

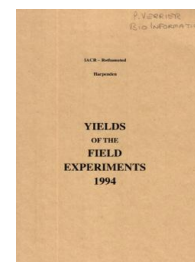
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94/R/LP/3 Sowing Dates, Pests and Diseases - W. Lupins

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94/R/LP/3

WINTER LUPINS

SOWING DATES, PESTS AND DISEASES

Object: To measure overwinter losses in early and late sown lupins and to identify any pests or diseases causing such losses - Great Harpenden I.

Sponsors: A.W. Ferguson, G. L. Bateman, G.F.J. Milford, I. Shield, J.M. Day.

Design: 3 blocks of a half-replicate of 2 x 2 x 2 x 2 x 2 plots.

Whole plot dimensions: 2.88 x 15.0.

Treatments:

- | | |
|-------------|----------------------------------|
| 1. SOW DATE | Date of sowing: |
| E | 23 September, 1993 |
| L | 20 October |
| 2. SEED TRT | Seed treatment: |
| 1- | None |
| 1T | Thiram |
| 3. SOIL INS | Soil-applied insecticide: |
| 2- | None |
| 2C | Chlorpyrifos |
| 4. AUT SPRY | Autumn fungicide: |
| A- | None |
| AP | Prochloraz |
| 5. SUM FUNG | Summer fungicide: |
| F- | None |
| FF | Iprodione and thiophanate-methyl |
| 6. SUM INS | Summer insecticide: |
| I- | None |
| IA | Pirimicarb |
| ID | Dimethoate |

NOTE: SEED TRT 1T: Thiram, as Agrichem Flowable Thiram, was applied at 900 g active ingredient per t of seed.

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Experimental diary:

31-Aug-93 : B : Ploughed and furrow pressed.
 23-Sep-93 : B : Rotary harrowed.
 : T : **SOW DATE** E: CH 304/70 drilled at 40 seeds per m².
 : T : **SOW DATE** E, **SOIL INS** 2C: Dursban 48E at 1.5 l in 220 l.
 24-Sep-93 : T : **SOW DATE** E: Opogard 500 FW at 2.8 l in 200 l.
 20-Oct-93 : T : **SOW DATE** L: Rotary harrowed, CH304/70 drilled at 40
 seeds per m².
 26-Oct-93 : T : **SOW DATE** L, **SOIL INS** 2C: Dursban 48E at 1.5 l in 220 l.
 01-Nov-93 : T : **SOW DATE** L: Opogard 500 FW at 2.8 l in 220 l.
 14-Dec-93 : T : **AUT SPRY** AP: Sportak 45 at 1.1 l in 220 l.
 16-Feb-94 : B : Atlas Simazine at 1.0 l in 200 l.
 13-Jun-94 : T : **SUM FUNG** FF: Compass at 3.0 l in 220 l.
 12-Jul-94 : T : **SUM INS** IA: Pirimicarb 50 DG at 0.28 kg with Vassgro
 Spreader at 125 ml in 220 l.
 : T : **SUM INS** ID: Atlas Dimethoate 40 at 0.85 l in 220 l.
 06-Sep-94 : B : Combine harvested.

Previous crops: W. wheat 1992. w. barley 1993.

NOTE: Plant establishment was assessed in autumn, spring and summer. Aphid populations were assessed before and after insecticide treatments were applied. Diseases were assessed in summer.

GRAIN TONNES/HECTARE

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

SEED TRT	1-	1T	Mean
SOW DATE			
E	1.18	0.98	1.08
L	0.09	0.11	0.10
Mean	0.63	0.54	0.59
SOIL INS	2-	2C	Mean
SOW DATE			
E	1.25	0.91	1.08
L	0.10	0.09	0.10
Mean	0.68	0.50	0.59
SOIL INS	2-	2C	Mean
SEED TRT			
1-	0.75	0.52	0.63
1T	0.61	0.48	0.54
Mean	0.68	0.50	0.59

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GRAIN TONNES/HECTARE

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

AUT SPRY SOW DATE	A-	AP	Mean
E	1.01	1.15	1.08
L	0.11	0.09	0.10
Mean	0.56	0.62	0.59

AUT SPRY SEED TRT	A-	AP	Mean
1-	0.63	0.63	0.63
1T	0.49	0.60	0.54
Mean	0.56	0.62	0.59

AUT SPRY SOIL INS	A-	AP	Mean
2-	0.67	0.68	0.68
2C	0.45	0.56	0.50
Mean	0.56	0.62	0.59

SUM FUNG SOW DATE	F-	FF	Mean
E	1.15	1.01	1.08
L	0.10	0.10	0.10
Mean	0.62	0.55	0.59

SUM FUNG SEED TRT	F-	FF	Mean
1-	0.65	0.62	0.63
1T	0.60	0.49	0.54
Mean	0.62	0.55	0.59

SUM FUNG SOIL INS	F-	FF	Mean
2-	0.67	0.68	0.68
2C	0.58	0.42	0.50
Mean	0.62	0.55	0.59

SUM FUNG AUT SPRY	F-	FF	Mean
A-	0.55	0.57	0.56
AP	0.70	0.54	0.62
Mean	0.62	0.55	0.59

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GRAIN TONNES/HECTARE

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

SUM INS SOW DATE	I-	IA	ID	Mean
E	1.20	1.25	0.80	1.08
L	0.10	0.09	0.10	0.10
Mean	0.65	0.67	0.45	0.59

SUM INS SEED TRT	I-	IA	ID	Mean
1-	0.68	0.70	0.53	0.63
1T	0.62	0.65	0.37	0.54
Mean	0.65	0.67	0.45	0.59

SUM INS SOIL INS	I-	IA	ID	Mean
2-	0.80	0.77	0.46	0.68
2C	0.49	0.58	0.43	0.50
Mean	0.65	0.67	0.45	0.59

SUM INS AUT SPRY	I-	IA	ID	Mean
A-	0.59	0.64	0.46	0.56
AP	0.71	0.71	0.44	0.62
Mean	0.65	0.67	0.45	0.59

SUM INS SUM FUNG	I-	IA	ID	Mean
F-	0.65	0.76	0.47	0.62
FF	0.65	0.59	0.42	0.55
Mean	0.65	0.67	0.45	0.59

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GRAIN TONNES/HECTARE

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

SOW DATE	SEED TRT	SOIL INS	AUT SPRY
0.081	0.081	0.081	0.081
SUM FUNG	SUM INS	SOW DATE	SOW DATE
0.081	0.099	SEED TRT	SOIL INS
		0.115	0.115
SEED TRT	SOW DATE	SEED TRT	SOIL INS
SOIL INS	AUT SPRY	AUT SPRY	AUT SPRY
0.115	0.115	0.115	0.115
SOW DATE	SEED TRT	SOIL INS	AUT SPRY
SUM FUNG	SUM FUNG	SUM FUNG	SUM FUNG
0.115	0.115	0.115	0.115
SOW DATE	SEED TRT	SOIL INS	AUT SPRY
SUM INS	SUM INS	SUM INS	SUM INS
0.141	0.141	0.141	0.141
SUM FUNG			
SUM INS			
0.141			

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	20	0.281	47.7
GRAIN MEAN DM%	80.5		
PLOT AREA HARVESTED	0.00216		