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## Yields of the Field Experiments 1993

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### 93/R/BES/3 Pheromone, Fungal Pathogens and Insecticide - S. Beans

#### Rothamsted Research

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93/R/BES/3

SPRING BEANS

PHEROMONE, FUNGAL PATHOGENS AND INSECTICIDE

**Object:** To test the most effective timing of application of insecticide and fungal pathogen to plots treated with *Sitona lineatus* aggregation pheromone - White Horse II.

**Sponsors:** L.E. Smart, M.M. Blight, R.T. Glinwood.

**Design:** 5 x 5 quasi-complete latin square.

**Whole plot dimensions:** 6.0 x 6.0.

**Treatments:**

<b>CHEMPATH</b>	Pheromone and time of application of fungal pathogen and insecticide:
NONE	None
PHER+BEA	Pheromone plus fungal pathogen early and late
P+D E	Pheromone plus deltamethrin early
P+D E+L	Pheromone plus deltamethrin early and late
PHER	Pheromone alone

- NOTES:** (1) The pheromone was 4-methyl-3,5-heptanedione and was released slowly from a point source at the centre of the plot at approximately 100 µg per day per plot.  
(2) The fungal pathogen was spores of *Beauveria bassiana* in surfactant solution. 6 x 10<sup>10</sup> spores in 200 ml were applied to the centre square metre of each plot.

**Experimental diary:**

- 10-Feb-93 : B : Ploughed.  
22-Feb-93 : B : Rotary harrowed.  
23-Feb-93 : B : Rotary harrowed, Alfred, undressed, drilled at 60 seeds per square metre.  
22-Mar-93 : T : **CHEMPATH:** PHER+BEA, P+D E, P+D E+L, PHER: Pheromone source applied.  
08-Apr-93 : T : **CHEMPATH:** P+D E, P+D E+L: Deltamethrin (as Decis) at 7.5 g in 200 l.  
14-Apr-93 : T : **CHEMPATH:** PHER+BEA: *Beauveria sp.* spores applied.  
30-Apr-93 : T : **CHEMPATH:** P+D E+L: Deltamethrin (as Decis) at 7.5 g in 200 l.  
18-May-93 : T : **CHEMPATH:** PHER+BEA: *Beauveria sp.* spores applied.  
03-Sep-93 : T : Combine harvested.

Previous crops: Linseed 1991 and 1992.

**NOTE:** Assessments of adult and larval *Sitona lineatus* population size and feeding damage were made between April and June.

93/R/BES/3

GRAIN TONNES/HECTARE

\*\*\*\*\* Tables of means \*\*\*\*\*

CHEMPATH	NONE	PHER+BEA	P+D E	P+D E+L	PHER	Mean
	4.83	4.74	4.64	4.47	4.83	4.70

\*\*\* Standard errors of differences of means \*\*\*

CHEMPATH  
0.140

\*\*\*\*\* Stratum standard errors and coefficients of variation \*\*\*\*\*

Stratum	d.f.	s.e.	cv%
ROW.COL	12	0.221	4.7

GRAIN MEAN DM% 83.3

PLOT AREA HARVESTED 0.00138