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

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82/R/CS/261

BENOMYL AND TAKE-ALL

Object: To study the residual 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 second year, w. wheat.

For previous year see 81/R/CS/261.

Design: 4 randomised blocks of 7 plots.

Whole plot dimensions: 2.13 x 12.2.

Treatments:

FUNGICIDE	Residues of fungicides, surfactant and times and methods of application, applied for wheat in 1981:
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

Basal applications: Manures: (0:14:28) at 320 kg, combine drilled. 'Nitro-Chalk' at 560 kg. Weedkillers: Chlortoluron at 5.6 kg in 250 l, glyphosate at 1.4 kg in 250 l. Fungicides: Carbendazim with maneb and tridemorph (as 'Cosmic' at 4.0 kg) with captafol at 1.2 kg in 250 l applied with the insecticide. Insecticide: Pirimicarb at 0.14 kg. Growth regulator: Chlormequat at 1.7 kg in 250 l.

Seed: Avalon, untreated, sown at 200 kg.

Cultivations, etc.: Ploughed: 1 Oct, 1981. PK applied: 26 Oct. Rotary harrowed, seed sown: 28 Oct. Chlortoluron applied: 29 Oct. 'Nitro-Chalk' applied: 22 Apr, 1982. Growth regulator applied: 27 Apr. Fungicides with insecticide applied: 15 June. Glyphosate applied: 10 Aug. Combine harvested: 21 Aug.

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

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GRAIN TONNES/HECTARE

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

FUNGCIDE	NONE	SF S	BEN A	BEN S	BEN+SF S	NUA A	NUA S	MEAN
	9.48	9.45	9.06	9.57	9.41	9.74	9.21	9.42

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

TABLE	FUNGCIDE
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SED	0.383

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

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.542	5.8

GRAIN MEAN DM% 84.1

PLOT AREA HARVESTED 0.00176