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# Yields of the Field Experiments 1982

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## 82/R/CS/263 Fungicide Times - W. Barley, S. Barley

### Rothamsted Research

Rothamsted Research (1983) *82/R/CS/263 Fungicide Times - W. Barley, S. Barley* ; Yields Of The Field Experiments 1982, pp 154 - 156 - DOI: <https://doi.org/10.23637/ERADOC-1-33>

82/R/CS/263

FUNGICIDE TIMES

Object: To study the residual effects on barley of four fungicides applied to w. oilseed rape on land in rotation (pathogen free) and after previous oilseed rape (pathogen infected) - Long Hoos IV 1 (pathogen free) and Summerdells I (pathogen infected).

Sponsor: C.J. Rawlinson.

The second year, w. barley (Long Hoos IV 1), s. barley (Summerdells I).

For previous year see 81/R/CS/263.

Design: 3 randomised blocks of 15 plots.

Whole plot dimensions: 2.13 x 3.05.

Treatments: All combinations of:-

1. FUNGICIDE(81) Residues of fungicides applied to w. oilseed rape 1981:

BENOMYL	Benomyl at 0.5 kg
IMAZALIL	Imazalil at 0.5 kg
PROCHLOR	Prochloraz at 0.5 kg
TRIADIME	Triadimefon at 0.5 kg

2. FUNGTIME Times of applying fungicides to w. oilseed rape 1981:

SOIL	To soil surface in August, 1980
FOL	To foliage in October
SOIL+FOL	On both above dates

plus one extra treatment:

EXTRA

NONE No fungicides (triplicated)

NOTE: In 1981 on Summerdells I w. oilseed rape failed during the winter and the site was sown to s. barley to assess the residual effects of treatments already applied.

Basal applications:

Long Hoos IV: Manures: 'Nitro-Chalk' at 500 kg. Weedkillers: Mecoprop, bromoxynil and ioxynil (as 'Brittox' at 2.8 l) in 450 l. Dicamba, mecoprop and MCPA (as 'Banlene Plus' at 4.2 l) in 340 l.  
Summerdells I: Manures: (0:14:28) at 780 kg. 'Nitro-Chalk' at 470 kg. Weedkillers: Paraquat at 0.5 kg ion in 250 l. Dicamba, mecoprop and MCPA (as 'Poly-Farmon' at 5.0 l) in 250 l.

Seed: Long Hoos IV: Maris Otter, undressed, sown at 160 kg.  
Summerdells I: Georgie, sown at 160 kg.

Cultivations, etc.:-

Long Hoos IV: Ploughed: 6 Aug, 1981. Power harrowed: 23 Sept.  
Spring-tine cultivated: 13 Oct. Seed sown: 16 Oct. Mecoprop, bromoxynil and ioxynil applied: 1 Feb, 1982. Dicamba, mecoprop and

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MCPA applied: 19 Apr. N applied: 20 Apr. Combine harvested: 26 July.

Summerdells I: Ploughed: 8 Oct, 1981. PK applied: 26 Nov. N and paraquat applied: 25 Mar, 1982. Spring-tine cultivated: 30 Mar. Rotary harrowed, seed sown: 3 Apr. Dicamba, mecoprop and MCPA applied: 17 May. Combine harvested: 17 Aug.

NOTE: Mildew and other diseases were assessed five times at fortnightly intervals from May to July. Components of yield were measured at maturity.

SUMMERDELLS I

SPRING BARLEY

GRAIN TONNES/HECTARE

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

FUNGTIME FUNGICIDE (81)	SOIL	FOL	SOIL+FOL	MEAN
BENOMYL	4.63	5.15	4.46	4.75
IMAZALIL	4.52	4.46	4.69	4.56
PROCHLOR	4.80	4.67	4.92	4.80
TRIADIME	4.75	4.72	4.65	4.71
MEAN	4.68	4.75	4.68	4.70

EXTRA NONE 4.75

GRAND MEAN 4.71

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

TABLE	FUNGICIDE (81)	FUNGTIME	FUNGICIDE (81) FUNGTIME
SED	0.145	0.125	0.250

SED OF EXTRA NONE V ANY ITEM IN FUNGICIDE(81).FUNGTIME TABLE IS 0.204

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

STRATUM	DF	SE	CV%
BLOCK.WP	30	0.307	6.5

GRAIN MEAN DM% 82.7

PLOT AREA HARVESTED 0.00065

82/R/CS/263 LONG HOOS IV

WINTER BARLEY

GRAIN TONNES/HECTARE

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

FUNGTIME FUNGICIDE (81)	SOIL	FOL	SOIL+FOL	MEAN
BENOMYL	3.33	3.22	3.57	3.37
IMAZALIL	4.27	3.50	3.56	3.77
PROCHLOR	3.12	4.57	3.68	3.79
TRIADIME	3.53	2.89	4.07	3.49
MEAN	3.56	3.54	3.72	3.61

EXTRA NONE 3.14

GRAND MEAN 3.51

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

TABLE	FUNGICIDE(81)	FUNGTIME	FUNGICIDE(81) FUNGTIME
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SED	0.312	0.270	0.541
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SED OF EXTRA NONE V ANY ITEM IN FUNGICIDE(81).FUNGTIME TABLE IS 0.441

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

STRATUM	DF	SE	CV%
BLOCK.WP	30	0.662	18.8

GRAIN MEAN DM% 73.0

STRAW TONNES/HECTARE

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

FUNGTIME FUNGICIDE (81)	SOIL	FOL	SOIL+FOL	MEAN
BENOMYL	4.30	4.18	4.75	4.41
IMAZALIL	4.66	4.73	5.16	4.85
PROCHLOR	5.00	5.19	4.62	4.94
TRIADIME	4.50	5.72	4.02	4.75
MEAN	4.61	4.96	4.64	4.74

EXTRA NONE 4.56

GRAND MEAN 4.70

GRAIN MEAN DM% 62.2

PLOT AREA HARVESTED 0.00054