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Yields of the Field Experiments 1975

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75/ R/WW/2 - Foliar Diseases - Winter Wheat

Rothamsted Research

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75/R/WW/2

WINTER WHEAT

FOLIAR DISEASES

Object: To study the effects of different amounts of infected straw, seed infection and seed dressing on incidence of Septoria and yield of winter wheat - Pastures.

Sponsors: J.F. Jenkyn, J. King (M.A.F.F.).

Design: 2 randomised blocks of 12 plots.

Whole plot dimensions: 4.27 x 9.14.

Treatments: All combinations of:-

- | | |
|--|-----------|
| 1. Rate of applying straw, infected with Septoria, to seedbed: | STRAW RT |
| None | NONE |
| Little (66 kg/ha) | LITTLE |
| Much (584 kg/ha) | MUCH |
| 2. Seed infection with Septoria: | SEED INF |
| None | NONE |
| Infected | INFECTED |
| 3. Seed dressing: | SEED DRS |
| None | NONE |
| Fungicide (Mercury as, 'Agrosan GN', at 2.2 g/kg of seed) | FUNGICIDE |

Basal applications: Manures: (0:20:20) at 250 kg combine drilled. 'Nitro-Chalk' at 240 kg. Weedkillers: Mecoprop ('Compitox Extra' at 2.8 l) plus bromoxynil with ioxynil ('Oxytril CM' at 1.4 l) in 220 l. Growth regulator: Chlormequat ('Cycocel' at 4.2 l in 340 l). Irrigation: 5 mm applied on each of 7 occasions.

Seed: Cappelle, sown at 200 kg.

Cultivations, etc.: - Chisel ploughed twice: 9 Dec, 1974. Spring-tine cultivated, straw applied and all plots rotary cultivated: 10 Dec. Seed sown and cultivated in: 18 Dec. N applied: 5 Apr, 1975. Weedkiller applied: 9 May. Growth regulator applied: 20 May. Water applied: 25, 26 and 28 June, 5, 12, 19 and 26 July. Combine harvested: 13 Aug. Previous crops: Beans 1973, potatoes 1974.

NOTE: Septoria was assessed on the seedlings and again on 16 and 28 July.

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GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

| SEED INF | NONE | INFECTED | MEAN |
|----------|------|----------|------|
| STRAW RT | | | |
| NONE | 7.12 | 6.85 | 6.98 |
| LITTLE | 6.69 | 6.95 | 6.82 |
| MUCH | 6.32 | 6.71 | 6.51 |
| MEAN | 6.71 | 6.83 | 6.77 |

| SEED DRS | NONE | FUNGCIDE | MEAN |
|----------|------|----------|------|
| STRAW RT | | | |
| NONE | 6.48 | 7.49 | 6.98 |
| LITTLE | 6.63 | 7.01 | 6.82 |
| MUCH | 6.16 | 6.86 | 6.51 |
| MEAN | 6.43 | 7.12 | 6.77 |

| SEED DRS | NONE | FUNGCIDE | MEAN |
|----------|------|----------|------|
| SEED INF | | | |
| NONE | 6.38 | 7.05 | 6.71 |
| INFECTED | 6.47 | 7.20 | 6.83 |
| MEAN | 6.43 | 7.12 | 6.77 |

| SEED INF | NONE | INFECTED | | |
|----------|---------------|---------------|------|------|
| SEED DRS | NONE FUNGCIDE | NONE FUNGCIDE | | |
| STRAW RT | | | | |
| NONE | 6.72 | 7.52 | 6.25 | 7.45 |
| LITTLE | 6.58 | 6.80 | 6.68 | 7.22 |
| MUCH | 5.83 | 6.82 | 6.50 | 6.91 |

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

| TABLE | STRAW RT | SEED INF | SEED DRS | STRAW RT SEED INF |
|-------|----------|----------|----------|----------------------|
| SED | 0.165 | 0.134 | 0.134 | 0.233 |

| TABLE | STRAW RT SEED DRS | SEED INF SEED DRS | STRAW RT SEED INF SEED DRS |
|-------|----------------------|----------------------|----------------------------------|
| SED | 0.233 | 0.190 | 0.329 |

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

| STRATUM | DF | SE | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 11 | 0.329 | 4.9 |

GRAIN MEAN DM% 86.4

PLOT AREA HARVESTED 0.00260