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Yields of the Field Experiments 1974

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

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74/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 0 and E III.

Sponsor: D.J. Hooper.

The second year, spring beans.

For previous year see 73/R/CS/116.

Design: 3 randomised blocks of 6 plots.

Whole plot dimensions: 4.27 x 9.14. Area harvested: 0.00293.

Treatments: All combinations of:-

- | | |
|---|---------|
| 1. Bean straw infested with stem eelworm (<i>Ditylenchus dipsaci</i>) worked into soil, autumn 1972:- | 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 400 kg. Weedkillers: Simazine at 0.84 kg in 340 l, paraquat at 0.56 kg ion in 220 l. Insecticide: Demeton-s-methyl at 0.25 kg in 220 l.

Seed: Minor, sown at 220 kg.

Cultivations, etc.:- Paraquat applied: 4 Oct, 1973. Discd and ploughed: 18 Dec. Spring-tine cultivated: 8 Mar, 1974. Power harrowed, seed sown and spring-tine cultivated: 26 Mar. Simazine applied: 5 Apr. Insecticide applied: 13 June. Combine harvested: 30 Sept.

NOTE: Stems showing symptoms of attack by stem eelworm were counted in mid-August. Samples of seed were taken at maturity to assess seed infestation.

Standard error per plot.

Grain, tonnes/hectare: 0.461 or 23.0% (11 d.f.)

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

| | RATE | | | Mean |
|---------|------|--------|--------|------|
| | 0 | Single | Double | |
| EELWORM | | | | |
| Oat | | 2.39 | 1.84 | 2.12 |
| Giant | | 1.83 | 1.61 | 1.72 |
| Mean | 2.17 | 2.11 | 1.72 | 2.00 |

STANDARD ERRORS OF DIFFERENCES

| EELWORM | RATE | EELWORM RATE |
|---------|-------|-----------------|
| 0.266 | 0.266 | 0.376 |

Mean D.M. % 74.5