

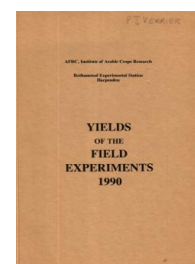
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Lupins

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90/R/LP/1

WINTER LUPINS

VARIETIES AND GROWTH REGULATORS

Object: To study the effects of two growth regulators on the growth, maturity and yield of two winter lupin varieties - Long Hoos VI/VII 5.

Sponsors: J. McEwen, J.M. Day, D.P. Yeoman.

Design: 2 randomised blocks of 16 plots.

Whole plot dimensions: 1.8 x 9.0.

Treatments: All combinations of:-

Whole plots

1. **VARIETY** Varieties:

C 8	C 8
LUCKY	Lucky

2. **GROW REG** Growth regulators:

2 CHLORO	2-chloroethylphosphonic acid
TRIAPENT	Triapenthanol

3. **G R RATE** Rates of growth regulator (g):

	2 CHLORO	TRIAPENT
1	100	150
3	300	450
6	600	900

plus two extra treatments:

EXTRA

C 8 0	C8 without growth regulator
LUCKY 0	Lucky without growth regulator

NOTES: (1) Each block contained two additional EXTRA plots for ancillary studies.

(2) Plots were netted from October to April.

(3) Growth regulators were applied in 300 l on 17 May, 1990.

Basal applications: Manures: (0:18:36) at 1.1 t. Weedkillers:

Terbuthylazine at 0.42 kg and terbutryn at 0.98 kg in 200 l.

Fluazifop-P-butyl at 0.19 kg applied with a wetting agent, 'Vassgrow', in 220 l. Insecticides: Deltamethrin at 7.5 g in 200 l. Dimethoate at 0.34 kg in 400 l. Irrigation: 25 mm. Previous crops: Lupins 1988, s. barley 1989.

Seed: Sown at 60 seeds per square metre.

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Cultivations, etc.:- PK applied: 22 Aug, 1989. Ploughed: 29 Aug.

Rotary cultivated: 13 Sept. Spiked rotary cultivated and harrowed:

14 Sept. Seed sown, chain harrowed and rolled: 15 Sept.

Terbuthylazine and terbutryn applied: 19 Sept. Irrigation applied:

25 Sept. Fluazifop-P-butyl with wetting agent applied: 8 Dec. Hand

weeded: 27 Mar, 1990 - 6 Apr. Deltamethrin applied: 25 Apr.

Dimethoate applied: 17 May. Combine harvested: 11 Sept.

NOTE: Plants were counted at establishment and in spring. Plant heights were measured and flowering dates were recorded. Components of yield were measured at maturity.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

GROW REG	2 CHLORO	TRIAPENT	Mean	
VARIETY				
C 8	4.03	4.59	4.31	
LUCKY	0.45	1.38	0.91	
Mean	2.24	2.98	2.61	
G R RATE	1	3	6	Mean
VARIETY				
C 8	4.30	4.33	4.29	4.31
LUCKY	0.26	0.98	1.50	0.91
Mean	2.28	2.66	2.90	2.61
G R RATE	1	3	6	Mean
GROW REG				
2 CHLORO	2.15	2.20	2.37	2.24
TRIAPENT	2.41	3.11	3.43	2.98
Mean	2.28	2.66	2.90	2.61
	G R RATE	1	3	6
VARIETY	GROW REG			
C 8	2 CHLORO	4.29	3.96	3.83
	TRIAPENT	4.30	4.71	4.76
LUCKY	2 CHLORO	0.00	0.44	0.91
	TRIAPENT	0.51	1.52	2.09
EXTRA	C 8 0	LUCKY 0	Mean	
	4.20	0.87	2.54	

GRAND MEAN 2.59

GRAIN MEAN DM% 66.9

PLOT AREA HARVESTED 0.00130

90/R/LP/2

WINTER LUPINS

VERNALIZATION STUDY

Object: To study the effects of vernalizing imbibed seed of the lupin variety C 8 on flowering date, maturity and yield when sown in autumn - Long Hoos VI/VII 4.

Sponsors: J.E. Leach, D.P. Yeoman, G.F.J. Milford.

Design: 4 randomised blocks of 2 plots.

