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68/DC/2 Effect of B-nine*, Irrigation and Its Time of Application on Yield & Growth - S. Beans

Rothamsted Research

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68/Dc/2.1

SPRING BEANS

(WBe 201)

The effect of B-Nine*, irrigation, nitrogen and its time of application on the yield and growth of spring beans - Woburn Butt Close Series II, 1968.

Design: 3 replicates of 2 x 2 x 4 in 6 blocks of 2 whole plots split into 2 and further split into 2.

Area of each sub plot: 0.0121. Area harvested: 0.0064.

Treatments: All combinations of:-

- Whole plots: 1. Irrigation: None (O), full irrigation (C).
Half plots: 2. B-Nine*: None (O), B-Nine at 5 lb in 35 gals at four leaf stage, and three weeks later (S).
Quarter plots: 3. Nitrogen: None (O), 1.5 cwt N in the seedbed (E), 1.5 cwt N in late May (L), 1.5 cwt N in the seedbed, 1.5 cwt N in late May (EL), N as 'Nitro-Chalk'.

* (N-dimethylaminosuccinamic acid).

Basal applications: 360 lb (0:14:28) placed. Weedkiller: Simazine at 0.75 lb in 33 gals. Insecticide: Demeton-s-methyl at 3.5 oz in 37 gals. Magnesian limestone at 22.5 cwt.

Cultivations, etc.: Ploughed: 19 Sept, 1967. Magnesian limestone applied: 25 Oct. Deep-tine cultivated: 26 Oct, 10 Nov. 'Nitro-Chalk' applied to E and EL plots, seed drilled at 200 lb: 28 Feb, 1968. Weedkiller applied: 1 Mar. B-Nine applied: 15 May. 'Nitro-Chalk' applied to L and EL plots: 29 May. B-Nine applied: 5 June. Insecticide applied: 13 June. C plots irrigation applied at 0.5 inches: 14 June, 0.75 inches: 20 July. Combine harvested: 13 Sept. Variety: Tarvin. Previous crops: Spring wheat 1967, potatoes 1966.

- NOTES: (1) Germination counts were made and scores made for nodulation and root growth. Stem and pod counts were made and stem height measured.
(2) 1000 grain wts. and percentage N in the grain were taken.
(3) Counts of free living nematodes were taken after harvest.
(4) After the first application of B-Nine there was evidence of weedkiller damage from residues left in the sprayer, most severe on the first plots sprayed. Because of this the first two half plots sprayed were treated as missing plots and estimated values used in the analysis.

Standard error per plot (pooled).
Grain: 2.25 or 8.2% (26 d.f.)

68/Dc/2.2

SUMMARY OF RESULTS

GRAIN

	O	S	O	E	L	EL	Mean
	(± 0.65)		(± 0.92)				(± 0.46)
O	27.7	26.4	26.1	29.8	23.5	28.9	27.1
C	28.2	27.3	28.2	27.5	26.6	28.6	27.7
			(± 0.92)				(± 0.46)
		O	28.6	28.8	24.0	30.4	27.9
		S	25.7	28.5	26.1	27.2	26.9
		Mean (± 0.65)	27.1	28.7	25.0	28.8	27.4

	O	E	L	EL	O	E	L	EL
	(± 1.30)							
O	27.9	30.8	21.7	30.3	29.3	26.8	26.2	30.4
S	24.2	28.8	25.2	27.6	27.1	28.2	26.9	26.9

Mean D.M. %: 77.8