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Yields of the Field Experiments 1975

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75/ R/B/11 - Fungicides & Grain Microflora - Barley

Rothamsted Research

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75/R/B/11

SPRING BARLEY

FUNGICIDES AND GRAIN MICROFLORA

Object: To study the effects of a broad spectrum fungicide, applied at a range of times, on barley crops with or without additional specific fungicides against rust and mildew. Effects on yield, quality and grain-surface microorganisms before harvest and in storage are studied - Long Hoos IV 3.

Sponsor: R.A. Hill.

Design: 2 blocks of 16 plots, randomisation restricted.

Whole plot dimensions: 2.41 x 6.10.

Treatments: All combinations of:-

1. Specific fungicides for foliar pathogen control:	SPECFUNG
None	NONE
Ethirimol seed dressing + tridemorph spray at 0.53 kg in 340 l on 10 May	ALL
2. Benomyl on 16 July:	BENOMYL(1)
None	NONE
Sprayed	SPRAYED
3. Benomyl on 28 July:	BENOMYL(2)
None	NONE
Sprayed	SPRAYED
4. Benomyl on 11 Aug:	BENOMYL(3)
None	NONE
Sprayed	SPRAYED

NOTE: Benomyl was applied at 1.12 kg in 340 l.

Basal applications: Weedkillers: Dicamba with mecoprop and MCPA ('Tetralex Plus' at 7.0 l in 340 l).

Seed: Julia, sown at 160 kg.

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Cultivations, etc.: - Ploughed: 16 Jan, 1975. Spring-tine cultivated: 26 Mar. Spring-tine cultivated and seed sown: 21 Apr. Weedkiller applied: 6 June. Combine harvested: 22 Aug. Previous crops: Barley 1973, potatoes 1974.

- NOTES: (1) Leaf microflora were assessed soon after each application of benomyl.
(2) Microflora, 1000 grain weight and germination were assessed on samples of grain taken at harvest.

GRAIN TONNES/HECTARE

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

STRATUM	DF	SE	CV%
BLOCK.WP	15	0.523	16.2

GRAIN MEAN DM% 81.0

PLOT AREA HARVESTED 0.00075

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GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

BENOMYL(1) SPECFUNG	NONE	SPRAYED	MEAN
NONE	3.29	3.12	3.20
ALL	3.34	3.15	3.25
MEAN	3.31	3.14	3.23

BENOMYL(2) SPECFUNG	NONE	SPRAYED	MEAN
NONE	3.25	3.16	3.20
ALL	3.14	3.35	3.25
MEAN	3.20	3.25	3.23

BENOMYL(2) BENOMYL(1)	NONE	SPRAYED	MEAN
NONE	3.25	3.38	3.31
SPRAYED	3.14	3.13	3.14
MEAN	3.20	3.25	3.23

BENOMYL(3) SPECFUNG	NONE	SPRAYED	MEAN
NONE	3.30	3.11	3.20
ALL	3.30	3.19	3.25
MEAN	3.30	3.15	3.23

BENOMYL(3) BENOMYL(1)	NONE	SPRAYED	MEAN
NONE	3.34	3.29	3.31
SPRAYED	3.26	3.01	3.14
MEAN	3.30	3.15	3.23

BENOMYL(3) BENOMYL(2)	NONE	SPRAYED	MEAN
NONE	3.27	3.12	3.20
SPRAYED	3.33	3.17	3.25
MEAN	3.30	3.15	3.23

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GRAIN TONNES/HECTARE

BENOMYL(1)	NONE		SPRAYED	
BENOMYL(2)	NONE	SPRAYED	NONE	SPRAYED
SPECFUNG				
NONE	3.35	3.23	3.16	3.09
ALL	3.16	3.52	3.13	3.18

BENOMYL(1)	NONE		SPRAYED	
BENOMYL(3)	NONE	SPRAYED	NONE	SPRAYED
SPECFUNG				
NONE	3.33	3.24	3.27	2.97
ALL	3.34	3.34	3.26	3.05

BENOMYL(2)	NONE		SPRAYED	
BENOMYL(3)	NONE	SPRAYED	NONE	SPRAYED
SPECFUNG				
NONE	3.40	3.10	3.20	3.12
ALL	3.13	3.15	3.47	3.23

BENOMYL(2)	NONE		SPRAYED	
BENOMYL(3)	NONE	SPRAYED	NONE	SPRAYED
BENOMYL(1)				
NONE	3.29	3.21	3.38	3.37
SPRAYED	3.24	3.04	3.29	2.98

	BENOMYL(2)	NONE		SPRAYED	
	BENOMYL(3)	NONE	SPRAYED	NONE	SPRAYED
SPECFUNG	BENOMYL(1)				
NONE	NONE	3.49	3.20	3.17	3.29
	SPRAYED	3.32	2.99	3.22	2.95
ALL	NONE	3.10	3.21	3.58	3.46
	SPRAYED	3.16	3.09	3.35	3.00

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

TABLE	SPECFUNG	BENOMYL(1)	BENOMYL(2)	BENOMYL(3)
SED	0.185	0.185	0.185	0.185

TABLE	SPECFUNG BENOMYL(1)	SPECFUNG BENOMYL(2)	BENOMYL(1) BENOMYL(2)	SPECFUNG BENOMYL(3)
SED	0.261	0.261	0.261	0.261

TABLE	BENOMYL(1) BENOMYL(3)	BENOMYL(2) BENOMYL(3)	SPECFUNG BENOMYL(1) BENOMYL(2)	SPECFUNG BENOMYL(1) BENOMYL(3)
SED	0.261	0.261	0.370	0.370

TABLE	SPECFUNG BENOMYL(2) BENOMYL(3)	BENOMYL(1) BENOMYL(2) BENOMYL(3)	SPECFUNG BENOMYL(1) BENOMYL(2) BENOMYL(3)
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REP	4	4	2
SED	0.370	0.370	0.523