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# Yields of the Field Experiments 1985

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## 85/R/WW/3 Factors Affecting Take-all - W. Wheat

### Rothamsted Research

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85/R/WW/3

WINTER WHEAT

# FACTORS AFFECTING TAKE-ALL

Object: To study the effects of a seed treatment on the incidence of take-all and on the yield of wheat sown at different times - Delafield.

Sponsor: G.L. Bateman.

Design: 6 randomised blocks of 6 plots, with PREVCROP on blocks.

Whole plot dimensions: 3.0 x 12.0.

Treatments: All combinations of:-

## Blocks

- |             |                                           |
|-------------|-------------------------------------------|
| 1. PREVCROP | Previous cropping:                        |
| BARLEY      | Beans 1982, w. wheat 1983, s. barley 1984 |
| OATS        | Beans 1982, w. wheat 1983, s. oats 1984   |

## Whole plots

- |            |                                                                                |
|------------|--------------------------------------------------------------------------------|
| 2. SEED DR | Seed dressing:                                                                 |
| NONE       | None                                                                           |
| TRIADIME   | Triadimenol at 0.5 g per kg of seed plus fuberidazole at 0.06 g per kg of seed |
- 
- |            |                    |
|------------|--------------------|
| 3. SOWDATE | Dates of sowing:   |
| 11 SEPT    | 11 September, 1984 |
| 26 SEPT    | 26 September       |
| 15 OCT     | 15 October         |

Basal applications: Manures: 'Nitro-Chalk' (27.5% N) at 140 kg and on a second occasion at 570 kg. Weedkillers: Isoproturon at 2.0 kg with mecoprop at 2.0 kg, ioxynil at 0.25 kg and bromoxynil at 0.25 kg in 200 l. Fungicides: Propiconazole at 0.25 kg with carbendazim at 0.25 kg and maneb at 1.6 kg in 200 l.

Seed: Longbow, sown at 170 kg.

Cultivations, etc.: Ploughed, disced: 10 Sept, 1984.

Spring-tine cultivated, SOWDATE 11 SEPT plots rotary harrowed and seed sown: 11 Sept. SOWDATE 26 SEPT plots rotary harrowed and seed sown: 26 Sept. SOWDATE 15 OCT plots rotary harrowed and seed sown: 15 Oct. First N applied: 28 Feb, 1985. Weedkillers applied: 12 Mar. Second N applied: 15 Apr. Fungicides applied: 28 June. Combine harvested: 27 Aug.

NOTE: Plant samples were taken in October and November 1984, and April and July 1985 for assessments of take-all and eyespot. Additional samples were taken in November 1984 for assessment of *Septoria tritici*.

85/R/WW/3

GRAIN TONNES/HECTARE

## \*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

| SEED DR  | NONE  | TRIADIME | MEAN  |
|----------|-------|----------|-------|
| PREVCROP |       |          |       |
| BARLEY   | 8.83  | 9.20     | 9.02  |
| OATS     | 10.20 | 10.30    | 10.25 |
| MEAN     | 9.52  | 9.75     | 9.63  |

| SOWDATE  | 11 SEPT | 26 SEPT | 15 OCT | MEAN  |
|----------|---------|---------|--------|-------|
| PREVCROP |         |         |        |       |
| BARLEY   | 8.33    | 9.35    | 9.37   | 9.02  |
| OATS     | 10.63   | 10.13   | 9.99   | 10.25 |
| MEAN     | 9.48    | 9.74    | 9.68   | 9.63  |

| SOWDATE  | 11 SEPT | 26 SEPT | 15 OCT | MEAN |
|----------|---------|---------|--------|------|
| SEED DR  |         |         |        |      |
| NONE     | 9.35    | 9.66    | 9.55   | 9.52 |
| TRIADIME | 9.61    | 9.83    | 9.81   | 9.75 |
| MEAN     | 9.48    | 9.74    | 9.68   | 9.63 |

| PREVCROP | SOWDATE  | 11 SEPT | 26 SEPT | 15 OCT |
|----------|----------|---------|---------|--------|
| SEED DR  |          |         |         |        |
| BARLEY   | NONE     | 8.06    | 9.17    | 9.27   |
| OATS     | TRIADIME | 8.60    | 9.54    | 9.47   |
| OATS     | NONE     | 10.64   | 10.14   | 9.82   |
| OATS     | TRIADIME | 10.61   | 10.12   | 10.15  |

## \*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE                                              | PREVCROP | SEED DR | SOWDATE | PREVCROP<br>SEED DR |
|----------------------------------------------------|----------|---------|---------|---------------------|
| SED                                                | 0.230    | 0.143   | 0.176   | 0.271               |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |          |         |         |                     |
| PREVCROP                                           |          |         |         | 0.203               |

| TABLE                                              | PREVCROP<br>SOWDATE | SEED DR<br>SOWDATE | PREVCROP<br>SEED DR<br>SOWDATE |
|----------------------------------------------------|---------------------|--------------------|--------------------------------|
| SED                                                | 0.307               | 0.249              | 0.395                          |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |                     |                    |                                |
| PREVCROP                                           | 0.249               |                    | 0.351                          |

## \*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM  | DF | SE    | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 20 | 0.430 | 4.5 |

GRAIN MEAN DM% 81.5

PLOT AREA HARVESTED 0.00274