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71/R/WW/3 Gaines, Seed Rates, N and Ccc - W. Wheat

Rothamsted Research

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71/R/WW/3

WINTER WHEAT

GAINES, SEED RATES, N AND CCC

Object: To study the effects of CCC (chlormequat) and a range of nitrogen levels on the semi-dwarf variety Gaines grown at two seed rates - Great Knott II.

Design: 2 randomised blocks of 9 plots split into 3.

Whole plot dimensions: 2.16 x 21.9. Sub plot area harvested: 0.00087.

Treatments:

Whole plots: All combinations of:-

1. Varieties and seed rates: Cappelle at 188 kg (CH), Gaines at 126 kg (GL), Gaines at 188 kg (GH).

2. Chlormequat: None, 1.12 kg, 2.24 kg in 337 l.

Sub plots:

3. Nitrogen: 75 kg, 150 kg, 300 kg N as 'Nitro-Chalk'.

Basal applications: 314 kg (0:20:20). Weedkiller: 2,4-D at 0.56 kg plus dichlorprop at 2.24 kg in 337 l.

Cultivations, etc.: Deep-tine cultivated twice: 6 Oct, 1970. Seed drilled, basal PK applied: 14 Oct. N applied: 16 Apr, 1971. Weedkiller applied: 19 Apr. Chlormequat applied: 22 Apr. Combine harvested: 28 Aug. Previous crops: Fallow 1969, potatoes 1970.

NOTE: Shoot heights were measured and plant numbers counted. Samples were taken just before harvest for total dry matter and components of yield.

Standard error per plot.

Grain, tonnes/hectare: Whole plot: 0.093 or 1.4% (8 d.f.)
Sub plot: 0.401 or 6.2% (18 d.f.)

71/R/WW/3

SUMMARY OF RESULTS

GRAIN: TONNES/HECTARE

	CHLORMEQUAT: KG/HA			N: KG/HA			Mean
	0	1.12	2.24	75	150	300	
	(±0.065)			(1) and (2)			(±0.038)
CH	7.26	7.50	7.62	7.85	7.74	6.79	7.46
GL	5.74	5.87	5.75	6.23	5.84	5.29	5.78
GE	6.10	6.13	5.99	6.69	6.29	5.23	6.07
	CHLORMEQUAT: KG/HA			(1) and (2)			(±0.038)
	0			7.04	6.44	5.61	6.37
	1.12			6.85	6.85	5.79	6.50
	2.24			6.88	6.58	5.90	6.45
Mean (±0.095)				6.92	6.62	5.77	6.44

Mean D.M. %: 83.9

(1) (±0.139) For use in vertical and diagonal comparisons only

(2) (±0.164) For use in horizontal and interaction comparisons only