ROTHAMSTED RESEARCH

Yields of the Field Experiments 1985

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85/R/BE/7 Control of Stem Nematode - S. Beans

Rothamsted Research

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85/R/BE/7

SPRING BEANS

CONTROL OF STEM NEMATODE

Object: To study the effects of rates, times and methods of applying nematicides on the control of seed-borne infestation by stem nematode (Ditylenchus dipsaci) and on the yield of s. beans - Little Knott I.

Sponsor: A.G. Whitehead.

Design: 3 randomised blocks of 17 plots.

Whole plot dimensions: 2.29 x 4.57.

Treatments: All combinations of:-

1. NEMACIDE	Nematicides:
ALDICARB	Aldicarb
CARBOFUR	Carbofuran
2. NEM RATE	Rates of nematicides (kg):
1	1 to seed furrows at sowing
2	2 to seed furrows at sowing
4	4 to seed furrows at sowing
2+2	2 to seed furrows at sowing + 2 post emergence on 11 June, 1985

plus eight extra treatments:

EXTRA	
NONE	None (duplicated)
	Post-emergence sprays, applied at 1.5 kg, in addition to carbofuran at 2 kg to seed furrow at sowing:
CA2 TB C	Thiabendazole applied by conventional sprayer
CA2 TB E	Thiabendazole applied by electrostatic sprayer
CA2 CZ C	Carbendazim applied by conventional sprayer
CA2 CZ E	Carbendazim applied by electrostatic sprayer
CA2 TD C	Thiodicarb applied by conventional sprayer
CA2 TD E	Thiodicarb applied by electrostatic sprayer
CA2 DI C	Dimethoate applied by conventional sprayer

NOTE: Conventional sprayer treatments were applied in 310 l on 24 June, and electrostatic sprays in 5.7 l on 25 June.

Basal applications: Manures: (0:24:24) at 450 kg. Weedkiller: Simazine at 1.1 kg in 620 l. Fungicide: Benomyl at 0.56 kg in 280 l. Insecticide: Pirimicarb at 0.14 kg in 280 l on two occasions.

Seed: Maris Bead, sown at 260 kg.

Cultivations, etc.:- Cultivated by rotary digger: 18 Dec, 1984. PK applied: 11 Mar, 1985. Seed sown and seedbed treatments applied: 12 Mar. Weedkiller applied: 15 Mar. Pirimicarb applied: 2 July, 25 July. Benomyl applied: 3 July. Harvested by hand: 4 Sept. Previous crops: W. wheat 1983, sugar beet 1984.

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85/R/BE/7

NOTES: (1) Because of a harvesting error yields of four plots were lost. Those with treatment combinations

	NEMACIDE	CARBOFUR	ALDICARB	ALDICARB
	NEM RATE	2	4	2+2

and EXTRA CA2 TD C. Estimated values were used in the analysis.

(2) Stem nematode infestations were assessed in the stems after flowering and in the seed after harvest.

GRAIN TONNES/HECTARE

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

NEM RATE	1	2	4	2+2	MEAN
NEMACIDE					
ALDICARB	5.77	5.78	5.47	6.53	5.89
CARBOFUR	5.93	6.02	5.86	5.35	5.79
MEAN	5.85	5.90	5.67	5.94	5.84

EXTRA	
NONE	5.34
CA2 TB C	5.56
CA2 TB E	5.76
CA2 CZ C	5.62
CA2 CZ E	5.99
CA2 TD C	6.44
CA2 TD E	5.51
CA2 DI C	5.44
MEAN	5.67

GRAND MEAN 5.75

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

TABLE	NEMACIDE	NEM RATE	NEMACIDE NEM RATE	EXTRA	
SED	0.210	0.296	0.419	0.419	MIN REP
				0.314	MAX-MIN

	EXTRA
MAX-MIN	NONE V ANY OF REMAINDER
MIN REP	ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.513	8.9

GRAIN MEAN DM% 76.7

PLOT AREA HARVESTED 0.00035

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