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Yields of the Field Experiments 1996



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Rothamsted Research

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96/W/CS/435

RYEGRASS, WHEAT VOLUNTEERS AND DISEASE

Object: To study how different populations of cereal volunteers and ryegrass sown as a cover crop affect the survival of cereal diseases - Woburn, School Field.

Sponsors: J.F. Jenkyn, R.J. Gutteridge.

The second year, w. wheat.

For previous year see 95/W/CS/435

Design: 4 randomised blocks of 10 x 2 plots.

Whole plot dimensions: 6.0 x 10.0.

Treatments:

| 1. CROP | Crop, seed rate and soil inoculation in 1995: |
|---------|--|
| (R) | Ryegrass at 30 kg |
| (RW) | Ryegrass at 30 kg + wheat at 50 seeds per m ² |
| (RI) | Ryegrass at 30 kg + soil inoculated with Phialophora graminicola |
| (RWI) | Ryegrass at 30 kg + wheat at 50 seeds per m ² + soil inoculated with P. graminicola |
| (M) | Mustard at 300 seeds per m ² |
| (MW1) | Mustard at 100 seeds per m2 + wheat at 4 seeds per m2 |
| (MW2) | Mustard at 100 seeds per m2 + wheat at 9 seeds per m2 |
| (MW3) | Mustard at 100 seeds per m2 + wheat at 50 seeds per m2 |
| (MW4) | Mustard at 100 seeds per m2 + wheat at 200 seeds per m2 |
| (MW5) | Mustard at 30 seeds per m^2 + wheat at 400 seeds per m^2 |
| 2. CULT | Time of ploughing in 1995: |
| (PE) | Early (12 May) |
| (PL) | Late (17 Aug) |

Experimental diary:

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03-Oct-95 : B : Disced.
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10-Oct-95 : B : Rotary harrowed, Hereward, dressed Fonofos Seed

Treatment and Beret 050FS, drilled at 375 seeds per m2.

20-Nov-95 : B : Panther at 2.0 1 in 200 1.

08-Mar-96 : B : 34.5% N at 116 kg.

02-Apr-96 : B : Vytel Manganese at 3.0 l in 300 l.

18-Apr-96 : B : 34.5% N at 348 kg.

30-Apr-96 : B : Starane 2 at 1.0 1 with Halo at 1.5 1 in 200 1.

06-Jun-96 : B : Halo at 2.0 1 with Mallard 750 EC at 0.5 1 in 300 1.

16-Aug-96 : B : Combine harvested.

Previous crops: W. and s. rape 1993, w.wheat 1994.

NOTE: Plants were sampled to assess root and stem base diseases in April and July.

96/W/CS/435

GRAIN TONNES/HECTARE

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

| CULT | (PE) | (PL) | Mean |
|-------|-------|-------|-------|
| CROP | | | |
| (R) | 10.16 | 9.91 | 10.03 |
| (RW) | 9.89 | 10.63 | 10.26 |
| (RI) | 10.09 | 10.25 | 10.17 |
| (RWI) | 10.61 | 9.01 | 9.81 |
| (M) | 9.16 | 9.72 | 9.44 |
| (MW1) | 10.04 | 10.07 | 10.05 |
| (MW2) | 10.01 | 10.04 | 10.02 |
| (MW3) | 9.56 | 9.85 | 9.70 |
| (MW4) | 9.77 | 9.70 | 9.74 |
| (MW5) | 9.54 | 9.46 | 9.50 |
| Mean | 9.88 | 9.86 | 9.87 |

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

| CROP | CULT | CROP | |
|-------|-------|-------|--|
| | | CULT | |
| 0.482 | 0.215 | 0 681 | |

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

| Stratum | d.f. | s.e. | cv& |
|----------|------|-------|-----|
| BLOCK.WP | 57 | 0.963 | 9.8 |

GRAIN MEAN DM% 87.9

PLOT AREA HARVESTED 0.00437