

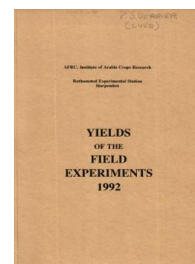
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## Yields of the Field Experiments 1992

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### 92/R/BES/5 Weed Competition and Spring Beans - S. Beans

#### Rothamsted Research

Rothamsted Research (1993) *92/R/BES/5 Weed Competition and Spring Beans - S. Beans* ; Yields Of The Field Experiments 1992, pp 144 - 145 - DOI: <https://doi.org/10.23637/ERADOC-1-47>

92/R/BES/5

## SPRING BEANS

### WEED COMPETITION AND SPRING BEANS

**Object:** To study the competitive effects of cultivated oats (*Avena sativa*) and wild oats (*Avena fatua*) on the growth and yield of s. beans - Great Harpenden I.

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

**Design:** 3 randomised blocks of 16 plots.

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

**Treatments:** All combinations of:-

1. **SOWDATE** Time of drilling cultivated oats (*A. sativa*):

PREBEAN	Seven days before drilling s. beans
AS BEAN	Same day as drilling s. beans
POSTBEAN	Seven to ten days after drilling s. beans

2. **DENSITY** Density of cultivated oats (number of plants established square metre):

	PREBEAN	AS BEAN	POSTBEAN
D0	0	0	0
D1	17	25	12
D2	58	83	23
D3	112	142	46
D4	161	310	48

plus one extra plot

**WILD OAT** Wild oats (*A. fatua*) sown on same day as s. beans.  
Number of plants established: 172 per square metre:

**NOTES:** (1) Target sowing densities (number of seeds sown per square metre) were: **DENSITY** D1 40, D2 120, D3 240, D4 480 and **WILD OAT** 240.  
(2) Cultivated oats were sown in the central 2 m of the plot.

#### Experimental diary:

06-Nov-91 : B : Straw mechanically destroyed.  
07-Nov-91 : B : Ploughed.  
16-Jan-92 : B : Deep tine cultivated.  
04-Mar-92 : B : Spring-tine cultivated.  
04-Mar-92 : T : **SOWDATE** PREBEAN: Dula drilled.  
04-Mar-92 : B : Harrowed.  
17-Mar-92 : T : **SOWDATE** AS BEAN: Dula drilled.  
                  : T : **WILD OAT**: Hand broadcast wild oats.  
17-Mar-92 : B : Rotary harrowed. Alfred, undressed, drilled at 310 kg,  
                  harrowed, rolled.  
02-Apr-92 : T : **SOWDATE** POSTBEAN: Dula drilled, harrowed.

92/R/BES/5

**Experimental diary:**

19-May-92 : B : Basagran at 3.0 l in 300 l.  
 15-Jun-92 : B : Chiltern Chlorothalonil at 1.5 l, Tripart Defensor FL at  
 0.50 l and Metasystox 55 at 0.42 l in 200 l.  
 20-Aug-92 : B : Hand harvested.

Previous crops: W. barley 1990, sunflowers 1991.

**NOTE:** At intervals during the growing season crop and weed counts were made  
 and samples taken for the assessment of leaf area and dry weight.

**GRAIN TONNES/HECTARE**

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

DENSITY	D0	D1	D2	D3	D4	Mean
<b>SOW DATE</b>						
PREBEAN	4.72	3.10	2.42	2.12	2.14	2.90
AS BEAN	4.84	3.04	2.15	1.96	1.63	2.72
POSTBEAN	4.53	4.04	4.43	3.35	3.50	3.97
Mean	4.70	3.39	3.00	2.48	2.42	3.20

**WILD OAT** 1.00

**GRAND MEAN** 3.06

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

SOW DATE	DENSITY	SOW DATE DENSITY & WILD OAT
0.210	0.271	0.470

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	30	0.576	18.8

MEAN DM% \*

PLOT AREA HARVESTED 0.0002