ROTHAMSTED RESEARCH

Yields of the Field Experiments 1975

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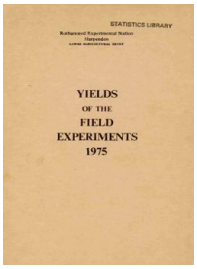

75/ R/LP/1 - Inoculation, N & Pathogen Control - Lupins

Rothamsted Research

Rothamsted Research (1976) *75/ R/LP/1 - Inoculation, N & Pathogen Control - Lupins ;* Yields Of The Field Experiments 1975, pp 379 - 385 **- DOI: https://doi.org/10.23637/ERADOC-1-141**

75/R/LP/1

LUPINS

INOCULATION, N AND PATHOGEN CONTROL

Object: To study the effects of Rhizobium inoculation, nitrogen fertiliser and a range of pesticides on growth, yield and control of pathogens of two varieties of grain lupins - Long Hoos V 2.

Sponsors: P.J. Dart, A.J. Cockbain, J.C. Wilson.

Design: Single replicate of 4 plots split into 16.

Whole plot dimensions: 8.99 x 24.7.

Treatments: All combinations of:-

Whole plots:	1. Varieties:	VARIETY
	Lupinus angustifolius sown at 70 kg	ANGUSTIF
	Lupinus albus, var.Kievsky sown at 160 kg	ALBUS K
	2. Rhizobium inoculation:	RHIZOB
	None	NONE
	Inoculated	INOC
Sub plots:	3. Nitrogen fertiliser to seedbed (kg N):	N
	Nitrogen	0
	150 on 28 Apr	150
	4. Nematicide to seedbed:	NEMACIDE
	None	NONE
	Aldicarb at 10 kg on 29 May	ALDICARB
	5. Insecticide, foliar spray:	INSCTCDE
	None	NONE
	Menazon at 0.28 kg in 340 l on 30 June	MENAZON
	6. Fungicide, foliar spray:	FUNGCIDE
	None	NONE
	Benomyl at 1.12 kg in 340 l on 17 July	BENOMYL

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Basal applications: Manures: (0:14:28) at 820 kg. Weedkiller: Trifluralin ('Treflan' at 2.3 l in 340 l).

Cultivations, etc.:- Ploughed: 5 Feb, 1975. Spring-tine cultivated: 16 Apr. PK applied: 28 Apr. Power harrowed and seed sown: 29 Apr. Weedkiller applied: 30 Apr. Combine harvested: 18 Sept. Previous crops: Potatoes 1973, barley 1974.

NOTES: (1) Assessments of weevil damage were made on 12 June, of virus infection on 2 July and of aphid infestations at 10-16 day intervals from 12 June to 26 Aug.
(2) Plant emergence counts were made on 25 June.

