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Yields of the Field Experiments 1984

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84/R/FE/1 N, *Rhizobium* and Pest Control - Fenugreek

Rothamsted Research

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84/R/FE/1

FENUGREEK

N, RHIZOBIUM AND PEST CONTROL

Object: To study the effects of inoculation with Rhizobium, application of insecticide and times of applying nitrogen fertilizer on nodulation and yield of fenugreek (*Trigonella foenum - graecum*) - Long Hoos III 7.

Sponsor: D.P. Yeoman.

Design: 2 randomised blocks of 14 plots.

Whole plot dimensions: 2.64 x 8.00.

Treatments: All combinations of:-

1. INOCULUM Inoculum applied to the seed:
 NONE None
 RHIZOBUM Rhizobium meliloti, strain 2012, as a peat culture
2. N Nitrogen fertilizer (kg N) and times of application:
 0 None
 150 S 150 to the seedbed, on 14 May, 1984
 150 F 150 at flowering, on 16 July
3. INSECTICIDE Insecticide:
 NONE None
 PERMETH Permethrin foliar spray at 0.053 kg in 220 l on 15 June and 6 July

plus two extra treatments, each given 30 kg N to the seedbed and permethrin as above:

EXTRA

- | | |
|----------|-----------------------------|
| O N30S P | No inoculum |
| R N30S P | Rhizobium inoculum as above |

Basal applications: Manures: Chalk at 2.9 t. Weedkillers: Glyphosate at 0.72 kg in 200 l. MCPB at 2.24 kg in 220 l. Trifluralin at 0.81 kg in 220 l. Desiccant: Diquat at 0.84 kg ion in 220 l on two occasions.

Seed: Barbara, sown at 29 kg.

Cultivations, etc.:- Chalk applied: 26 Aug, 1983. Glyphosate applied: 16 Dec. Ploughed: 30 Jan, 1984. Spring-tine cultivated, trifluralin applied, power harrowed, seed sown: 14 May. MCPB applied: 5 July. Hand weeded: 24 July. Desiccant applied: 7 Sept, 12 Sept. Combine harvested: 27 Sept. Previous crops: S. wheat 1982, mixed cereals 1983.

NOTE: Plant counts were made after establishment. N content of grain was measured.

84/R/FE/1

GRAIN TONNES/HECTARE

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

	N	0	150 S	150 F	MEAN
INOCULUM					
NONE		0.05	0.11	0.07	0.08
RHIZOBUM		0.09	0.11	0.07	0.09
MEAN		0.07	0.11	0.07	0.08

	INSCTCDE	NONE	PERMETH	MEAN
INOCULUM				
NONE		0.06	0.09	0.08
RHIZOBUM		0.09	0.09	0.09
MEAN		0.08	0.09	0.08

	INSCTCDE	NONE	PERMETH	MEAN
N				
0		0.06	0.08	0.07
150 S		0.08	0.14	0.11
150 F		0.08	0.05	0.07
MEAN		0.08	0.09	0.08

	N	0	150 S	150 F
INSCTCDE				
NONE		0.05	0.05	0.09
RHIZOBUM		0.08	0.11	0.07
NONE		0.05	0.17	0.05
RHIZOBUM		0.08	0.12	0.11
NONE		0.09	0.07	0.06
PERMETH		0.05	0.11	0.05
PERMETH		0.05	0.11	0.05

EXTRA	0	N30S	P	R	N30S	P	MEAN
			0.09			0.10	0.09

GRAND MEAN 0.09

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

TABLE	EXTRA	INOCULUM	N	INSCTCDE
SED	0.043	0.018	0.022	0.018

TABLE	INOCULUM	INOCULUM	N	INOCULUM
	N	INSCTCDE	INSCTCDE	N
	INSCTCDE & EXTRA			
SED	0.031	0.025	0.031	0.043

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

STRATUM	DF	SE	CV%
BLOCK.WP	13	0.043	50.5

GRAIN MEAN DM% 55.9
 PLOT AREA HARVESTED 0.00154