ROTHAMSTED RESEARCH

Numerical Results of the Field Experiments 1970

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70/R/WW/12 Winter Wheat Weedkiller and Aqueous Nitrogen

Rothamsted Research

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WINTER WHEAT

(70/R/WW/12)

Weedkiller and aqueous nitrogen, Great Knott III 1970.

Design: 4 randomised blocks of 28 plots.

Area of each plot: 0.0007. Area harvested: 0.0005.

Treatments: All combinations of:-

1. Weedkiller (dichlorprop/MCPA): None (H0), 20 (H1), 40 (H2), 60 (H3) oz total a.e.
2. Forms of nitrogen: Solid, as 'Nitro-Chalk' (21% N) applied immediately after the weedkiller (S), liquid as urea/ammonium nitrate (26% N) mixed with the weedkiller (L).
3. Rates of nitrogen: 0.3 (N1), 0.6 (N2), 0.9 (N3) cwt N,

together with 4 additional treatments

SN2 E H0, SN2 E H1, SN2 E H2, SN2 E H3

where 'Nitro-Chalk' was applied early (E) and the H0 plots were hand weeded.

NOTE: The weedkiller was applied in 28 gals where solid fertiliser was used. The liquid fertiliser (with or without weedkiller) was applied as a spray in 11, 22 and 33 gals for rates 1, 2 and 3 respectively.

Basal applications: 280 lb (0:20:20) combine drilled.

Cultivations, etc.: Deep-tine cultivated: 21 Oct, 1969. Seed combine drilled at 180 lb: 24 Oct. N applied to E plots: 27 Apr, 1970. Remaining N treatments and weedkiller applied: 8 May. Hand weed H0 plots: 4 June. Cut by sickle: 25 Aug. Variety: Cappelle. Previous crops: Spring beans 1968, potatoes 1969.

NOTE: Soil samples were taken for pH in May. Scores were made of weedkiller scorch growth and colour of crop and weed control. Weeds were identified on H0 plots and their dry matter determined. Plots were examined in July for bird damage and ear deformities from spraying. The percentage of N in grain and straw was determined.

Standard error per plot.
Grain, cwt: 3.78 or 8.7% (69 d.f.)

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70/R/WW/12

SUMMARY OF RESULTS

GRAIN: CWT

	H0	H1	H2	H3	Mean
		(±1.09)			(±0.55)
S	47.9	44.1	44.9	44.9	45.4
L	44.0	42.5	40.5	39.6	41.6
		(±1.34)			(±0.67)
N1	42.4	40.4	41.3	37.7	40.5
N2	46.7	42.5	42.0	42.7	43.5
N3	48.7	47.0	44.8	46.3	46.7
Mean (±0.77)	46.0	43.3	42.7	42.2	43.5

	N1	N2	N3
		(±0.95)	
S	43.2	45.2	47.9
L	37.7	41.8	45.5

SN2 E H0	48.0	
SN2 E H1	43.7	(±1.89)
SN2 E H2	45.2	
SN2 E H3	42.2	

General mean: 43.7
Mean D.M. %: 81.3

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