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75/ R/B/2 - Foliar Diseases - Barley

Rothamsted Research

Rothamsted Research (1976) 75/ R/B/2 - *Foliar Diseases - Barley* ; Yields Of The Field Experiments 1975, pp 307 - 308 - DOI: <https://doi.org/10.23637/ERADOC-1-141>

75/R/B/2

WINTER BARLEY

FOLIAR DISEASES

Object: To study the effects of different amounts of infected straw, seed infection and seed dressing on incidence of *Rhynchosporium* and yield of winter barley - 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 *Rhynchosporium*, to seedbed:

None	STRAW RT
Little (66 kg/ha)	NONE
Much (584 kg/ha)	LITTLE
	MUCH

2. Seed infection with *Rhynchosporium*:

None	SEED INF
Infected	NONE
	INFECTED

3. Seed dressing:

None	SEED DRS
Fungicide (Mercury as 'Agrosan GN' at 2.2 gm/kg of seed)	NONE
	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. Fungicide: Ethirimol at 0.35 kg in 340 l. Irrigation: 5 mm applied on each of 7 occasions.

Seed: Maris Otter, sown at 160 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. Ethirimol applied: 5 June. Water applied: 25, 26 and 28 June, 5, 12, 19 and 26 July. Combine harvested: 30 July. Previous crops: Beans 1973, potatoes 1974.

NOTE: *Rhynchosporium* was assessed on 8 May and 8 July.

75/R/B/2

GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

SEED INF STRAW RT	NONE	INFECTED	MEAN
NONE	6.04	5.51	5.78
LITTLE	5.20	5.75	5.47
MUCH	5.50	5.54	5.52
MEAN	5.58	5.60	5.59

SEED DRS STRAW RT	NONE	FUNGCIDE	MEAN
NONE	5.51	6.04	5.78
LITTLE	5.58	5.36	5.47
MUCH	5.30	5.75	5.52
MEAN	5.46	5.72	5.59

SEED DRS SEED INF	NONE	FUNGCIDE	MEAN
NONE	5.38	5.78	5.58
INFECTED	5.55	5.65	5.60
MEAN	5.46	5.72	5.59

SEED INF SEED DRS STRAW RT	NONE		INFECTED	
	NONE	FUNGCIDE	NONE	FUNGCIDE
NONE	5.94	6.14	5.09	5.93
LITTLE	5.32	5.07	5.84	5.65
MUCH	4.88	6.13	5.72	5.36

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

TABLE	STRAW RT	SEED INF	SEED DRS	STRAW RT SEED INF
SED	0.246	0.201	0.201	0.347

TABLE	STRAW RT SEED DRS	SEED INF SEED DRS	STRAW RT SEED INF SEED DRS
SED	0.347	0.284	0.491

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

STRATUM	DF	SE	CV%
BLOCK.WP	11	0.491	8.8

GRAIN MEAN DM% 86.0

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PLOT AREA HARVESTED 0.00260