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

Rothamsted Research

Rothamsted Research (1994) *93/R/RAW/10 Disease Pressure and Glucosinolates - W. Oilseed Rape ; Yields Of The Field Experiments 1993*, pp 140 - 141 - DOI:

<https://doi.org/10.23637/ERADOC-1-48>

93/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 - Highfield ex - Ley Arable.

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

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

Whole plot dimensions: 6.0 x 10.0.

Treatments: All combinations of:-

1. **VARIETY** Varieties:
CAPRCORN Capricorn
FALCON Falcon
2. **FUNGINOC** Fungicide spray application and level of inoculation using infected straw:
NOFUNG No fungicide spray
FUNGICIDE Fungicide spray applied autumn, spring and summer
INOC 1 Inoculation level 1
INOC 2 Inoculation level 2

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

Experimental diary:

- 11-Aug-92 : B : Shallow cultivated with Bomford Dynadrive.
- 18-Aug-92 : B : Dolomite at 5.0 t.
- 19-Aug-92 : B : Gramoxone 100 at 2.0 l with Farmon Blue at 0.1 l in 200 l.
- 29-Aug-92 : B : Ploughed, furrow pressed.
- 01-Sep-92 : T : **VARIETY** CAPRCORN, FALCON: Rotary harrowed, varieties, dressed Lindex-Plus FS, drilled at 120 seeds per square metre, rolled.
- 20-Oct-92 : T : **FUNGINOC** INOC 1, INOC 2: Infected straw treatments applied.
- 24-Nov-92 : T : **FUNGINOC** FUNGCDE: Sportak 45 at 1.1 l in 220 l.
- 18-Jan-93 : B : Kerb 50W at 1.4 kg in 200 l.
- 17-Feb-93 : B : 34.5% N at 170 kg.
- 23-Mar-93 : B : 34.5% N at 370 kg.
- 15-Apr-93 : T : **FUNGINOC** FUNGCDE: Sportak 45 at 1.1 l in 200 l.
- 22-Jun-93 : T : **FUNGINOC** FUNGCDE: Rovral Flo at 2.0 l in 200 l.
- 21-Jul-93 : B : Stefes Diquat at 3.0 l with Vassgro Spreader at 0.40 l in 400 l.
- 28-Jul-93 : B : Combine harvested.

93/R/RAW/10

Previous crops: W. wheat 1991, w. barley 1992.

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 estimation of glucosinolate concentrations.

GRAIN (AT 90% DM) TONNES/HECTARE

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

VARIETY	CAPRCORN	FALCON	Mean
FUNGINOC			
NOFUNG	2.43	2.71	2.57
FUNGCDE	3.11	3.02	3.06
INOC 1	1.43	1.54	1.48
INOC 2	0.91	1.64	1.27
Mean	1.97	2.23	2.10

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

	FUNGINOC	VARIETY	FUNGINOC VARIETY
	0.177	0.126	0.251
Except when comparing means with the same level(s) of			0.251
FUNGINOC			0.251

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	9	0.250	11.9
BLOCK.WP.SP	12	0.356	17.0

GRAIN MEAN DM% 79.4

SUB PLOT AREA HARVESTED 0.00230