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*** TABLES OF MEANS ***

INSCTCDE N	NONE	DEMETON	MEAN
0	1.28	1.29	1.28
150	1.36	1.42	1.39
MEAN	1.32	1.36	1.34

INSCTCDE NEMACIDE	NONE	DEMETON	MEAN
NONE	1.25	1.25	1.25
ALDICARB	1.38	1.46	1.42
MEAN	1.32	1.36	1.34

FUNGCIDE VARIETY	NONE	BENOMYL	MEAN
ANGUSTIF	0.80	0.99	0.90
ALBUSK	1.79	1.76	1.77
MEAN	1.29	1.38	1.34

FUNGCIDE RHIZOB	NONE	BENOMYL	MEAN
NONE	1.24	1.25	1.24
INOC	1.35	1.50	1.43
MEAN	1.29	1.38	1.34

FUNGCIDE N	NONE	BENOMYL	MEAN
0	1.21	1.36	1.28
150	1.38	1.39	1.39
MEAN	1.29	1.38	1.34

FUNGCIDE NEMACIDE	NONE	BENOMYL	MEAN
NONE	1.24	1.26	1.25
ALDICARB	1.35	1.50	1.42
MEAN	1.29	1.38	1.34

FUNGCIDE INSCTCDE	NONE	BENOMYL	MEAN
NONE	1.27	1.37	1.32
DEMETON	1.32	1.39	1.36
MEAN	1.29	1.38	1.34

RHIZOB	NONE		INOC	
N	0	150	0	150
VARIETY				
ANGUSTIF	0.77	0.96	0.95	0.91
ALBUSK	1.47	1.78	1.95	1.90

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RHIZOB VARIETY	NONE	INOC	MEAN
ANGUSTIF	0.86	0.93	0.90
ALBUSK	1.62	1.92	1.77
MEAN	1.24	1.43	1.34

N VARIETY	0	150	MEAN
ANGUSTIF	0.86	0.93	0.90
ALBUSK	1.71	1.84	1.77
MEAN	1.28	1.39	1.34

N RHIZOB	0	150	MEAN
NONE	1.12	1.37	1.24
INOC	1.45	1.40	1.43
MEAN	1.28	1.39	1.34

NEMACIDE VARIETY	NONE	ALDICARB	MEAN
ANGUSTIF	0.83	0.96	0.90
ALBUSK	1.66	1.88	1.77
MEAN	1.25	1.42	1.34

NEMACIDE RHIZOB	NONE	ALDICARB	MEAN
NONE	1.17	1.32	1.24
INOC	1.32	1.53	1.43
MEAN	1.25	1.42	1.34

NEMACIDE N	NONE	ALDICARB	MEAN
0	1.19	1.37	1.28
150	1.30	1.47	1.39
MEAN	1.25	1.42	1.34

INSCTCDE VARIETY	NONE	DEMETON	MEAN
ANGUSTIF	0.87	0.92	0.90
ALBUSK	1.76	1.79	1.77
MEAN	1.32	1.36	1.34

INSCTCDE RHIZOB	NONE	DEMETON	MEAN
NONE	1.28	1.21	1.24
INOC	1.36	1.50	1.43
MEAN	1.32	1.36	1.34

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RHIZOB	NONE		INOC	
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
VARIETY				
ANGUSTIF	0.82	0.91	0.85	1.01
ALBUSK	1.53	1.72	1.80	2.05

N	0		150	
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
VARIETY				
ANGUSTIF	0.78	0.94	0.88	0.98
ALBUSK	1.61	1.81	1.72	1.96

N	0		150	
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
RHIZOB				
NONE	1.05	1.19	1.30	1.44
INOC	1.34	1.56	1.31	1.50

RHIZOB	NONE		INOC	
INSCTCDE	NONE	DEMETON	NONE	DEMETON
VARIETY				
ANGUSTIF	0.87	0.86	0.88	0.98
ALBUSK	1.68	1.57	1.84	2.01

N	0		150	
INSCTCDE	NONE	DEMETON	NONE	DEMETON
VARIETY				
ANGUSTIF	0.83	0.89	0.91	0.95
ALBUSK	1.72	1.70	1.80	1.88

N	0		150	
INSCTCDE	NONE	DEMETON	NONE	DEMETON
RHIZOB				
NONE	1.16	1.08	1.39	1.34
INOC	1.40	1.50	1.32	1.49

NEMACIDE	NONE		ALDICARB	
INSCTCDE	NONE	DEMETON	NONE	DEMETON
VARIETY				
ANGUSTIF	0.82	0.85	0.92	1.00
ALBUSK	1.68	1.65	1.84	1.93

NEMACIDE	NONE		ALDICARB	
INSCTCDE	NONE	DEMETON	NONE	DEMETON
RHIZOB				
NONE	1.21	1.14	1.34	1.29
INOC	1.29	1.36	1.42	1.63

NEMACIDE	NONE		ALDICARB	
INSCTCDE	NONE	DEMETON	NONE	DEMETON
N				
0	1.21	1.18	1.34	1.41
150	1.28	1.32	1.43	1.52

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RHIZOB	NONE		INOC	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
VARIETY				
ANGUSTIF	0.75	0.93	0.85	1.01
ALBUSK	1.73	1.52	1.85	2.00

