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Yields of the Field Experiments 1992



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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:

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

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 1 with Actipron at 1.8 1 in 200 1.
- 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 1 in 200 1.
- 15-Jun-92 : B : Tripart Defensor FL at 0.50 l and Chiltern
 - Chlorothalonil 500 at 1.5 1 in 200 1.
- 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