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## Yields of the Field Experiments 1973

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### 73/R/BE/11 - Irrigation, N F!: Carbohydrate - Beans

#### Rothamsted Research

Rothamsted Research (1974) 73/R/BE/11 - Irrigation, N F!: Carbohydrate - Beans ; Yields Of The Field Experiments 1973, pp 363 - 365 - DOI: <https://doi.org/10.23637/ERADOC-1-98>

73/R/BE/11

SPRING BEANS

IRRIGATION, N AND CARBOHYDRATE

Object: To study the effects of nitrogen fertiliser, sucrose and irrigation applied at flowering time, on yield and its components in field beans - Long Hoos VI.

Sponsor: J. McEwen.

Design: 4 randomised blocks of 2 plots split into 6.

Whole plot dimensions: 2.03 x 3.05. Area harvested: 0.00019.

Treatments: All combinations of:-

Whole plots:	1. Irrigation (mm of water, applied during 3-week flowering period)	IRRIGN
	None	0
	11	11
Sub plots:	2. Nitrogen fertiliser (kg N) just before flowering, 7 June	N
	None	0
	150	150
	3. Sucrose (kg) divided equally between three foliar sprays during flowering	SUCROSE
	None	0
	150	150
	450	450

Irrigation: 3 mm on 16 June, 8 mm on 20 June. Sucrose was applied in 1000 l: 10, 17 and 30 June.

Basal applications: Manures: (0:20:20) at 780 kg. Weedkiller: Simazine at 0.84 kg in 340 l. Insecticide: Demeton-s-methyl 0.25 kg in 290 l. Fungicide: Benomyl at 1.5 kg in 1000 l (applied with sucrose on plots receiving it).

Seed: Minor, sown at 220 kg.

Cultivations, etc.:- PK applied: 29 Nov, 1972. Ploughed: 18 Dec. Power harrowed, seed sown: 12 Mar, 1973. Insecticide applied: 6 June. Benomyl applied: 10 June. Hand harvested: 12 Sept. Previous crops: Maize 1971, fallow 1972.

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NOTE: Counts were made of the numbers of stems and pods. 1000 grain weights and % N in grain were measured.

Standard error per sub plot.

Grain, tonnes/hectare: 0.315 or 5.9% (30 d.f.)

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

	N		SUCROSE			Mean
	0	150	0	150	450	
IRRIGN						
0	5.18	5.66	5.70	5.51	5.05	5.42
11	5.28	5.24	5.20	5.29	5.30	5.26
		N				
		0	5.34	5.24	5.10	5.23
		150	5.56	5.55	5.24	5.45
Mean			5.45	5.40	5.17	5.34
N		0			150	
SUCROSE	0	150	450	0	150	450
IRRIGN						
0	5.48	5.31	4.74	5.92	5.71	5.36
11	5.20	5.17	5.47	5.20	5.40	5.13

STANDARD ERRORS OF DIFFERENCES

N	SUCROSE	IRRIGN*	IRRIGN*	N	IRRIGN*
		N	SUCROSE	SUCROSE	N
					SUCROSE
0.091	0.111			0.157	

Except when comparing means with same level of IRRIGN 0.128 0.157 0.222

\* Within the same level of IRRIGN only

Mean D.M. % 85.3