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Rothamsted Research

Rothamsted Research (1997) *96/W/CS/446 Ryegrass, Wheat Volunteers and Diseases - W. Wheat* ; Yields Of The Field Experiments 1996, pp 97 - 98 - DOI: <https://doi.org/10.23637/ERADOC-1-51>

96/W/CS/446

RYEGRASS, WHEAT VOLUNTEERS AND DISEASES

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

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

The first year, ryegrass, wheat and mustard.

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:
 - R Ryegrass at 30 kg
 - RW Ryegrass at 30 kg + wheat at 50 seeds per m²
 - RI Ryegrass at 30 kg + soil inoculated with *Phialophora graminicola*
 - RWI Ryegrass at 30 kg + wheat at 50 seeds per m² + soil inoculated with *P. graminicola*
 - M Mustard at 300 seeds per m²
 - 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 m² + wheat at 400 seeds per m²

2. CULT Time of ploughing:
 - PE Early (17 May)
 - PL Late (14 Aug)

Experimental diary:

- 22-Aug-95 : B : Discd.
- 05-Sep-95 : B : Ploughed.
- 20-Sep-95 : B : Rotary harrowed.
- : T : Seeds sown and soil inoculated.
- 17-May-96 : T : CULT PE: Ploughed.
- 27-Jun-96 : T : CULT PL: Topped.
- 05-Jul-96 : T : CULT PE: Spiked rotary cultivated.
- 14-Aug-96 : T : CULT PL: Topped, ploughed.
- : T : CULT PE: Topped
- 15-Aug-96 : B : Roundup at 2.0 l in 300 l.

Previous crops: S. beans 1994, w. wheat 1995.

96/W/CS/446

- NOTES: (1) Mustard variety was Tilney, wheat, Soissons and ryegrass, Borvi, all undressed.
- (2) No yields were taken in 1996.
- (3) soil samples were taken in May and July and bioassayed to determine the presence of *Phialophora graminicola* and *Gaeumannomyces graminis* var *tritici*. Wheat was sampled in April and July to assess root and stem base diseases.