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81/R/CS/263 Fungicide Times - W. Oilseed Rape

Rothamsted Research

Rothamsted Research (1982) *81/R/CS/263 Fungicide Times - W. Oilseed Rape* ; Yields Of The Field Experiments 1981, pp 206 - 208 - DOI: <https://doi.org/10.23637/ERADOC-1-35>

81/R/CS/263

FUNGICIDE TIMES

Object: To study the effects of times of applying four fungicides on pathogens and yield of 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 first year, w. oilseed rape.

Design: 3 randomised blocks of 15 plots.

Whole plot dimensions: 2.13 x 3.05.

Treatments: All combinations of:-

1. FUNGCIDE Fungicides:

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:

SOIL	To soil surface on 28 Aug, 1980 before seedbed cultivation
FOL	To foliage on 24 Oct
SOIL + FOL	On both above dates

plus one extra treatment:

EXTRA

NONE No fungicides (triplicated)

NOTES:(1) Sprays were applied in 340 l.

(2) 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.

Standard applications: Long Hoos IV and Summerdells I: Manures: 'Nitro-Chalk' at 670 kg. Weedkillers: Propyzamide at 0.56 kg with dalapon at 1.9 kg in 340 l. Manures: (13:13:20) at 380 kg. Weedkillers: Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3 l) in 250 l.

Seed: Long Hoos IV and Summerdells I: Primor, sown at 9 kg. Summerdells I: Georgie, sown at 160 kg.

Cultivations, etc.:-

Long Hoos IV: NPK applied: 1 Sept, 1980. Rotary harrowed, seed sown: 5 Sept. Weedkillers applied: 30 Oct. N applied: 18 Feb, 1981. Cut and windrowed: 21 July. Grain threshed: 31 July. Previous crops: S. barley 1979, fallow 1980.

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Summerdells I: NPK applied: 1 Sept, 1980. Heavy spring-tine cultivated twice: 2 Sept. Rotary harrowed: 4 Sept. Primor seed sown: 5 Sept. Propyzamide and dalapon applied: 30 Oct. N applied: 18 Feb, 1981. Chisel ploughed: 1 May. Rotary harrowed: 13 May. Georgie seed sown: 14 May. 'Brittox' applied: 19 June. Combine harvested: 8 Sept. Previous crops: W. barley 1979, w. oilseed rape 1980.

- NOTES: (1) On Summerdells I: Foliar diseases on w. oilseed rape were assessed twice; s. barley was assessed fortnightly for mildew, yellow and brown rust. Soil cores were analysed for triadimefon residues.
(2) On Long Hoos IV: Foliar disease was assessed five times during the season.

LONG HOOS IV

OIL SEED RAPE

GRAIN TONNES/HECTARE

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

FUNGTIME FUNGIDE	SOIL	FOL	SOIL+FOL	MEAN
BENOMYL	0.91	1.20	0.92	1.01
IMAZALIL	0.99	1.46	1.11	1.18
PROCHLOR	1.11	1.15	1.47	1.24
TRIADIME	1.19	1.26	1.29	1.25
MEAN	1.05	1.27	1.20	1.17

EXTRA NONE 1.13

GRAND MEAN 1.16

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

TABLE	FUNGIDE	FUNGTIME	FUNGIDE FUNGTIME
SED	0.110	0.095	0.190

SED FOR EXTRA NONE V ANY ITEM IN FUNGIDE.FUNGTIME TABLE IS 0.155

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

STRATUM	DF	SE	CV%
BLOCK.WP	30	0.233	20.0

GRAIN MEAN DM% 80.6

PLOT AREA HARVESTED 0.00065

81/R/CS/263 SUMMERDELLS I

SPRING BARLEY

GRAIN TONNES/HECTARE

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

FUNGTIME FUNGIDE	SOIL	FOL	SOIL+FOL	MEAN
BENOMYL	1.39	1.66	1.68	1.58
IMAZALIL	1.46	1.60	1.57	1.54
PROCHLOR	1.59	1.49	1.60	1.56
TRIADIME	1.91	1.86	2.14	1.97
MEAN	1.59	1.65	1.75	1.66

EXTRA NONE 1.56

GRAND MEAN 1.64

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

TABLE	FUNGIDE	FUNGTIME	FUNGIDE FUNGTIME
SED	0.157	0.136	0.273

SED FOR EXTRA NONE V ANY ITEM IN FUNGIDE.FUNGTIME TABLE IS 0.223

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

STRATUM	DF	SE	CV%
BLOCK.WP	30	0.334	20.3

GRAIN MEAN DM% 78.1

PLOT AREA HARVESTED 0.00053