

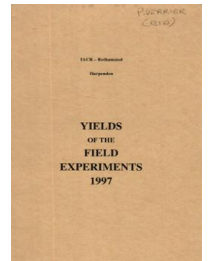
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## Yields of the Field Experiments 1997

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### 97/R/WW/1 Prediction of Weed Competition - W. Wheat

#### Rothamsted Research

Rothamsted Research (1998) *97/R/WW/1 Prediction of Weed Competition - W. Wheat ; Yields Of The Field Experiments 1997*, pp 102 - 103 - DOI: <https://doi.org/10.23637/ERADOC-1-53>

97/R/WW/1

# WINTER WHEAT

## PREDICTION OF WEED COMPETITION

**Object:** To predict the yield response of winter wheat to competition from three contrasting weed species - Great Harpenden I.

**Sponsors:** J.W. Cussans, P.J.W. Lutman.

**Design:** 3 randomised blocks of 3 x 6 plots.

**Whole plot dimensions:** 3.0 x 8.0.

**Treatments:** All combinations of:-

|             |                                                   |       |      |
|-------------|---------------------------------------------------|-------|------|
| 1. WEED SP  | Weed species:                                     |       |      |
| SM          | <i>Stellaria media</i> (chickweed)                |       |      |
| AM          | <i>Alopecurus myosuroides</i> (black-grass)       |       |      |
| GA          | <i>Galium aparine</i> (cleavers)                  |       |      |
| 2. WEED DEN | Average weed density, plants per m <sup>2</sup> : |       |      |
|             | SM                                                | AM    | GA   |
| 0           | 0                                                 | 0     | 0    |
| 2           | 62.7                                              | 93.8  | 8.3  |
| 4           | 124.2                                             | 126.9 | 13.7 |
| 8           | 245.6                                             | 175.7 | 28.0 |
| 16          | 500.6                                             | 447.2 | 53.8 |
| 32          | 737.2                                             | 666.4 | 99.0 |

**NOTE:** Target weed densities, plants per m<sup>2</sup>: SM, AM: 0, 40, 80, 160, 320 and 640, GA: 0, 3, 6, 12, 24 and 48 respectively.

### Experimental diary:

28-Aug-96 : B : PK as (0:20:32) at 1400 kg.  
 23-Sep-96 : B : Roundup at 1.5 l with Vassgro Non-ionic at 0.5 l in 200 l.  
 02-Oct-96 : B : Ploughed and furrow pressed.  
 08-Oct-96 : B : Harrowed.  
           : T : Weeds broadcast.  
           : B : Rotary harrowed, Mercia, dressed Sibutol,  
                   drilled at 380 seeds per m<sup>2</sup>.  
 16-Dec-96 : T : WEED SP AM, WEED SP SM WEED DEN 0, WEED SP GA  
                   WEED DEN 0: Starane 2 at 1.0 l in 200 l.  
 24-Jan-97 : T : WEED SP SM, WEED SP GA, WEED SP AM WEED DEN 0: Topik  
                   240 EC at 0.25 l in 220 l.  
 11-Mar-97 : B : 34.5% N at 118 kg.  
 14-Apr-97 : B : 34.5% N at 463 kg. Clayton Turret at 1.5 l in 200 l.  
 16-Jun-97 : B : Folicur at 0.5 l with Mallard 750 EC at 0.3 l and  
                   Pointer at 0.5 l in 300 l.  
 13-Aug-97 : B : Hand harvested.

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**NOTE:** Weed and crop densities were assessed at emergence, in autumn and in spring. Biomass of crop and weeds was assessed on five occasions. Nitrogen content of grain and straw was measured.

# GRAIN TONNES/HECTARE

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

| WEED DEN | 0    | 2    | 4    | 8    | 16   | 32   | Mean |
|----------|------|------|------|------|------|------|------|
| WEED SP  |      |      |      |      |      |      |      |
| SM       | 6.69 | 7.15 | 6.92 | 6.48 | 6.17 | 5.85 | 6.54 |
| AM       | 7.74 | 6.60 | 5.35 | 5.62 | 4.73 | 3.46 | 5.58 |
| GA       | 7.72 | 6.50 | 6.33 | 5.94 | 5.31 | 4.46 | 6.04 |
| Mean     | 7.38 | 6.75 | 6.20 | 6.02 | 5.40 | 4.59 | 6.06 |

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

| WEED SP | WEED DEN | WEED SP  |
|---------|----------|----------|
|         |          | WEED DEN |
| 0.177   | 0.251    | 0.435    |

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

| Stratum  | d.f. | s.e.  | cv% |
|----------|------|-------|-----|
| BLOCK.WP | 32   | 0.532 | 8.8 |

GRAIN MEAN DM% 89.4

PLOT AREA HARVESTED 0.00020