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71/R/B/7 Seed Rates, Row Spacing and Ethirimol - Barley

Rothamsted Research

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71/R/B/7

BARLEY

SEED RATES, ROW SPACING AND ETHIRIMOL

Object: To study the effects on yield and mildew incidence (*Erysiphe graminis*) of growing barley at small seed rates and close row spacing - Pastures.

Design: 4 randomised blocks of 12 plots.

Whole plot dimensions: 4.27 x 9.14. Area harvested: R1 - 0.00260, R2 - 0.00279.

Treatments: All combinations of:-

1. Seed rate: 39 (S1), 78.5 (S2), 157 (S4) kg.
2. Row spacing: 10.2 cm (4 inches) between rows (R1), 20.3 cm (8 inches) between rows (R2).
3. Seed dressing: Organo-mercury (O), organo-mercury, plus ethirimol at 1.8 kg (F).

The two smaller seed rates were made up to 157 kg by the addition of seed which had been killed by heat in an oven.

Basal applications: 377 kg (20:10:10) broadcast. Weedkiller: Ioxynil at 0.53 kg plus mecoprop at 157 kg in 225 l.

Cultivations, etc.: Ploughed: 5 Nov, 1970. Basal NPK applied: 24 Feb, 1971. Seed drilled: 13 Mar. Weedkiller applied: 2 May. Combine harvested: 18 Aug. Variety: Zephyr. Previous crops: Barley 1969, spring beans 1970.

NOTE: Samples were taken for assessment of mildew (*Erysiphe graminis*) and brown rust (*Puccinia hordei*). Tiller counts were made and ear samples taken for estimation of number of grains per ear.

Standard error per plot.

Grain, tonnes/hectare: 0.344 or 7.4% (33 d.f.)

71/R/B/7

SUMMARY OF RESULTS

GRAIN: TONNES/HECTARE

	R1		R2	O		F	Mean
	(±0.121)			(±0.121)			(±0.086)
S1	3.88		3.90	3.69		4.08	3.89
S2	4.92		4.73	4.37		5.28	4.83
S4	5.27		5.31	4.87		5.70	5.29
				(±0.099)			(±0.070)
			R1	4.37		5.01	4.69
			R2	4.26		5.04	4.65
			Mean (±0.070)	4.31		5.02	4.67
	S1		S2		S4		
	O	F	O	F	O	F	
	(±0.172)						
R1	3.74	4.02	4.51	5.34	4.87		5.66
R2	3.65	4.14	4.24	5.23	4.87		5.75

Mean D.M. %: 85.6