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83/R/BE/17 Control of Stem Nematode - S. Beans

Rothamsted Research

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83/R/BE/17

SPRING BEANS

CONTROL OF STEM NEMATODE

Object: To study the effects of a range of materials, applied at three rates on the incidence of stem nematode (*Ditylenchus dipsaci*) and on the yield of spring beans grown from infested seed - ex-Allotments.

Sponsor: A.G. Whitehead.

Design: 2 randomised blocks of 24 plots.

Whole plot dimensions: 2.29 x 4.57.

Treatments: All combinations of:-

1. NEMACIDE Nematicides applied in the seed furrows at sowing:

ALDICARB	Aldicarb
CARBOFUR	Carbofuran
DIMETHOA	Dimethoate
DISULFOT	Disulfoton
FENAMIPH	Fenamiphos
2. NEM RATE Rates of nematicides (kg):

1	All applied to seed furrow
2	All applied to seed furrow
4	All applied to seed furrow
2+2	2 kg to seed furrow, 2 kg post emergence on 23 May, 1983

plus one extra treatment:

EXTRA

NONE None (quadruplicated)

Basal applications: Manures: (0:14:28) at 450 kg. Weedkillers: Simazine at 1.1 l in 640 l. Fungicide: Benomyl at 0.56 kg in 560 l applied with the insecticide. Insecticide: Pirimicarb at 0.14 kg on three occasions, with the fungicide on the first, in 560 l on the second and third.

Seed: Maris Bead, sown at 260 kg.

Cultivations, etc.: - Ploughed: 7 Dec, 1982. PK applied: 23 Feb, 1983. Spring-tine cultivated, rotary harrowed, seed sown: 9 Mar. Weedkiller applied: 11 Mar. Fungicide with insecticide applied: 10 June. Insecticide applied: 30 June, 19 July. Combine harvested: 8 Aug. Previous crops: S. barley 1981 and 1982.

NOTE: The percentage of stems infested with stem nematode was estimated in July. Seed infestation was assessed in harvested grain.

83/R/BE/17

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

	1	2	4	2+2	MEAN
NEM RATE					
NEMACIDE					
ALDICARB	3.97	4.05	3.98	3.77	3.94
CABBOFUR	4.24	4.19	3.72	3.78	3.98
DIMETHOA	2.82	3.18	2.94	2.86	2.95
DISULFOT	3.12	3.60	3.55	3.24	3.38
FENAMIPH	3.42	3.43	3.69	3.64	3.55
MEAN	3.51	3.69	3.58	3.46	3.56

NONE 2.99

GRAND MEAN 3.47

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	NEMACIDE	NEM RATE	NEMACIDE NEM RATE
SED	0.164	0.146	0.327

SED FOR COMPARING NONE WITH ANY ITEM IN THE
NEM RATE.NEMACIDE TABLE IS 0.259

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.327	9.4

GRAIN MEAN DM% 84.6

PLOT AREA HARVESTED 0.00035