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81/R/CS/261 Benomyl and Take-all - W. Wheat

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81/R/CS/261

BENOMYL AND TAKE-ALL

Object: To study the effects of benomyl, applied to the soil with and without a surfactant, and of nuarimol on take-all (*Gaeumannomyces graminis*) and on the yield of w. wheat - New Zealand.

Sponsor: G.L. Bateman.

The first year, w. wheat.

Design: 4 randomised blocks of 7 plots.

Whole plot dimensions: 2.13 x 12.2.

Treatments:

FUNGICIDE	Fungicides, surfactant and times and methods of application:
NONE	None
SF S	Surfactant (an alcohol ethoxylate at 115 l) as a drench in 11,500 l in spring
BEN A	Benomyl at 20 kg worked in to seedbed in autumn
BEN S	Benomyl at 20 kg, as a drench in 11,500 l in spring
BEN+SF S	Benomyl at 20 kg plus surfactant as above as a drench in 11,500 l in spring
NUA A	Nuarimol at 2.2 kg worked in to seedbed in autumn
NUA S	Nuarimol at 2.2 kg, as a drench in 11,500 l in spring

NOTE: Treatments were applied on 2 Oct, 1980 and 24 Apr, 1981.

Basal applications: Manures: (10:23:23) at 250 kg, combine drilled.
'Nitro-Chalk' at 390 kg. Weedkillers: Paraquat at 0.84 kg ion in 250 l.
Chlortoluron at 5.6 l in 250 l. Growth regulator: Chlormequat at 1.7 l in 250 l.

Seed: Flanders, with no seed dressing, sown at 200 kg.

Cultivations, etc.: Paraquat applied: 19 Sept, 1980. Ploughed: 27 Sept.
Spring-tine cultivated twice: 1 Oct. Spike rotary cultivated, harrowed:
2 Oct. Seed sown: 3 Oct. Chlortoluron applied: 10 Oct. N applied:
16 Apr, 1981. Growth regulator applied: 24 Apr. Combine harvested:
25 Aug. Previous crops: Grass and fallow 1979, w. wheat, 1980.

NOTE: Foot and root rots were assessed monthly between April and July.

81/R/CS/261

GRAIN TONNES/HECTARE

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

FUNGCIDE	NONE	SF S	BEN A	BEN S	BEN+SF S	NUA A	NUA S	MEAN
	7.64	5.02	7.48	8.59	6.05	7.70	7.72	7.17

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

TABLE	FUNGCIDE
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SED	0.367

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

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.520	7.2

GRAIN MEAN DM% 79.2

PLOT AREA HARVESTED 0.00176