

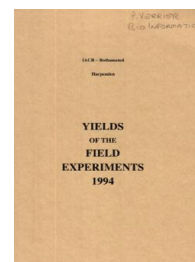
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94/R/RAW/10 Disease Pressure and Glucosinolates - W. Oilseed Rape

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94/R/RAW/10

WINTER OILSEED RAPE

DISEASE PRESSURE AND GLUCOSINOLATES

Object: To study the effects on crop growth, yield and glucosinolate levels of winter oilseed rape grown under different disease pressures - Appletree.

Sponsors: K.J. Doughty, H.A. McCartney, D. Schmechel, M.E. Lacey.

Design: 4 randomised blocks of 4 plots split into 2 sub-plots.

Whole plot dimensions: 6.0 x 10.0.

Treatments: All combinations of:-

Whole plots

- | | |
|--------------------|--|
| 1. FUNGINOC | Fungicide spray application and level of inoculation using infected straw: |
| NOFUNG | No fungicide spray, no inoculation |
| FUNGDE | Fungicide spray applied autumn, spring and summer, no inoculation |
| INOC 1 | No fungicide spray. Inoculation level 1 |
| INOC 2 | No fungicide spray. Inoculation level 2 |

Sub-plots

2. **VARIETY**

- | | |
|----|-----------|
| CA | Capricorn |
| FA | Falcon |

NOTE: Infected straw from a previous experiment was used for the inoculation. INOC 1 received inoculation at one-quarter of the rate applied to INOC 2.

Experimental diary:

- 19-Jul-93 : B : Cultivated by rotary grubber.
29-Jul-93 : B : Deep tine cultivated with vibrating tines 60 cm apart, 45 cm deep.
02-Aug-93 : B : Rolled.
16-Aug-93 : B : PK as (0:18:36) at 1250 kg.
18-Aug-93 : B : Ploughed and furrow pressed, rolled.
25-Aug-93 : B : Disced twice, rotary harrowed twice.
 : T : **VARIETY** CA, FA: Varieties, dressed Lindex-Plus FS, drilled at 120 seeds per m².
07-Oct-93 : B : Draza at 5.5 kg.
14-Oct-93 : T : **FUNGINOC** INOC 1, INOC 2: Infected straw applied.
04-Nov-93 : B : Benazalox at 0.75 l with Butisan S at 1.5 l in 200 l.
16-Nov-93 : T : **FUNGINOC** FUNGDE: Sportak 45 at 1.1 l in 220 l.
08-Mar-94 : B : 34.5% N at 162 kg.

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Experimental diary:

08-Apr-94 : T : FUNGINOC FUNGCDE: Sportak 45 at 1.1 l in 220 l.
 11-Apr-94 : B : 34.5% N at 346 kg.
 15-Jun-94 : T : FUNGINOC FUNGCDE: Rovral Flo at 2.0 l in 200 l.
 14-Jul-94 : B : Landgold Diquat at 3.0 l with Vassgro Spreader at 400 ml
 in 400 l.
 21-Jul-94 : B : Combine harvested.

Previous crops: Potatoes 1992, set-aside 1993.

NOTE: Assessments were made of disease progress, crop growth and canopy structure throughout the season. Samples were taken during vegetative growth and at harvest for the measurement of glucosinolate concentrations and oil content.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

***** Tables of means *****

| VARIETY | CA | FA | Mean |
|-----------------|------|------|------|
| FUNGINOC | | | |
| NOFUNG | 2.46 | 3.70 | 3.08 |
| FUNGCDE | 3.55 | 3.77 | 3.66 |
| INOC 1 | 2.70 | 3.53 | 3.11 |
| INOC 2 | 2.42 | 3.46 | 2.94 |
| Mean | 2.78 | 3.62 | 3.20 |

*** Standard errors of differences of means ***

| FUNGINOC | VARIETY | FUNGINOC VARIETY |
|----------|---------|---------------------|
| 0.119 | 0.032 | 0.127 |

Except when comparing means with the same level(s) of
FUNGINOC 0.064

***** Stratum standard errors and coefficients of variation *****

| Stratum | d.f. | s.e. | cv% |
|-------------|------|-------|-----|
| BLOCK.WP | 9 | 0.168 | 5.2 |
| BLOCK.WP.SP | 12 | 0.090 | 2.8 |

GRAIN MEAN DM% 88.2

SUB PLOT AREA HARVESTED 0.00230