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

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83/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 third year, w. wheat.

For previous years see 81-82/R/CS/261.

Design: 4 randomised blocks of 7 plots.

Whole plot dimensions: 2.13 x 12.2.

Treatments:

FUNGICIDE	Residues of fungicides and surfactant applied for wheat in 1981 and fresh applications for wheat in 1983:
NONE	None
(BEN A)	Benomyl at 20 kg in autumn 1980
(BEN S)	Benomyl at 20 kg in spring 1981
(NUA A)	Nuarimol at 2.2 kg in autumn 1980
BEN A	Benomyl at 20 kg in autumn 1982
BEN SF A	Benomyl at 20 kg plus a surfactant (an alcohol ethoxylate at 44 l) in autumn 1982
SF A	Surfactant alone in autumn 1982

NOTES: (1) Treatments applied in autumn 1982 were randomly allocated to plots given benomyl, nuarimol or surfactant in spring 1981.

(2) All fresh treatments were applied in 8,800 l on 31 Oct, 1982.

Basal applications: Manures: (0:18:36) at 250 kg. 'Nitro-Chalk' at 630 kg.

Weedkillers: Isoproturon at 2.0 kg with mecoprop at 3.2 kg in 250 l.

Fungicide: Propiconazole at 0.12 kg in 250 l. Growth regulator:

Chlormequat at 1.1 kg in 250 l.

Seed: Avalon, seed not treated, sown at 180 kg.

Cultivations, etc.: PK applied: 10 Sept, 1982. Ploughed: 21 Sept.

Spring-tine cultivated, rotary harrowed, seed sown: 15 Oct. N applied:

15 Apr, 1983. Weedkillers applied: 16 Apr. Growth regulator applied:

29 Apr. Fungicide applied: 17 June. Combine harvested: 10 Aug.

NOTE: Take-all and footrots were assessed in May, June and July.

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GRAIN TONNES/HECTARE

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

FUNGCIDE	
NONE	9.56
(BEN A)	9.06
(BEN S)	9.84
(NUA A)	10.04
BEN A	9.40
BEN SF A	9.37
SF A	8.96
MEAN	9.46

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

TABLE	FUNGCIDE
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SED	0.535

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

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.757	8.0

GRAIN MEAN DM% 87.1

PLOT AREA HARVESTED 0.00168