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Yields of the Field Experiments 1975

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75/ R/CS/116 - Effects of Stem Eelworm - Beans

Rothamsted Research

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75/R/CS/116

EFFECTS OF STEM EELWORM

Object: To study the effects of applying field bean straw infested with two races of stem eelworm (*Ditylenchus dipsaci*) on the yield and subsequent infestation of field beans - Highfield O and E III.

Sponsor: D.J. Hooper.

The third year, spring beans.

For previous years see 73-74/R/CS/116.

Design: 3 randomised blocks of 6 plots.

Whole plot dimensions: 4.27 x 9.14.

Treatments: All combinations of:-

- | | |
|---|---------|
| 1. Bean straw infested with stem eelworm (<i>Ditylenchus dipsaci</i>) worked into soil, autumn 1972 only: | EELWORM |
| Oat race | OAT |
| Giant race | GIANT |
| 2. Rate of application of straw (tonnes) to give populations of eelworms:- | RATE |
| None | 0 |
| Single, 3.1 | SINGLE |
| Double, 6.2 | DOUBLE |

Basal applications: Manures: (0:14:28) at 410 kg placement drilled.

Weedkillers: Simazine at 0.84 kg in 220 l. Insecticide: Demeton-s-methyl at 0.25 kg in 450 l.

Seed: Minor, sown at 220 kg.

Cultivations, etc.: - Ploughed: 15 Oct, 1974. Rotary harrowed: 14 Apr, 1975. Seed sown and spring-tine cultivated: 21 Apr. Simazine applied: 24 Apr. Tractor-hoed: 27 May and 25 June. Insecticide applied: 10 July. Combine harvested: 29 Aug.

NOTE: Stems showing symptoms of stem eelworm attack were counted on 6 Aug. Samples of seed were taken at harvest to assess seed infestation and soil samples after harvest to assess soil infestation.

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GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

RATE EELWORM	0	SINGLE	DOUBLE	MEAN
OAT		0.72	0.54	0.63
GIANT		0.69	0.70	0.70
MEAN	0.89	0.71	0.62	0.74

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

TABLE	EELWORM	RATE	EELWORM RATE
SED	0.163	0.163	0.230

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

	DF	SE	CV%
BLOCK.WP	11	0.282	38.1
GRAIN MEAN DM%	87.5		