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Yields of the Field Experiments 1983

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83/R/BE/13 Times of Applying Erynia - S. Beans

Rothamsted Research

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83/R/BE/13

SPRING BEANS

TIMES OF APPLYING ERYNIA

Object: To study the effects of rates and times of applying the aphid-pathogenic fungus *Erynia neoaphidis* on the numbers of black aphids (*Aphis fabae*) and on the yield of s. beans - W. Barnfield II.

Sponsor: N. Wilding.

Design: 4 randomised blocks of 7 plots.

Whole plot dimensions: 2.67 x 2.13.

Treatments:

APH CONT Chemical and biological aphid control:

NONE None

Pirimicarb at 0.14 kg in 340 l:

PIRIM E Applied on 10 June, 1983

PIRIM L Applied on 29 June

Erynia neoaphidis applied as a powder of mummified aphids:

E NEO1 E At 0.5 mg per plant on 9 June

E NEO1 L At 0.5 mg per plant on 28 June

E NEO2 E At 5.0 mg per plant on 9 June

E NEO2 L At 5.0 mg per plant on 28 June

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

21 June	20
28 June	25
5 July	12.5
12 July	12.5
15 July	12.5
23 July	12.5
Total	95 mm

Basal applications: Manures: Chalk at 5.0 t. Weedkillers: Glyphosate at 1.4 kg in 250 l. Trietazine with simazine (as 'Aventox' at 2.4 l) in 250 l.

Seed: Minden, sown at 230 kg.

Cultivations, etc.: Chalk applied: 16 Sept, 1982. Glyphosate applied: 19 Oct. Ploughed: 25 Nov. Spring-tine cultivated twice: 8 Mar, 1983. Seed sown: 9 Mar. Rolled, trietazine and simazine applied: 12 Mar. Combine harvested: 12 Aug. Previous crops: S. barley 1981, w. wheat 1982.

NOTES: (1) Aphid numbers were estimated weekly during June and July.
(2) Samples of live aphids were examined for infection with *Erynia* and other fungal pathogens.

83/R/BE/13

GRAIN TONNES/HECTARE

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

APH CONT	
NONE	4.75
PIRIM E	5.34
PIRIM L	4.89
E NEO1 E	4.32
E NEO1 L	4.33
E NEO2 E	4.72
E NEO2 L	4.69
MEAN	4.72

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

TABLE	APH CONT
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SED	0.203

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

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.287	6.1

GRAIN MEAN DM% 91.3

PLOT AREA HARVESTED 0.00024