

## FIELD EXPERIMENTS 1970

Serial No. 23 V

Stat. File C.I.

CROP: Potatoes

Field Hobarts Close

VARIETY: Pentland Crown. Once-grown farm  
seed.  $1\frac{1}{2}$ " -  $2\frac{1}{4}$ "

EXPERIMENT: Irregularity of Planting

## TREATMENTS AND LAYOUT:

4 Fully randomised blocks.

All combinations of

1. Regularity		Coefficient of variation: (i)	0
		(ii)	20%
2. Seed spacing (i)	8"	(iii)	40%
	(ii) 12"	(iv)	60%
	(iii) 16"		

Plot Size: Treatment: 3 rows x 30 ins x 80 ft.

Harvest: 1 row x 80ft.

Manuring with dates of :

9 cwt 13: 13: 20	} in the seedbed
5 cwt Kieserite	

Date of

Planting: 5 May Hand planting to strings. Ridges subsequently split.

Inter-row cultivation and re-ridging 8 May.

Herbicide: 9 May 3 lbs Linuron/acre

Emergence counts: 19 June

Blight spraying:	1.	17 July	$1\frac{1}{2}$ lbs Dithane/acre
	2.	28 July	" "
	3.	7 August	Ferrite A at $1\frac{1}{2}$ lbs/acre + 6 fl. ozs Metasystox for aphids.

Top removal: 18 September. Sulphuric acid.

Lifting: 4 October. Whitsed Super Duplex.

Remark:

Previous cropping: 69:W. Wheat  
68:W. Wheat

Splitting the ridges subsequent to planting was not too accurate due to a rear-mounted implement being used. Because of this some of the tubers were displaced from the centre of the row and a score for position in the ridge was necessary.

Irregularity of Planting2. Pentland CrownEmergence Count ('000 plants/acre)

Regularity	Spacing (ins)			Means
	8	12	16	
0%	24.1	17.4	12.1	17.9
20%	22.8	16.9	11.9	17.2
40%	22.2	16.2	12.0	16.8
60%	21.7	15.3	10.5	15.8
Means	22.7	16.5	11.6	

Score for Position in Ridge (1 = good  
5 = bad)

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Regularity	Spacing (ins)			Means ( $\pm 0.37$ )
	8	12	16	
	( $\pm 0.63$ )			
0%	1.5	2.0	3.0	2.2
20%	2.5	1.3	2.5	2.1
40%	1.3	1.5	3.3	2.0
60%	2.8	2.3	2.8	2.6
Means ( $\pm 0.32$ )	2.0	1.8	2.9	

S.E. per plot =  $\pm 1.27$  or 57.43%

Irregularity of Planting1 Pentland CrownTotal yield (tons/acre)

Regularity	Spacing (ins)			Means ( $\pm 0.744$ )
	8	12	16	
	( $\pm 1.288$ )			
0%	10.65	8.50	6.39	8.51
20%	7.66	8.28	7.40	7.78
40%	8.49	7.99	6.65	7.71
60%	7.85	7.93	6.98	7.59
Means ( $\pm 0.644$ )	8.66	8.18	6.86	

S.E. =  $\pm 2.576$  or 32.62%Total yield (ton/ac) adjusted for Position Score

Regularity	Spacing (ins)			Means ( $\pm 0.573$ )
	8	12	16	
	( $\pm 0.992$ )			
0%	9.72	8.23	7.42	8.46
20%	8.04	7.03	7.78	7.62
40%	7.24	7.06	8.01	7.44
60%	8.56	7.98	7.69	8.08
Means ( $\pm 0.496$ )	8.39	7.58	7.73	

S.E. =  $\pm 1.985$  or 25.13%

b = 1.3037

S.E. b =  $\pm 0.2724$ 

Ratio variances without/with regression = 1.68

Irregularity of Planting 2. Pentland CrownYields (tons/acre) and as % total yield

Regularity	TREATMENT Spacing "	2 $\frac{1}{4}$ "	1 $\frac{3}{4}$ - 2 $\frac{1}{4}$ "	2 $\frac{1}{4}$ - 2 $\frac{1}{2}$ "	2 $\frac{1}{2}$ - 3"	3"	Ware > 1 $\frac{3}{4}$ "
0%	8	0.39 (3.7)	2.58 (24.1)	3.06 (28.8)	4.07 (38.1)	0.55 (5.3)	10.26 (96.3)
	12	0.33 (3.9)	2.03 (24.1)	2.54 (30.5)	3.14 (36.3)	0.46 (5.2)	8.17 (96.1)
	16	0.32 (5.0)	1.44 (24.2)	1.45 (21.3)	2.65 (39.4)	0.66 (10.2)	6.10 (95.0)
20%	8	0.37 (4.8)	1.99 (25.2)	2.18 (29.1)	2.80 (36.8)	0.31 (4.0)	7.29 (95.2)
	12	0.41 (5.2)	2.21 (27.2)	2.44 (29.6)	2.77 (32.4)	0.46 (5.6)	7.87 (94.8)
	16	0.19 (2.5)	1.39 (19.1)	1.71 (22.6)	3.54 (46.8)	0.57 (8.9)	7.21 (97.5)
40%	8	0.45 (5.3)	2.41 (28.5)	2.18 (25.8)	3.15 (36.8)	0.30 (3.5)	8.04 (94.7)
	12	0.35 (4.5)	1.80 (22.6)	2.03 (24.9)	3.69 (46.5)	0.12 (1.5)	7.64 (95.5)
	16	0.27 (4.7)	1.28 (21.8)	1.43 (21.5)	2.98 (41.8)	0.68 (10.3)	6.37 (95.3)
60%	8	0.50 (6.5)	2.27 (29.4)	2.16 (27.7)	2.54 (32.2)	0.38 (4.2)	7.35 (93.5)
	12	0.31 (4.1)	1.79 (23.2)	2.13 (26.5)	3.34 (41.6)	0.36 (4.7)	7.62 (95.9)
	16	0.21 (3.2)	1.19 (18.0)	1.58 (22.8)	3.49 (48.5)	0.51 (7.5)	6.78 (96.8)
S.E. †		0.086 (0.95)	0.548 4.55	0.687 (3.73)	1.293 (5.80)	0.260 (3.00)	2.506 (0.95)
S.E. ei % G.M.		25.04% (21.28%)	29.36% (19.00%)	33.10% (14.38%)	40.68% (14.58%)	58.55% (50.72%)	33.17% (0.99%)