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71/S/B/1 Varieties, N Rates and Times of Application - Barley

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71/s/B/1

BARLEY

VARIETIES, N RATES AND TIMES OF APPLICATION

Object: To study the effects of a range of nitrogen levels applied to the seedbed or in May, on the yield of two barley varieties. The effects of dressing seed with phenylphosphonic acid are also studied - Saxmundham Grove Plot.

Design: Two randomised blocks of 6 plots split into 4.

Whole plot dimensions: 2.74 x 12.2. Sub plot area harvested: 0.00052.

Treatments:-

Whole plots: All combinations of:-

1. Varieties: Midas (M), Sultan (S).
2. N levels: 50, 100, 150 kg N as calcium nitrate.

Sub plots: All combinations of:-

3. Times of applying N: To seedbed (E), top-dressed in May (L), (across whole plots).
4. Seed dressing: None (O), phenylphosphonic acid (0.2 % a.i.) sprayed over the seed as a seed dressing (D) (along whole plots).

Basal applications: 314 kg (0:20:20) broadcast. Weedkiller: Dichlorprop plus MCPA ('Mephetol Plus' at 5.61 l in 562 l). Fungicide: Tridemorph at 0.53 kg in 562 l.

Cultivations, etc.: Ploughed: 28 Oct, 1970. Seed drilled at 188 kg, seedbed N and basal PK applied: 31 Mar, 1971. Weedkiller applied: 18 May. Late N applied: 19 May. Fungicide applied: 17 June. Harvested by sickle: 11 Aug. Previous crops: Barley 1969, sugar beet 1970.

Standard errors per plot.

Grain, tonnes/hectare: Whole plot: 0.164 or 6.4% (5 d.f.)

Sub plot (T): 0.410 or 16.3% (6 d.f.)

(S): 0.231 or 9.2% (6 d.f.)

(TS): 0.289 or 11.5% (6 d.f.)

Pooled used for calculation of standard error in the summary:

0.320 or 12.7% (23 d.f.)

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SUMMARY OF RESULTS

GRAIN: TONNES/HECTARE

	N: KG/HA			E	L	O	D	Mean
	50	100	150					
	(±0.113)			(±0.092)		(±0.092)		(±0.065)
M	2.47	2.50	2.37	2.62	2.28	2.32	2.58	2.45
S	2.64	2.68	2.45	2.70	2.48	2.52	2.66	2.59
	N: KG/HA			(±0.113)		(±0.113)		(±0.080)
			50	2.65	2.45	2.44	2.66	2.55
			100	2.79	2.39	2.44	2.74	2.59
			150	2.53	2.29	2.37	2.46	2.41
						(±0.092)		(±0.065)
					E	2.50	2.82	2.66
					L	2.33	2.43	2.38
Mean (±0.047)						2.42	2.62	2.52

Mean D.M. %: 76.4

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STRAW: TONNES/HECTARE

	N: KG/HA			E	L	O	D	Mean
	50	100	150					
M	3.88	4.56	4.54	4.55	4.11	4.22	4.43	4.33
S	3.52	3.92	4.23	3.96	3.82	3.69	4.09	3.89
N: KG/HA								
		50		3.85	3.55	3.70	3.71	3.70
		100		4.55	3.93	4.09	4.39	4.24
		150		4.36	4.41	4.09	4.69	4.39
					E	4.09	4.42	4.25
					L	3.83	4.10	3.96
Mean						3.96	4.26	4.11

Mean D.M. %: 69.9