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# Yields of the Field Experiments 1981

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

### Rothamsted Research

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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<br>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<br>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<br>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<br>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