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## Yields of the Field Experiments 1994

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### 94/R/WW/2 Herbicide, Weed Species and Density - W. Wheat

#### Rothamsted Research

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94/R/WW/2

WINTER WHEAT

HERBICIDE, WEED SPECIES AND DENSITY

**Object:** To study the effects of various densities of weeds and their suppression by the use of herbicides on the growth and yield of w. wheat - Fosters.

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

**Design:** 2 randomised blocks of 2 x 5 x 4 plots.

**Plot dimensions:** 3.0 x 14.0.

**Treatments:**

1. **SPECIES** Weed species:

CL	Cleavers ( <i>Galium aparine</i> )
CW	Chickweed ( <i>Stellaria media</i> )

2. **WEED DEN** Target weed densities, plants per m<sup>2</sup>:

	Cleavers	Chickweed
D0	0	0
D1	10	100
D2	20	200
D3	40	400
D4	80	800

3. **HERB DSE** Herbicide dosage, g active ingredient:

	Triasulfuron		Bromoxynil	Ioxynil	Mecoprop
	29 Apr	2 Jun	29 Apr	29 Apr	29 Apr
-	0	0	0	0	0
L1	1.0	4.0	0	0	0
L2	1.5	6.0	0	0	0
L3	1.5	6.0	140	140	1120

**Experimental diary:**

10-Aug-93 : B : Rotary cultivated with Bomford Dynadrive.  
13-Aug-93 : B : Deep tine cultivated with vibrating tines 60 cm apart,  
45 cm deep.  
24-Aug-93 : B : Rolled.  
15-Sep-93 : B : Ploughed.  
18-Oct-93 : B : Rotary harrowed.  
: T : **SPECIES** CL, CW: Weed seeds sown by hand.  
19-Oct-93 : B : Rotary harrowed, Mercia, dressed Cerevax, drilled at 380  
seeds per m<sup>2</sup>.  
11-Apr-94 : B : 34.5% N at 448 kg.

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**Experimental diary:**

29-Apr-94 : T : **HERB DSE** L1: Lo-gran 20 WG at 5.0 g in 220 l.  
 : T : **HERB DSE** L2: Lo-gran 20 WG at 7.5 g in 220 l.  
 : T : **HERB DSE** L3: Lo-gran 20 WG at 7.5 g with Swipe 560 EC at  
 2.5 l in 220 l.  
 01-May-94 : B : Halo at 2.0 l with Tripart Brevis at 2.5 l in 200 l.  
 31-May-94 : B : Cyclone at 1.0 l with Mallard 750 EC at 0.5 l in 200 l.  
 02-Jun-94 : T : **HERB DSE** L1: Lo-gran 20 WG at 20.0 g in 220 l.  
 : T : **HERB DSE** L2, L3: Lo-gran 20 WG at 30.0 g in 220 l.  
 16-Jun-94 : B : Dursban 48E at 800 ml in 200 l.  
 15-Aug-94 : B : Combine harvested.

**NOTES:** (1) Samples were taken in May, June and July to determine crop and weed dry weights.  
 (2) Yields, cleaned of weed seeds, are presented. The analysis has been adjusted for the presence of blackgrass, assessed on 17 June.

**GRAIN TONNES/HECTARE**

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

<b>WEED DEN SPECIES</b>	D0	D1	D2	D3	D4	Mean
CL	8.95	8.91	8.27	8.24	7.79	8.43
CW	9.19	8.49	8.43	8.33	7.86	8.46
Mean	9.07	8.70	8.35	8.28	7.82	8.45
<b>HERB DSE SPECIES</b>		L1	L2	L3	Mean	
CL	7.74	8.70	8.55	8.73	8.43	
CW	7.74	8.74	8.67	8.68	8.46	
Mean	7.74	8.72	8.61	8.71	8.45	
<b>HERB DSE WEED DEN</b>		L1	L2	L3	Mean	
D0	8.87	9.21	9.14	9.07	9.07	
D1	7.98	8.78	9.06	8.97	8.70	
D2	7.87	8.69	8.42	8.42	8.35	
D3	7.54	8.73	8.10	8.76	8.28	
D4	6.44	8.19	8.34	8.32	7.82	
Mean	7.74	8.72	8.61	8.71	8.45	

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GRAIN TONNES/HECTARE

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

SPECIES	HERB DSE WEED DEN	—	L1	L2	L3
CL	D0	8.92	9.12	8.93	8.83
	D1	8.65	8.84	8.99	9.15
	D2	7.57	8.54	8.19	8.79
	D3	7.58	8.79	7.89	8.68
	D4	5.98	8.22	8.73	8.20
CW	D0	8.83	9.30	9.34	9.30
	D1	7.32	8.72	9.13	8.79
	D2	8.17	8.84	8.65	8.05
	D3	7.50	8.66	8.31	8.84
	D4	6.90	8.17	7.94	8.43

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

SPECIES WEED DEN	WEED DEN	HERB DSE	SPECIES WEED DEN
0.136	0.215	0.194	0.304
SPECIES HERB DSE	WEED DEN HERB DSE	SPECIES WEED DEN HERB DSE	
0.272	0.429	0.605	

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	38	0.597	7.1
GRAIN MEAN DM%	85.9		
PLOT AREA HARVESTED	0.00248		