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88/R/LP/3 Desiccants and Fungicides - Lupins

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88/R/LP/3

LUPINS

DESICCANTS AND FUNGICIDES

Object: To study the effects of times of applying desiccants and fungicides on senescence, grain quality and yield of lupins (*Lupinus albus*) - Long Hoos III 5.

Sponsors: H.L. Jones, J. Lacey.

Design: 2 randomised blocks of 30 plots.

Whole plot dimensions: 2.4 x 5.0.

Treatments: All combinations of:-

1. **DESICCANT** Desiccants:

 DIQUAT Diquat at 0.15 kg ion
 MET+FEN Metoxuron at 2.0 kg plus fentin hydroxide at 0.20 kg
 GLYPHOS Glyphosate at 1.08 kg
 NACL Sodium chloride at 6.25 kg

2. **FUNGICIDE** Fungicide applied 10 days before desiccant (29 Sept, 1988, 10 Oct, 20 Oct):

 NONE None
 PROPICON Propiconazole at 0.125 kg

3. **APP TIME** Times of applying desiccants:

 EARLY When leaf fall complete (10 Oct)
 MIDDLE 10 days after EARLY (20 Oct)
 LATE 18 days after EARLY (28 Oct)

plus an extra treatment given no desiccants or fungicides:

EXTRA

NONE None (septuplicated)

NOTES: (1) All spray treatments were applied in 220 l.
(2) Additional planned treatments with fungicides alone were omitted.

Basal applications: Manure: Chalk at 2.9 t. Weedkillers: Terbutryne at 0.98 kg and terbuthylazine at 0.42 kg in 220 l. Metamitron at 1.4 kg in 220 l applied with the benomyl and pirimicarb. Fungicides: Benomyl at 0.56 kg when applied with the metamitron and the first pirimicarb and at 1.0 kg applied with chlorothalonil at 1.0 kg in 220 l applied with the second pirimicarb. Insecticide: Pirimicarb at 0.14 kg applied on two occasions.

Seed: Vladimir, sown at 210 kg.

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Cultivations, etc.:- Chalk applied: 1 Oct, 1987. Ploughed: 11 Dec. Spring-tine cultivated twice, seed sown, rolled: 11 Mar, 1988. Terbutryne and terbuthylazine applied: 17 Mar. Metamitron, benomyl and pirimicarb applied: 20 June. Chlorothalonil, benomyl and pirimicarb applied: 15 July. Combine harvested: 4 Nov. Previous crops: Cabbages 1986, fallow 1987.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

FUNGCIDE	NONE	PROPICON	Mean	
DESICCNT				
DIQUAT	1.80	1.72	1.76	
MET+FEN	1.85	1.92	1.88	
GLYPHOS	1.80	1.80	1.80	
NACL	1.87	1.99	1.93	
Mean	1.83	1.86	1.84	
APP TIME	EARLY	MIDDLE	LATE	Mean
DESICCNT				
DIQUAT	2.04	1.89	1.36	1.76
MET+FEN	1.97	1.94	1.74	1.88
GLYPHOS	1.70	1.74	1.95	1.80
NACL	1.70	2.07	2.03	1.93
Mean	1.85	1.91	1.77	1.84
APP TIME	EARLY	MIDDLE	LATE	Mean
FUNGCIDE				
NONE	1.89	1.78	1.82	1.83
PROPICON	1.82	2.04	1.71	1.86
Mean	1.85	1.91	1.77	1.84
DESICCNT	APP TIME	EARLY	MIDDLE	LATE
DIQUAT	NONE	2.03	1.79	1.58
	PROPICON	2.05	1.98	1.13
MET+FEN	NONE	1.72	1.82	2.02
	PROPICON	2.23	2.06	1.47
GLYPHOS	NONE	1.92	1.53	1.94
	PROPICON	1.48	1.96	1.96
NACL	NONE	1.88	1.99	1.75
	PROPICON	1.52	2.14	2.30
EXTRA	NONE	1.77		
Grand mean		1.83		

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GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

DESICCNT	FUNGCIDE	APP TIME	DESICCNT FUNGCIDE
0.188	0.133	0.163	0.266
DESICCNT APP TIME	FUNGCIDE APP TIME	DESICCNT FUNGCIDE APP TIME	
0.326	0.231	0.461	

SED for comparing NONE with any item in
DESICCNT.FUNGCIDE.APP TIME table is 0.352

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	34	0.461	25.2
GRAIN MEAN DM%	78.2		
PLOT AREA HARVESTED	0.00072		