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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.

75/R/WW/2

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