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## Yields of the Field Experiments 1992

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### 92/R/BEW/2 Winter Beans and Weed Densities - W. Beans

#### Rothamsted Research

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92/R/BEW/2

WINTER BEANS

WINTER BEANS AND WEED DENSITIES

**Object:** To investigate the effects of two weed species on the growth and yield of w. beans - Dell Piece.

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

**Design:** 4 randomised blocks of 12 plots. Treatments balanced for blocks in two directions.

**Whole plot dimensions:** 3.0 x 14.0.

**Treatments:** All combinations of:-

1. **SPECIES** Weed species:

OATS Cultivated oats (*Avena sativa*)  
CLEAVERS Cleavers (*Galium aparine*)

2. **DENSITY** Weed density (number of plants per square metre):

	OATS	CLEAVERS
D0	0	0
D1	5	8
D2	17	9
D3	80	21
D4	137	76
D5	263	195

- NOTES:** (1) Autumn-sown chickweed (*Stellaria media*) and cleavers (*G. aparine*) failed to establish. Plots were resown with cultivated oats (*A. sativa*) and cleavers (*G. aparine*) in spring.  
(2) Target weed densities (number of plants per square metre):

	D1	D2	D3	D4	D5
Oats	10	40	120	240	480
Cleavers	4	8	16	32	64

**Experimental diary:**

- 21-Aug-91 : B : Straw chopped.  
22-Aug-91 : B : Dolomite at 5.0 t.  
16-Oct-91 : B : Disced.  
17-Oct-91 : B : Rolled.  
23-Oct-91 : B : Punch, undressed, broadcast at 160 kg.  
: B : Ploughed and furrow pressed.  
14-Jan-92 : B : Laser at 1.25 l with Actipron at 1.8 l in 200 l.  
04-Mar-92 : T : **SPECIES** OATS, CLEAVERS: Oats (cv. Dula) and cleavers broadcast by hand, harrowed.  
21-May-92 : B : Tripart Defensor FL at 0.50 l and Chiltern Olé at 1.5 l with Farmon Blue at 0.80 l in 200 l.  
15-Jun-92 : B : Tripart Defensor FL at 0.50 l and Chiltern Chlorothalonil 500 at 1.5 l in 200 l.  
10-Sep-92 : B : Combine harvested.

92/R/BEW/2

Previous crops: W. wheat 1990 and 1991.

**NOTE:** Estimation of crop growth and observations and counts of weeds were made during the growing season.

**GRAIN TONNES/HECTARE**

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

DENSITY SPECIES	D0	D1	D2	D3	D4	D5	Mean
OATS	4.88	5.34	5.25	4.61	5.01	5.01	5.02
CLEAVERS	4.84	5.82	4.97	4.97	4.13	4.51	4.87
Mean	4.86	5.58	5.11	4.79	4.57	4.76	4.94

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

SPECIES	DENSITY	SPECIES	DENSITY
	0.155		0.268
			0.379

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	33	0.536	10.8

GRAIN MEAN DM% 75.7

PLOT AREA HARVESTED 0.00230