Whole plot dimensions: 3.6 x 4.6.

Treatments:

SEED TRT Seed treatment:

NONE None

VERNALIZ Imbibed seed vernalized at 1 C for six weeks before sowing

NOTE: Plots were netted against birds and mammals from Oct 1989 to Aug 1990.

Basal applications: Manure: Muriate of potash at 520 kg. Weedkillers: Terbutylazine at 0.42 kg and terbutryn at 0.98 kg in 220 l. Molluscicide: Methiocarb at 0.22 kg. Insecticides: Dimethoate at 0.34 kg in 380 l. Deltamethrin at 7.5 g in 220 l. Irrigation: 12 mm on each of five occasions and 25 mm on the second occasion.

Seed: C 8, sown at 25 seeds per square metre.

Cultivations, etc.:- K applied: 21 Aug, 1989. Ploughed: 29 Aug. Rotary cultivated: 13 Sept. Rolled, rotary cultivated: 4 Oct. Seed sown: 5 Oct. Weedkillers and molluscicide applied: 6 Oct. Irrigation applied: 6 Oct, 4, 10, 18, 24 and 31 May, 1990. Hand weeded: 17 Apr, 2 May and 15 June. Dimethoate applied: 17 May. Deltamethrin applied: 14 June. Hand harvested: 2 Oct. Previous crops: Potatoes 1988, s. barley 1989.

NOTE: Plants were counted after emergence and at harvest. Leaf numbers were assessed fortnightly from December to April. Assessments were made of flower composition, pod-bearing branches and pod numbers.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SEED TRT	NONE	VERNALIZ	Mean
	1.70	1.69	1.69

GRAIN MEAN DM% *

PLOT AREA HARVESTED (MEAN) 0.00068

90/R/LP/3

SPRING LUPINS

VERNALIZATION STUDY

Object: To study the effects of vernalizing imbibed seed of the lupin varieties C 8 and Vladimir on flowering date, maturity and yield when sown in spring - Long Hoos VI/VII 4.

Sponsors: J.E. Leach, D.P. Yeoman, G.F.J. Milford.

Design: 4 randomised blocks of 4 plots.

Whole plot dimensions: 3.6 x 4.6.

Treatments: All combinations of:-

1. **VARIETY** Varieties:

C 8
VLADIMIR

2. **SEED TRT** Seed treatment:

NONE None
VERNALIZ Imbibed seed vernalized at 1 C for six weeks before sowing

NOTE: Plots were netted against birds and mammals from late April to late August.

Basal applications: Manure: Muriate of potash at 520 kg. Weedkillers: Terbutylazine at 0.42 kg and terbutryn at 0.98 kg in 220 l. Molluscicide: Methiocarb at 0.18 kg. Insecticides: Dimethoate at 0.34 kg in 380 l. Deltamethrin at 7.5 g in 220 l. Irrigation: 25 mm on the first and last occasion, 12 mm on the second, third, fourth and fifth occasions and 19 mm on the sixth occasion, (total 120 mm).

Seed: Sown at 25 seeds per square metre.

Cultivations, etc.:- K applied: 21 Aug, 1989. Ploughed: 29 Aug. Rotary cultivated: 16 Mar, 1990 and 19 Mar. Seed sown: 20 Mar. Rolled: 23 Mar. Weedkillers and molluscicide applied: 26 Mar. Irrigation applied: 4, 10, 18, 24 May, 27 June, 16 and 26 July. Dimethoate applied: 17 May. Deltamethrin applied: 14 June. Hand harvested, Vladimir: 28 Aug, C 8: 24 Oct. Previous crops: Potatoes 1988, s. barley 1989.

NOTES: (1) Plants were counted after emergence and at harvest. Leaf numbers were assessed fortnightly from May to June. Assessments were made of flower composition, pod bearing branches, pod and seed numbers.
(2) VLADIMIR plots produced very low yields and standard errors are not presented.

90/R/LP/3

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SEED TRT VARIETY	NONE	VERNALIZ	Mean
C 8	0.99	1.30	1.15
VLADIMIR	0.16	0.04	0.10
Mean	0.58	0.67	0.62

GRAIN MEAN DM% *

PLOT AREA HARVESTED (MEAN) 0.00117