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## Yields of the Field Experiments 1995

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### Winter and Spring Beans

#### Rothamsted Research

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95/R/BEW/1

WINTER BEANS

PHEROMONE-BAITED TRAP CROP

**Object:** To use pheromone-baited winter beans as a trap crop to attract spring migrant pea and bean weevils - Long Hoos I/II.

**Sponsors:** L.E. Smart, B.J. Pye.

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

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

**Treatments:**

<b>PHEROMON</b>	Pheromone and insecticide:
-	None
P	Pheromone
PI1	Pheromone with insecticide applied once
PI2	Pheromone with insecticide applied twice
PI3	Pheromone with insecticide applied thrice

**Experimental diary:**

26-Sep-94 : B : Ploughed and furrow pressed.  
21-Oct-94 : B : Spring-tine cultivated, Punch, recleaned, drilled at 25 seeds per m<sup>2</sup>.  
07-Feb-95 : T : **PHEROMON** P, PI1, PI2, PI3: Pheromone applied.  
04-Apr-95 : B : Bombardier at 2.0 l in 200 l.  
06-Apr-95 : T : **PHEROMON** PI1, PI2, PI3: Decis at 300 ml in 200 l.  
19-Apr-95 : T : **PHEROMON** PI2, PI3: Decis at 300 ml in 200 l.  
05-May-95 : T : **PHEROMON** PI3: Decis at 300 ml in 200 l.  
01-Aug-95 : B : Combine harvested.

Previous crops: W. wheat 1993, s. wheat 1994.

**NOTES:** (1) From April pheromones were applied from dispensers placed at the plot centres.  
(2) Assessments of adult feeding damage were made between February and May.

95/R/BEW/1

**GRAIN TONNES/HECTARE**

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

**PHEROMON**

-	2.02
P	2.09
PI1	2.02
PI2	2.10
PI3	2.32
Mean	2.11

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

**PHEROMON**

0.124

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

Stratum	d.f.	s.e.	cv%
ROW.COL	12	0.196	9.3

GRAIN MEAN DM% 88.0

PLOT AREA HARVESTED 0.00276

95/W/BES/1

SPRING BEANS

BEAN FLOWER COLOUR AND PHEROMONES

**Object:** To compare the incidence of *Sitona lineatus* in purple and white flowered beans with and without insecticide and pheromone - Woburn, Horsepool Lane Close I.

**Sponsors:** L.E. Smart, M.M. Blight.

**Design:** 6 x 6 quasi-complete Latin square.

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

**Treatments:**

1. **VARIETY**

A	Alfred
C	Caspar

2. **INSPHER**                      Insecticide or pheromone:

-	None
I	Insecticide (deltamethrin)
P	Pheromone

**Experimental diary:**

23-Mar-95 : B : Heavy spring-tine cultivated.  
30-Mar-95 : B : Rotary harrowed.  
          : **T** : **VARIETY** A: Alfred drilled at 60 seeds per m<sup>2</sup>.  
          : **T** : **VARIETY** C: Caspar drilled at 60 seeds per m<sup>2</sup>.  
06-Apr-95 : B : Opogard 500 SC at 3.4 l in 200 l.  
02-May-95 : **T** : **INSPHER** I: Decis at 300 ml in 200 l.  
15-May-95 : **T** : **INSPHER** I: Decis at 300 ml in 200 l.  
16-Aug-95 : B : Combine harvested.

Previous crops: W. wheat 1993, w.rye 1994.

**NOTES:** (1) From late April, pheromone was released from a point source hung above the crop at the plot centre.  
(2) Assessments were made of weevil larval numbers in root nodules at the end of May and of damage to leaves by adult weevils in April and May.

95/W/BES/1

GRAIN TONNES/HECTARE

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

INSPHER VARIETY	-	I	P	Mean
A	2.62	2.36	2.49	2.49
C	2.24	2.11	2.40	2.25
Mean	2.43	2.23	2.45	2.37

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

VARIETY	INSPHER	VARIETY INSPHER
0.057	0.070	0.099

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

Stratum	d.f.	s.e.	cv%
ROW.COL	20	0.172	7.3

GRAIN MEAN DM% 86.9

PLOT AREA HARVESTED 0.00264

95/R/BES/4

SPRING BEANS

WEED COMPETITION AND SPRING BEANS

**Object:** To study the effects of three weeds, oats (*Avena sativa*), charlock (*Sinapsis arvensis*) and chickweed (*Stellaria media*), on the growth and yield of spring beans - Webbs.

**Sponsor:** P.J.W. Lutman.

**Design:** 3 randomised blocks of 20 plots.

**Whole plot dimensions:** 3.0 x 10.0.

**Treatments:**

**WEED** Weed species and density, average number of established plants per m<sup>2</sup>:

O1	Oats, 18.2
O2	Oats, 44.8
O3	Oats, 85.3
O4	Oats, 167.7
CE1	Charlock, 0
CE2	Charlock, 0
CE3	Charlock, 22.7
CE4	Charlock, 32.3
CL1	Charlock, 0
CL2	Charlock, 0
CL3	Charlock, 18.9
CL4	Charlock, 37.8
CW1	Chickweed, 39.3
CW2	Chickweed, 68.8
CW3	Chickweed, 152.1
CW4	Chickweed, 309.6
-	None (quadrupled)

**NOTES:** (1) Weeds sown same day as the beans, except CL1-CL4 sown 13 days later.

(2) Oats were cv. Dula dressed Rappor Plus.

(3) Target weed densities, plants per m<sup>2</sup>:

Oats		Charlock		Chickweed			
O1	40	CE1	50	CL1	50	CW1	100
O2	120	CE2	100	CL2	100	CW2	200
O3	240	CE3	200	CL3	200	CW3	400
O4	480	CE4	400	CL4	400	CW4	800

Target sowing date of CL1-CL4 was 10 days after beans.





95/R/BES/4

GRAIN TONNES/HECTARE

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

WEED	
O1	2.46
O2	2.04
O3	1.92
O4	1.04
CE3	2.84
CE4	2.33
CL3	3.17
CL4	2.58
CW1	3.11
CW2	2.56
CW3	3.23
CW4	2.75
-	3.09

Mean 2.65

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

WEED	
0.417	min.rep
0.208	max.rep

WEED

max-min - v any of the remainder  
min.rep Any of the remainder

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	33	0.511	19.3

GRAIN MEAN DM% not measured

PLOT AREA HARVESTED 0.00020