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85/R/BE/8 Erynia and Aphid Control - S. Beans

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85/R/BE/8

SPRING BEANS

ERYNIA AND APHID CONTROL

Object: To study the effects of two methods of applying the aphid-pathogenic fungus *Erynia neoaphidis* on the number of black aphids (*Aphis fabae*) and on the yield of s. beans - Little Knott I.

Sponsor: S.K. Mardell.

Design: 5 randomised blocks of 4 plots.

Whole plot dimensions: 2.67 x 2.13.

Treatments:

APH CONT	Chemical and biological aphid control:
NONE	None
EN CULT	<i>E. neoaphidis</i> culture, applied as mycelium
EN APHID	<i>E. neoaphidis</i> applied as mummified aphids
PIRIMICA	Pirimicarb at 0.22 kg in 530 l on 2 July, 1985

NOTES: (1) The culture was applied as 2.23 kg dry mycelium in suspension of water at 970 l on 14 July, 1985. Mummified aphids were applied at 0.5 mg per plant on 1 July, repeated on 8 July.
(2) Basal irrigation was applied as follows (mm water):

4 May	12.5
9 May	12.5
18 May	12.5
3 June	12.5
17 June	12.5
5 July	12.5
14 July	<u>12.5</u>
Total	87.5 mm

Basal applications: Weedkiller: Simazine at 1.2 kg in 200 l.

Seed: Minden, sown at 220 kg.

Cultivations, etc.: - Cultivated by rotary digger: 28 Nov, 1984. Deep spring-tine cultivated, spring-tine cultivated, seed sown: 19 Mar, 1985. Weedkiller applied: 25 Mar. Combine harvested: 27 Sept. Previous crops: S. barley 1983, potatoes 1984.

NOTES: (1) Samples of live aphids were examined for infection with *Erynia* and other fungal pathogens at weekly intervals during June and July.
(2) Aphid numbers were assessed weekly from mid-June to early August.

85/R/BE/8

GRAIN TONNES/HECTARE

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

APH CONT	NONE	EN CULT	EN APHID	PIRIMICA	MEAN
	4.52	4.41	4.74	4.87	4.64

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

TABLE	APH CONT
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SED	0.292

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

STRATUM	DF	SE	CV%
BLOCK.WP	12	0.461	9.9

GRAIN MEAN DM% 89.6

PLOT AREA HARVESTED 0.00024