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## Yields of the Field Experiments 1979

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### 79/R/BE/10 Times of Applying Permethrin - Beans

#### Rothamsted Research

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79/R/BE/10

SPRING BEANS

TIMES OF APPLYING PERMETHRIN

Object: To study the effects of applying foliar sprays of permethrin at a range of dates on the incidence of Sitona and on the yield of spring beans - Summerdells II.

Sponsors: R. Bardner, D.C. Griffiths, K.E. Fletcher.

Design: 4 randomised blocks of 5 plots.

Whole plot dimensions: 5.33 x 9.14.

Treatments:

| PER DATE | Dates of applying permethrin (at 150 g on each occasion): |
|----------|-----------------------------------------------------------|
| -        | Not applied                                               |
| 18 MAY   | Single spray on 18 May                                    |
| 18 JUNE  | Single spray on 18 June                                   |
| 2 JULY   | Single spray on 2 July                                    |
| MA JN JL | Sprayed on all three above dates                          |

NOTE: Permethrin was applied in 340 l.

Basal applications: Manures: Chalk at 7.5 t. FYM at 35 t. Weedkiller: Simazine at 0.84 kg in 220 l. Insecticide: Pirimicarb at 0.14 kg in 220 l.

Seed: Minden, sown at 220 kg.

Cultivations, etc.: - Chalk applied: 26 Oct, 1978. FYM applied: 14 Nov. Ploughed: 23 Nov. Heavy spring-tine cultivated: 19 Apr, 1979. Rotary harrowed: 20 Apr. Seed sown: 21 Apr. Weedkiller applied: 15 May. Basal insecticide applied: 22 June. Combine harvested: 21 Sept. Previous cropping: Spring wheat 1977, barley 1978.

NOTES: (1) On 2 July part of one of the 18 JUNE plots was sprayed with permethrin in error. An estimated value was used in the analysis.  
(2) After each treatment plots were assessed for leaf notches. In June ground beetles were trapped and leaf samples were taken for permethrin decomposition measurements. In July the incidence of Sitona larvae was estimated from soil cores and in August adult populations were estimated by trapping.

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GRAIN TONNES/HECTARE

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

| PER DATE | -    | 18 MAY | 18 JUNE | 2 JULY | MA | JN   | JL | MEAN |
|----------|------|--------|---------|--------|----|------|----|------|
|          | 4.14 | 3.81   | 4.05    | 3.95   |    | 4.25 |    | 4.04 |

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

| TABLE | PER DATE |
|-------|----------|
| ----- | -----    |
| SED   | 0.259    |

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

| STRATUM  | DF | SE    | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 11 | 0.366 | 9.1 |

GRAIN MEAN DM% 80.0

PLOT AREA HARVESTED 0.00293