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Numerical Results of the Field Experiments 1969

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69/R/RN/11 - Irrigation - Barley & Potatoes

Rothamsted Research

Rothamsted Research (1970) *69/R/RN/11 - Irrigation - Barley & Potatoes* ; Numerical Results Of The Field Experiments 1969, pp 98 - 100 - DOI: <https://doi.org/10.23637/ERADOC-1-96>

IRRIGATION

(69/R/RN/11)

The effect of irrigation on potatoes and barley, Great Field I and II 1969.

Design:

Potatoes: 2 randomised blocks of 4 plots.

Barley: 2 randomised blocks of 4 plots split into 3.

Area of each plot:

Potatoes: 0.2456. Area harvested: 0.0048.

Barley (sub plot): 0.0386. Area harvested: 0.0225.

Treatments:-

Potatoes: Irrigation: None (O), early (A), late (B), full (C).

Barley: All combinations of:-

Whole plots: 1. Irrigation: None (O), early (A), late (B), full (C).

Sub plots: 2. Nitrogen: 0.2 (N1) supplied in basal NPK, 0.4 (N2) and 0.6 (N3) cwt as basal NPK plus 'Nitro-Chalk'.

Basal applications:

Potatoes: 10 cwt (13:13:20). Weedkiller: Paraquat at 0.375 lb ion and linuron at 0.75 lb in 37 gals. Fungicide: Mancozeb at 1.2 lb in 37 gals on 3 occasions. Insecticide: Demeton-s-methyl at 3.5 oz applied with first spraying with mancozeb.

Barley: 2.5 cwt (8:20:16) combine drilled. Weedkiller: Mecoprop at 36 oz and 2,4-D at 9 oz in 20 gals.

Cultivations, etc.:

Potatoes: Ploughed: 19 Nov, 1968. Basal NPK applied: 14 Apr, 1969.

All plots rotary cultivated, potatoes machine planted: 16 Apr.

Weedkiller applied: 13 May. Grubbed and rotary ridged: 21 June.

Insecticide applied: 16 July. Fungicide applied: 16 July, 5 Aug and 22 Aug. Sprayed with undiluted BOV at 15 gals: 4 Sept.

Haulm destroyed mechanically: 18 Sept. Lifted: 19 Sept.

Variety: King Edward.

Barley: Ploughed: 6 Feb, 1969. 'Nitro-Chalk' applied, seed drilled at 140 lb: 29 Mar. Weedkiller applied: 14 May. Combine harvested: 14 Aug. Variety: Zephyr.

RAINFALL AND IRRIGATION: INCHES

Week- ending	Rainfall	IRRIGATION					
		Potatoes			Barley		
		A	B	C	A	B	C
May 6	0.66						
May 13	0.30						
May 20	0.88						
May 27	0.58						
June 3	0.88						
June 10	TR						
June 17	0.45	1.00	-	1.00	1.00	-	1.00
June 24	0.79						
July 1	0.01	-	1.00	1.00	-	1.00	1.00
July 8	0.88						
July 15	0.12	-	1.00	1.00	-	0.75	0.75
July 22	TR						
July 29	1.00	-	1.00	1.00			
Aug 5	0.64						
Aug 12	0.18	-	1.00	1.00			
Aug 19	0.50						
Aug 26	0.39						
Sept 2	0.01						
Sept 9	0.00						
Sept 16	0.29						
Sept 23	0.07						
Sept 30	0.03						
Total	8.66	1.00	4.00	5.00	1.00	1.75	2.75

Standard error per sub plot.
 Grain, cwt: 2.41 or 5.8% (8 d.f.)

SUMMARY OF RESULTS					
	O	A	B	C	Mean
POTATOES					
TOTAL TUBERS, TONS					
	15.81	16.63	18.08	18.70	17.31
% WARE					
	95.4	95.0	97.2	95.8	95.8
BARLEY. GRAIN, CWT					
	(± 1.70)*				(± 0.85)
N1	45.4	42.3	43.2	37.7	42.2
N2	41.7	42.9	44.5	42.2	42.8
N3	37.7	39.0	38.8	41.3	39.2
Mean (± 0.79)	41.6	41.4	42.2	40.4	41.4

* For use in vertical and interaction comparisons only

Mean D.M. %: Barley: 81.1