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93/R/RAW/1 Fungal Pathogens and Glucosinolates - W. Oilseed Rape

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93/R/RAW/1

WINTER OILSEED RAPE

FUNGAL PATHOGENS AND GLUCOSINOLATES

Object: To monitor the accumulation of glucosinolates in pods and seeds following inoculation with a fungal pathogen - Little Knott I

Sponsors: K.J. Doughty, J.K. Fieldsend, R. Wallsgrove, G. Kiddle, R.N. Bennett.

Design: 2 randomised blocks of 4 plots (treatments duplicated).

Whole plot dimensions: 3.0 x 10.0.

Treatments:

FUNGICIDE Fungicide applied in November and April, inoculation or fungicide in June:

N+A+INOC Prochloraz November and April, inoculated June

N+A+IPRO Prochloraz November and April, iprodione June

NOTE: **FUNGICIDE** N+A+INOC: During pod development, areas within plots were inoculated with a mycelial suspension of *Alternaria brassicae* and covered with plastic tents for two days to ensure infection.

Experimental diary:

- 10-Aug-92 : B : Shallow cultivated with Bomford Dynadrive.
02-Sep-92 : B : Ploughed, furrow pressed.
03-Sep-92 : B : Rotary harrowed, Bienvenu, undressed, drilled at 120 seeds per square metre.
14-Oct-92 : B : Decis at 250 ml in 200 l.
24-Nov-92 : T : **FUNGICIDE** N+A+INOC, N+A+IPRO: Sportak 45 at 1.1 l in 220 l.
29-Jan-93 : B : Dow Shield at 0.50 l and Rapier at 1.6 l in 200 l.
18-Feb-93 : B : 34.5% N at 170 kg.
15-Mar-93 : B : PK as (0:18:36) at 1250 kg.
23-Mar-93 : B : 34.5% N at 370 kg.
15-Apr-93 : T : **FUNGICIDE** N+A+INOC, N+A+IPRO: Sportak 45 at 1.1 l in 200 l.
13-Jun-93 : T : **FUNGICIDE** N+A+INOC: Inoculated.
28-Jun-93 : T : **FUNGICIDE** N+A+IPRO: Rovral Flo at 2.0 l in 200 l.
09-Aug-93 : B : Combine harvested.

Previous crops: W. wheat 1991 and 1992.

NOTE: Samples of pods were taken from the time of inoculation until harvest to measure the effect of inoculation on the content of glucosinolates and the activity of biosynthetic enzymes in pods and seeds.

93/R/RAW/1

GRAIN (AT 90% DM) TONNES/HECTARE

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

FUNGCIDE	
N+A+INOC	2.96
N+A+IPRO	3.78
Mean	3.37

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

FUNGCIDE
0.195

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	5	0.275	8.2
GRAIN MEAN DM%	84.0		
PLOT AREA HARVESTED	0.00230		