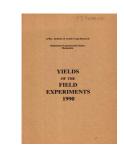
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Yields of the Field Experiments 1990



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90/W/NB/1 Seedbed and Late N - Navy Beans

Rothamsted Research

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90/W/NB/1

NAVY BEANS

SEEDBED AND LATE N

Object: To study the effects of seedbed and late nitrogen fertilizer on the growth and yield of navy beans inoculated with Rhizobium -Woburn, Great Hill Bottom I.

Sponsors: J.M. Day, M.L. Lovell.

Design: 3 randomised blocks of 18 plots.

Whole plot dimensions: 1.5×6.0 .

Treatments: All combinations of:-

1. SD BED N Nitrogen fertilizer (kg N) as 'Nitro-Chalk' (27% N), applied to seedbed:

20

40

60

2. APP METH Methods of applying seedbed nitrogen fertilizer:

BCAST Broadcast by hand after drilling
COM DRLL Combine drilled with seed

3. FLOWR N Nitrogen fertilizer (kg N) as 'Nitro-Chalk', applied at flowering on 28 June, 1990:

0 120

plus four extra treatments :

EXTRA

0 0 0	No nitrogen fertilizer (duplicated)
0 0 120F	120 kg N at flowering (duplicated)
120S 0 0	120 kg N broadcast to seedbed
120S 120F	120 kg broadcast to seedbed, repeated at flowering

Basal applications: Manures: (0:24:24) at 200 kg. Weedkillers: Paraquat at 0.80 kg ion in 220 l. Trifluralin at 0.84 kg in 220 l. Monolinuron at 0.56 kg in 220 l. Fungicide: Benomyl at 0.55 kg in 220 l. Irrigation: 24 mm (12 mm applied on two occasions).

Seed: Albion, sown at 40 seeds per square metre.

Cultivations, etc.:- Ploughed: 22 Nov, 1989. Paraquat applied: 3 May,
1990. PK applied: 18 May. Spring-tine cultivated: 21 May.
Trifluralin applied and cultivated: 22 May. Seed sown and seedbed N
treatments applied: 24 May. Monolinuron applied: 31 May. Irrigation
applied: 1 and 20 June. Remaining N treatments applied: 28 June.
Fungicide applied 22 Aug. Hand harvested and threshed by stationary
combine harvester: 27 Oct. Previous crops: S. wheat 1988, s. barley 1989.

90/W/NB/1

NOTE: Times of flowering were noted:

GRAIN (AT 85% DRY MATTER) TONNES/HECTARE

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

APP METH	BCAST	COM DRLL	Mean
SD BED N			
20	2.19	2.30	2.25
40	1.99	1.99	1.99
60	2.16	2.02	2.09
Mean	2.11	2.10	2.11
FLOWR N	0	120	Mean
SD BED N			
20	2.17	2.33	2.25
40	2.19	1.78	1.99
60	2.21	1.97	2.09
Mean	2.19	2.03	2.11
FLOWR N	0	120	Mean
APP METH			
BCAST	2.13	2.09	2.11
COM DRLL	2.25	1.96	2.10
Mean	2.19	2.03	2.11

APP METH	BCAST	COM DRLL		
SD BED N FLOWR N	0	120	0	120
20	1.97	2.41	2.36	2.24
40	2.17	1.81	2.22	1.76
60	2.26	2.06	2.17	1.88

EXTRA 0 0 0 0 0 120F 120S 0 0 120S 120F Mean 2.29 2.11 2.32 2.39 2.25

GRAND MEAN 2.16

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

	SD BED N	FLOWR N	APP METH	SD BED N
	APP METH			
	0.245	0.141	0.141	0.173
				an nnn
	EXTRA	SD BED N	APP METH	SD BED N
		APP METH	FLOWR N	FLOWR N
		FLOWR N		
min.rep	0.347	0.347	0.200	0.245
max-min	0.300			
max.rep	0.245			

EXTRA

min.rep 120S 0 0 v 120S 120F

max-min 0 0 0 or 0 0 120F v 120S 0 0 or 120S 120F

max.rep 0 0 0 v 0 0 120F

GRAIN MEAN DM% * PLOT AREA HARVESTED 0.00045