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79/R/WW/6 Effects of Septoria - W. Wheat

Rothamsted Research

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79/R/WW/6

WINTER WHEAT

EFFECTS OF SEPTORIA

Object: To study the effects of a range of treatments on the incidence of Septoria and on the yield of winter wheat - Gt. Harpenden II.

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

Design: 2 randomised blocks of 8, all treatment combinations duplicated in each block.

Whole plot dimensions: 4.27 x 9.14.

Treatments: All combinations of:-

1. SEP SEED Septoria infection of seed:
 NONE
 INFECTED
2. SEEDRESS Seed dressing:
 NONE None
 ORG MERC Organo-mercury (as 'Agrosan GN' at 2.2 g per kg seed)
3. SEP STRW Septoria infected of straw applied to seedbed on 17 Oct, 1978:
 NONE
 INFECTED

- NOTES: (1) An intended test of foliar fungicide was not applied.
(2) Infected straw was applied to plots at 600 kg per ha.
(3) All plots were separated at their sides by 4.27 m and at their ends by 9.14 m. Separations were sown to winter barley, variety Athene, seed dressed with ethirimol.
(4) Irrigation was applied to the whole experimental area once a week, overnight, at 5 mm per occasion, when there had been negligible rain in the preceding week. It was applied on 20 June, 27 June, 4 July, 11 July, 18 July, 25 July.

Basal applications: Manures: (0:20:20) at 310 kg. 'Nitro-Chalk' at 500 kg.
Weedkillers: Dicamba with mecoprop and MCPA (as 'Banlene Plus' at 4.2 kg in 220 l). Growth regulator: Chlormequat at 1.7 kg in 220 l.

Seed: Atou, sown at 190 kg.

Cultivations, etc.: - Ploughed: 11 Oct, 1978. Rotary harrowed, PK applied: 16 Oct.
Power harrowed: 17 Oct. Seed sown: 18 Oct. N applied: 3 May, 1979.
Weedkillers applied: 8 May. Growth regulator applied: 1 June. Winter barley separations harvested: 15 Aug. Plots combine harvested: 29 Aug. Previous cropping: Barley 1977, beans 1978.

NOTE: Seedling and leaf infection by Septoria was assessed periodically during the season.

79/R/WW/6

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

SEEDRESS	NONE	ORG MERC	MEAN
SEP SEED			
NONE	6.33	6.22	6.27
INFECTED	6.13	6.29	6.21
MEAN	6.23	6.25	6.24

SEP STRW	NONE	INFECTED	MEAN
SEP SEED			
NONE	6.37	6.17	6.27
INFECTED	6.20	6.22	6.21
MEAN	6.29	6.20	6.24

SEP STRW	NONE	INFECTED	MEAN
SEEDRESS			
NONE	6.33	6.13	6.23
ORG MERC	6.24	6.26	6.25
MEAN	6.29	6.20	6.24

SEEDRESS	NONE		ORG MERC	
SEP STRW	NONE	INFECTED	NONE	INFECTED
SEP SEED				
NONE	6.46	6.19	6.28	6.15
INFECTED	6.19	6.07	6.21	6.37

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

TABLE	SEP SEED	SEEDRESS	SEP STRW	SEP SEED SEEDRESS
SED	0.155	0.155	0.155	0.219

TABLE	SEP SEED SEP STRW	SEEDRESS SEP STRW	SEP SEED SEEDRESS SEP STRW
SED	0.219	0.219	0.309

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

STRATUM	DF	SE	CV%
BLOCK.WP	23	0.438	7.0

GRAIN MEAN DM% 85.0

PLOT AREA HARVESTED 0.00195