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Yields of the Field Experiments 1975

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75/ R/BE/4 - Aphids & Entomophthora - Beans

Rothamsted Research

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75/R/BE/4

SPRING BEANS

APHIDS AND ENTOMOPHTHORA

Object: To study the effects of the fungus Entomophthora on aphid populations and yield of field beans - Gt Field I.

Sponsor: N. Wilding.

Design: 5 randomised blocks of 5 plots.

Whole plot dimensions: 10.4 x 10.4.

Treatments: Control of insects and fungi:-	TREATMENT
None	NONE
Insecticide: Demeton-s-methyl at 0.25 kg in 340 l on 17 July	INSECTICIDE
Fungicide: Maneb at 0.8 kg in 340 l on 10 and 25 July	FUNGICIDE
Entomophthora spp, applied in live infected aphids on 9, 10, 11 July	ENTAPHID
Entomophthora virulenta, applied as resting-spore powder on 10 and 25 July	ENTSPORE

Basal applications: Manures: (0:14:28) at 400 kg. Weedkiller: Simazine at 1.1 kg in 220 l.

Seed: Minden, sown at 220 kg.

Cultivations, etc.: - Wheat stubble ploughed: 23 Jan, 1975. Potato ground chisel ploughed twice: 6 Feb. Spring-tine cultivated: 28 Feb. PK applied: 9 Apr. Seed sown: 22 Apr. Simazine applied: 24 Apr. Combine harvested: 29 Aug. Previous crops: Barley 1973, potatoes and winter wheat 1974.

NOTES: (1) As only small numbers of *A. fabae* appeared naturally the crop was inoculated with live adults on 25/26 July.
(2) During July weekly samples of aphids were collected for determination of the proportion infected by Entomophthora.
(3) The aphid population was assessed weekly during July.

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*** TABLES OF MEANS ***

GRAIN TONNES/HECTARE

TREATMNT	
NONE	0.74
INSCIDE	1.35
FUNGCIDE	0.62
ENTAPHID	0.58
ENTSPORE	0.61
MEAN	0.78

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

TABLE	TREATMNT
SED	0.141

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	0.223	28.6

GRAIN MEAN DM% 89.1

PLOT AREA HARVESTED 0.00221