crown

VARIETY

Edward
Crown

2. Compound fertiliser (13:13:20) kg:

1510
3020

FERT

1510
3020

3. Row spacing cm:

71 (28 inches)
91 (36 inches)

ROWSPACE

71
91

4. Number of plants per hectare:

37100 (by spacing seed at 38 cm on rows 71 cm
apart, 30 cm on rows 91 cm apart)
29700 (seed 48 cm on 71 cm rows, 38 cm on 91
cm rows)
22200 (seed 61 cm on 71 cm rows, 48 cm on 91
cm rows)

PLANT HA

37100
29700
22200

Basal applications: Weedkiller: Linuron at 1.2 kg plus paraquat at 0.42 kg
in 450 l. Fungicide: Mancozeb at 1.3 kg in 450 l on two occasions.
Insecticide: Demeton-s-methyl at 0.25 kg with mancozeb on first occasion.

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Cultivations, etc.: - Ploughed: 24 Nov, 1973. Spring-tine cultivated: 17 Apr, 1974. NPK applied: 29 Apr. Spike rotary cultivated: 30 Apr. Seed planted, narrow rows: 1 May, wide rows: 2 May. Reridged wide rows: 3 May. Weedkiller applied: 21 May. Fungicide and insecticide applied: 11 July. Fungicide applied: 2 Aug. Sprayed with undiluted BOV at 220 l: 16 Sept. Lifted: 28 Oct. Previous crops: Barley 1972, spring beans 1973.

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: 3.78 or 5.6% (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	62.6	65.4	68.6	59.4	64.2	64.8	63.0	64.0
Crown	68.8	72.5	76.6	64.8	73.3	71.2	67.6	70.7
		FERT						
		1510	70.1	61.3	67.0	66.8	63.3	65.7
		3020	75.0	62.9	70.4	69.1	67.3	68.9
				ROWSPACE				
				71	74.4	73.8	69.6	72.6
				91	63.1	62.1	61.1	62.1
Mean					68.7	68.0	65.3	67.3
		ROWSPACE		71		91		
		PLANT HA	37100	29700	22200	37100	29700	22200
VARIETY	FERT							
Edward	1510	67.4	67.0	66.6	58.3	58.6	57.7	
Edward	3020	73.4	71.3	65.6	57.7	62.0	62.2	
Crown	1510	75.1	75.3	69.3	67.4	66.2	59.7	
Crown	3020	81.5	81.6	76.7	69.1	61.6	64.6	

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TOTAL TUBERS: TONNES/HECTARE

STANDARD ERRORS OF DIFFERENCES

VARIETY	FERT	ROWSPACE	PLANT HA	VARIETY FERT	VARIETY ROWSPACE	VARIETY PLANT HA
0.89	0.89	0.89	1.09	1.26	1.26	1.54
FERT ROWSPACE	FERT PLANT HA	ROWSPACE PLANT HA	VARIETY FERT ROWSPACE PLANT HA			
1.26	1.54	1.54	3.09			

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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	84.1	86.9	84.7	86.3	83.8	85.3	87.5	85.5
Crown	97.3	97.3	97.4	97.2	97.0	97.3	97.7	97.3
	FERT							
		1510	90.1	91.3	89.6	90.5	92.0	90.7
		3020	92.0	92.2	91.2	92.0	93.2	92.1
			ROWSPACE					
				71	89.8	91.0	92.4	91.1
				91	90.9	91.6	92.8	91.8
Mean					90.4	91.3	92.6	91.4
		ROWSPACE		71		91		
		PLANT HA	37100	29700	22200	37100	29700	22200
VARIETY	FERT							
Edward	1510	79.4	83.4	85.6	84.8	84.7	86.9	
Edward	3020	85.7	85.8	88.4	85.1	87.2	88.9	
Crown	1510	97.0	97.3	97.9	97.1	96.8	97.6	
Crown	3020	97.1	97.4	97.7	96.6	97.6	97.6	