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Yields of the Field Experiments 1981

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81/R/BE/10 Times of Applying Erynia - S. Beans

Rothamsted Research

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81/R/BE/10

SPRING BEANS

TIMES OF APPLYING ERYNIA

Object: To study the effects of rates and times of applying the aphid-pathogenic fungus *Erynia neoaphidis* (formerly *Entomophthora aphidis*) on the numbers of black aphids (*Aphis fabae*) and on the yield of s. beans - Fosters Corner.

Sponsor: N. Wilding.

Design: 3 randomised blocks of 7 plots.

Whole plot dimensions: 2.13 x 2.67.

Treatments:

APH CONT Chemical & biological aphid control:

NONE None

 Pirimicarb at 0.14 kg in 340 l:

PIRIM E Applied early, on 5 June, 1981

PIRIM L Applied later, on 19 June

Erynia neoaphidis applied as a powder of mummified aphids:

E NE01 E Applied at 0.5 mg per plant early, on 5 June

E NE01 L Applied at 0.5 mg per plant later, on 18 June

E NE02 E Applied at 5.0 mg per plant early, on 5 June

E NE02 L Applied at 5.0 mg per plant later, on 18 June

NOTE: Basal irrigation was applied as follows (mm water):

22 June	12
2 July	12
7 July	6
8 July	6
10 July	12
15 July	12
28 July	<u>12</u>
Total	72

Basal applications: Manures: Chalk at 7.5 t. Weedkiller: Simazine at 1.2 kg in 250 l.

Seed: Minden, sown at 240 kg.

Cultivations, etc.: - Chalk applied: 3 Dec, 1980. Ploughed: 10 Dec. Spring-tine cultivated twice: 18 Feb, 1981. Seed sown: 20 Feb. Weedkiller applied: 8 Apr. Combine harvested: 8 Sept. Previous crops: W. wheat 1979, s. barley 1980.

81/R/BE/10

NOTES: (1) Visual estimates of aphid numbers were made weekly in June and July and samples of 50 live aphids per plot were examined for infection with Erynia, other fungi and parasites.

(2) Because of an error in weighing, one plot with treatment PIRIM L was lost.

An estimated value was used in the analysis.

GRAIN TONNES/HECTARE

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

APH CONT	NONE	PIRIM E	PIRIM L E	NEO1 E E	NEO1 L E	NEO2 E E	NEO2 L	MEAN
	3.60	5.15	4.77	3.70	2.99	3.90	3.13	3.89

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

TABLE	APH CONT
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SED	0.537

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

STRATUM	DF	SE	CV%
BLOCK.WP	11	0.657	16.9

GRAIN MEAN DM% 89.0

PLOT AREA HARVESTED 0.00024