

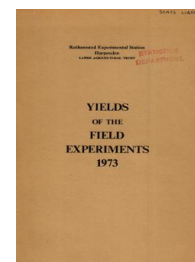
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73/R/BE/5 - Control of Pests & Diseases - Beans

Rothamsted Research

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73/R/BE/5

SPRING BEANS

CONTROL OF PESTS AND DISEASES

Object: To study the effects of a range of chemicals on pest and disease incidence and yield of beans using a seed stock infected with seed-borne viruses and not isolated from other bean crops (see also 73/R/CS/95) - Great Knott II.

Sponsors: R. Bardner, A.J. Cockbain, D. Hornby, G.A. Salt.

Design: 4 randomised blocks of 5 plots.

Whole plot dimensions: 6.40 x 19.2. Area harvested: 0.00615.

Treatments: Chemicals (kg):	CHEMICAL
None	None
Aldicarb nematocide/insecticide, 4.5 applied as granules	Aldicarb
Gamma BHC insecticide, 2.2 in 290 l	BHC
Dexon fungicide, 78.5 in 290 l	Dexon
Dieldrin insecticide, 2.2 in 290 l	Dieldrin

Basal applications: Ground chalk at 7.5 tonnes. (0:20:20) at 1300 kg, Epsom salts at 900 kg in autumn to area not treated in 1971. (0:14:28) at 400 kg, placement drilled. Weedkiller: Simazine at 1.1 kg in 220 l. Insecticide: Demeton-s-methyl at 0.25 kg in 370 l.

Cultivations, etc.: Autumn PK applied: 21 Sept, 1972. Epsom salts applied: 22 Sept. Chalk applied: 25 Sept. Ploughed: 22 Nov. Treatments applied and all plots rotary cultivated: 12 Mar, 1973. Seed sown: 13 Mar. Weedkiller applied: 16 Mar. Insecticide applied: 8 June. Combine harvested: 3 Sept. Previous crops: Winter wheat 1971, barley 1972.

73/R/BE/5

NOTE: The following observations were made:-
 (1) Incidence of viruses.
 (2) Adult weevil populations.
 (3) Damage to plants by adult weevils.
 (4) Incidence of wilt.
 (5) Incidence of Aphis fabae.
 (6) Root health.
 (7) Sitona larvae in soil.

Standard error per plot.

Grain, tonnes/hectare: 0.391 or 11.8% (12 d.f.)

TABLES OF MEANS

GRAIN: TONNES/HECTARE

CHEMICAL

None	Aldicarb	BHC	Dexon	Dieldrin	Mean
3.18	3.61	3.33	3.10	3.32	3.31

STANDARD ERROR OF DIFFERENCES

CHEMICAL

0.277

Mean D.M. % 81.9