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79/R/B/8 and 79/W/B/8 Pythium Control - Barley

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79/R/B/8 and 79/W/B/8

SPRING BARLEY

PYTHIUM CONTROL

Object: To study the effects of two fungicides and two methods of application on the incidence of Pythium on roots and on the yield of spring barley - Rothamsted (R) Gt. Harpenden I and Woburn (W) Stackyard C.

Sponsor: G.A. Salt.

Design: 3 randomised blocks of 6 plots.

Whole plot dimensions: 4.27 x 9.14.

Treatments: All combinations of:-

- | | |
|-------------|---|
| 1. FUNGCIDE | Fungicides: |
| ALIETTE | 'Aliette' (Aluminium tris (ethyl phosphonate)) |
| CGA | 'CGA 48988' (DL-methyl N-(2,6 dimethyl phenyl)-N-(2-methoxyacetyl)alaninate |
| 2. FUNGMETH | Method of applying fungicides: |
| FOLIAR | Foliar spray |
| SEEDBED | Rotavated into the seedbed |

plus one extra treatment, duplicated:

NONE

- NOTES: (1) 'Aliette' was applied at 15 kg in the seedbed and at 0.68 kg as a foliar spray.
(2) 'CGA 48988' was applied at 1.5 kg in the seedbed and at 0.07 kg as a foliar spray.

Basal applications:

Gt. Harpenden I (R): Manures: (25:0:16) at 450 kg, combine drilled.
Weedkillers: Bromoxynil with ioxynil ('Oxytril CM' at 1.4 kg) and mecoprop at 1.7 kg in 220 l.

Stackyard C (W): Manures: (25:0:16) at 450 kg. Weedkillers: Dicamba with mecoprop and MCPA ('Banlene Plus' at 4.9 kg in 250 l).

Seed: Porthos, dressed with ethirimol, sown at 160 kg at both sites.

Cultivations, etc.:-

Gt. Harpenden I (R): Ploughed: 3 Aug, 1978. Deep-tine cultivated: 10 Aug. Heavy spring-tine cultivated twice: 24 Aug, 7 Sept. Spring-tine cultivated: 30 Apr, 1979. Seedbed treatments applied, spike rotary cultivated all plots, seed sown: 3 May. Weedkillers applied: 4 June. Foliar treatments applied: 12 June. Combine harvested: 5 Sept. Previous crops: Ryegrass 1977, 1978.

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Stackyard C (W): Ploughed: 22 Nov, 1978. Spring-tine cultivated with crumbler attached, three times: 17 Apr, 1979, 30 Apr, 8 May. NK applied: 27 Apr. Seedbed treatments applied, rotary cultivated, all plots sown: 8 May. Weedkillers applied: 6 June. Foliar treatments applied: 18 June. Combine harvested: 6 Sept. Previous crops: Fallow 1977, 1978.

NOTE: Crop samples were taken in July for assessment of infection by *Pythium* spp. and other soilborne fungi.

79/R/B/8 GT. HARPENDEN I(R)

GRAIN TONNES/HECTARE

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

FUNGCIDE	ALLETTE	CGA	MEAN
FUNGMETH			
FOLIAR	4.39	4.15	4.27
SEEDBED	4.53	4.46	4.49
MEAN	4.46	4.31	4.38

NONE 4.48

GRAND MEAN 4.42

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

TABLE	FUNGCIDE	FUNGMETH	FUNGCIDE FUNGMETH & NONE

SED	0.213	0.213	0.302 0.261*

* FOR COMPARISONS INVOLVING NONE ONLY

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

STRATUM	DF	SE	CV%
BLOCK.WP	11	0.370	8.4

GRAIN MEAN DM% 86.0

PLOT AREA HARVESTED 0.00195

79/W/B/8 STACKYARD C(W)

GRAIN TONNES/HECTARE

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

FUNGCIDE	ALLETTE	CGA	MEAN
FUNGMETH			
FOLIAR	2.20	2.41	2.31
SEEDBED	2.51	2.37	2.44
MEAN	2.36	2.39	2.37

NONE 2.59

GRAND MEAN 2.45

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

TABLE	FUNGCIDE	FUNGMETH	FUNGCIDE FUNGMETH & NONE
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SED	0.280	0.280	0.396 0.343*

* FOR COMPARISONS INVOLVING NONE ONLY

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

STRATUM	DF	SE	CV%
BLOCK.WP	6	0.396	16.2

GRAIN MEAN DM% 84.0

PLOT AREA HARVESTED 0.00260