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97/R/LP/4 Fusarium and Sowing Date - Lupins

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97/R/LP/4

LUPINS

FUSARIUM AND SOWING DATES

Object: To assess the effects of seed treatment fungicides and autumn fungicide spray on *Fusarium* and plant survival - Sawyers II.

Sponsors: G.L. Bateman, J. Etheridge.

Design: 3 different half replicates of 4 x 2 x 2 x 2.

Plot dimensions: 5.4 x 9.0.

Treatments: All combinations of:-

- | | |
|--------------|---|
| 1. FUNGICIDE | Fungicide: |
| - | None |
| IC | Iprodione and carbendazim seed dressing |
| BG | Fludioximil seed dressing |
| P | Prochloraz foliar spray |
| 2. SOW DATE | Sowing date: |
| S1 | 04-Sep-96 |
| S2 | 01-Oct-96 |
| 3. INOC | <i>Fusarium avenaceum</i> inoculum: |
| F- | None |
| FI | Inoculated |
| 4. SUM FUNG | Summer fungicide: |
| - | None |
| SP | Tebuconazole spray in May and June |

NOTE: *Fusarium* inoculum was on sterile oat grain applied to the seedbed.

Experimental diary:

29-Jul-96 : B : Subsoiled.
31-Jul-96 : B : Ploughed and furrow pressed.
03-Sep-96 : B : Rotary harrowed.
 : T : **SOW DATE** S1: Inoculum applied.
04-Sep-96 : T : **SOW DATE** S1: Rotary harrowed twice, CH304/70, dressed as treatment, drilled at 40 seeds per m².
06-Sep-96 : T : **SOW DATE** S1: Stomp 400 SC at 5.0 l in 220 l.
01-Oct-96 : T : **SOW DATE** S2: *Fusarium* inoculum applied, rotary harrowed twice, CH304/70, dressed as treatment, drilled at 40 seeds per m².
02-Oct-96 : T : **SOW DATE** S2: Stomp 400 SC at 5.0 l in 220 l.
08-Nov-96 : B : Carbetamex at 3.0 kg with MSS Simazine 50 FL at 2.3 l in 200 l. Decis at 300 ml in 200 l.
14-Nov-96 : T : **FUNGICIDE** P: Sportak 45 at 1.0 l in 220 l.

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Experimental diary:

17-Mar-97 : B : *Pleiochaeta setosa* inoculum applied at 72 kg.
 13-May-97 : T : **SUM FUNG** SP: Folicur at 1.0 l in 220 l.
 09-Jun-97 : T : **SUM FUNG** SP: Folicur at 1.0 l in 220 l.
 02-Sep-97 : B : Harvest at 3.0 l in 400 l.
 22-Sep-97 : B : Combine harvested.

Previous crops: S. oats 1995, set-aside 1996.

NOTES: (1) *Pleiochaeta* inoculum was also on sterile oat grain.
 (2) Plant populations were assessed monthly October to July. Plant samples were assessed for disease on four occasions in winter. Foliar diseases were assessed in summer.
 (3) Only 2 way tables are presented except **FUNGCIDE INOC**.

GRAIN TONNES/HECTARE

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

SOW DATE	S1	S2	Mean
FUNGCIDE			
-	0.22	0.03	0.12
IC	1.30	0.25	0.77
BG	1.21	0.15	0.68
P	1.72	0.09	0.90
Mean	1.11	0.13	0.62
INOC	F-	FI	Mean
FUNGCIDE			
-	0.16	0.08	0.12
IC	0.78	0.76	0.77
BG	0.71	0.64	0.68
P	0.88	0.93	0.90
Mean	0.63	0.60	0.62
INOC	F-	FI	Mean
SOW DATE			
S1	1.11	1.10	1.11
S2	0.15	0.10	0.13
Mean	0.63	0.60	0.62
SUM FUNG	-	SP	Mean
SOW DATE			
S1	0.28	1.94	1.11
S2	0.02	0.23	0.13
Mean	0.15	1.09	0.62

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GRAIN TONNES/HECTARE

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

SUM FUNG INOC	-	SP	Mean
F-	0.12	1.15	0.63
FI	0.18	1.03	0.60
Mean	0.15	1.09	0.62

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

FUNGCIDE	SOW DATE	INOC	FOLICUR
0.156	0.110	0.110	0.135

FUNGCIDE	FUNGCIDE	SOW DATE	SOW DATE
SOW DATE	INOC	INOC	FOLICUR
0.220	0.220	0.156	0.174

Except when comparing means with the same level(s) of
SOW DATE

0.191

INOC
FOLICUR
0.174

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

0.191

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	18	0.382	61.7

GRAIN MEAN DM% 85.6

PLOT AREA HARVESTED 0.00216