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73/R/WW/3 - Weedkiller, Aqueous N and Fungicide - Winter Wheat

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73/R/WW/3

WINTER WHEAT

WEEDKILLER, AQUEOUS N AND FUNGICIDE

Object: To study the effects of combined sprays of liquid nitrogen fertiliser, hormone weedkiller and fungicide on foliar scorch and yield of winter wheat - Great Knott III.

Sponsors: S.C.R. Freeman, A. Penny.

Design: 4 randomised blocks of 20 plots.

Whole plot dimensions: 2.13 x 2.74. Area harvested: 0.00038.

Treatments: All combinations of:-

1. Form of nitrogen		FORM
Solid, as 'Nitro-Chalk' 21% N		Solid
Liquid, as urea/ammonium nitrate 26% N		Liquid
2. Rate of nitrogen (kg N)		N
56		56
112		112
3. Weedkiller (dichlorprop/MCPA, kg total a.e.)		WEEDKILLR
None		0.0
2.8		2.8
4. Fungicide (tridemorph, kg)		FUNGICIDE
None		0.00
0.53		0.53

together with EXTRA-certain of the above combinations, all with a wetter ('Nonidet' at 1 part in 1600):-

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1. Liquid nitrogen rate (kg N)	LIQUIDNW
56	56
112	112
2. Weedkiller (dichlorprop/MCPA, kg total a.e.)	WEEDKLLR
None	0.0
2.8	2.8

NOTE: Combinations with liquid nitrogen at 56 kg N were all applied in 170 l. All other combinations were applied in 340 l except tridemorph applied alone, in 170 l.

Basal applications: Manures: (0:20:20) at 1300 kg plus magnesium sulphate at 900 kg worked into seedbed. (10:24:24) at 250 kg combine drilled.

Seed: Cappelle, sown at 200 kg.

Cultivations, etc.: - PK and Mg applied: 13 Oct, 1972. Deep-tine cultivated: 16 Oct. Rotary harrowed: 17 Oct. Seed sown: 19 Oct. Treatments applied: 1 May, 1973. Cut by hand: 20 Aug. Previous crops: Barley 1971, beans 1972.

NOTE: Grain samples were taken for determination of N content. Estimates were made of infection by mildew (*Erysiphe graminis*) and *Septoria nodorum* on 10 July.

Standard error per plot.

Grain, tonnes/hectare: 0.670 or 13.2% (57 d.f.)

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

	N		WEEDKLLR		FUNGicide		Mean
	56	112	0.0	2.8	0.00	0.53	
FORM							
Solid	5.56	4.32	5.11	4.78	4.99	4.90	4.94
Liquid	5.52	4.94	5.20	5.26	5.05	5.41	5.23
		N					
		56	5.50	5.58	5.51	5.58	5.54
		112	4.81	4.45	4.53	4.73	4.63
				WEEDKLLR			
				0.0	4.97	5.34	5.15
				2.8	5.07	4.97	5.02
Mean					5.02	5.16	5.09

EXTRA

WEEDKLLR

	0.0	2.8	Mean
LIQUIDW			
56	5.64	5.78	5.71
112	4.49	4.39	4.44
Mean	5.07	5.08	5.08

Grand mean 5.08

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STANDARD ERRORS OF DIFFERENCES

Excluding EXTRA

All marginal means	0.167
All 2-way tables	0.237

EXTRA

All marginal means	0.335
2-way table	0.474

Mean D.M. % 84.8