N	0		150	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
VARIETY				
ANGUSTIF	0.76	0.97	0.85	1.02
ALBUSK	1.66	1.76	1.92	1.76

N	0		150	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
RHIZOB				
NONE	1.06	1.19	1.42	1.32
INOC	1.35	1.54	1.35	1.46

NEMACIDE	NONE		ALDICARB	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
VARIETY				
ANGUSTIF	0.73	0.94	0.87	1.05
ALBUSK	1.75	1.57	1.82	1.95

NEMACIDE	NONE		ALDICARB	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
RHIZOB				
NONE	1.19	1.15	1.28	1.35
INOC	1.29	1.36	1.41	1.64

NEMACIDE	NONE		ALDICARB	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
N				
0	1.16	1.23	1.26	1.49
150	1.32	1.28	1.44	1.50

INSCTCDE	NONE		DEMETON	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
VARIETY				
ANGUSTIF	0.73	1.01	0.87	0.97
ALBUSK	1.80	1.72	1.78	1.80

INSCTCDE	NONE		DEMETON	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
RHIZOB				
NONE	1.26	1.29	1.21	1.22
INOC	1.27	1.45	1.43	1.56

INSCTCDE	NONE		DEMETON	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
N				
0	1.20	1.35	1.21	1.37
150	1.33	1.38	1.44	1.40

INSCTCDE	NONE		DEMETON	
FUNGCIDE	NONE	BENOMYL	NONE	BENOMYL
NEMACIDE				
NONE	1.24	1.26	1.24	1.26
ALDICARB	1.29	1.48	1.41	1.52

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TABLE	N	NEMACIDE	INSCTCDE	FUNGCIDE	VARIETY* N
SED	0.040	0.040	0.040	0.040	0.056

TABLE	RHIZOB* N	VARIETY* NEMACIDE	RHIZOB* NEMACIDE	N NEMACIDE	VARIETY* INSCTCDE
SED	0.056	0.056	0.056	0.056	0.056

TABLE	RHIZOB* INSCTCDE	N INSCTCDE	NEMACIDE INSCTCDE	VARIETY* FUNGCIDE	RHIZOB* FUNGCIDE
SED	0.056	0.056	0.056	0.056	0.056

TABLE	N FUNGCIDE	NEMACIDE FUNGCIDE	INSCTCDE FUNGCIDE	VARIETY* RHIZOB N	VARIETY* RHIZOB NEMACIDE
SED	0.056	0.056	0.056	0.079	0.079

TABLE	VARIETY* N NEMACIDE	RHIZOB* N NEMACIDE	VARIETY* RHIZOB INSCTCDE	VARIETY* N INSCTCDE	RHIZOB* N INSCTCDE
SED	0.079	0.079	0.079	0.079	0.079

TABLE	VARIETY* NEMACIDE INSCTCDE	RHIZOB* NEMACIDE INSCTCDE	N NEMACIDE INSCTCDE	VARIETY* RHIZOB FUNGCIDE	VARIETY* N FUNGCIDE
SED	0.079	0.079	0.079	0.079	0.079

TABLE	RHIZOB* N FUNGCIDE	VARIETY* NEMACIDE FUNGCIDE	RHIZOB* NEMACIDE FUNGCIDE	N NEMACIDE FUNGCIDE	VARIETY* INSCTCDE FUNGCIDE
SED	0.079	0.079	0.079	0.079	0.079

TABLE	RHIZOB* INSCTCDE FUNGCIDE	N INSCTCDE FUNGCIDE	NEMACIDE INSCTCDE FUNGCIDE
SED	0.079	0.079	0.079

* WITHIN SAME LEVEL OF VARIETY OR RHIZOB OR VARIETY.RHIZOB (WHICHEVER IS APPLICABLE) ONLY

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
WP.SP	22	0.158	11.8

GRAIN MEAN DM% 83.3

SUB PLOT AREA HARVESTED 0.00052

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