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Yields of the Field Experiments 1960

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60/R/CA/7 and 60/W/CA/7 Spring Wheat - Combine Drilling of N

Rothamsted Research

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60/Ca/7.1

SPRING WHEAT

Combine drilling of nitrogen - Rothamsted (R) Little Knott I and Woburn (W) Lansome Field 1960.

Design (each field): 4 randomised blocks of 7 plots each.

Area of each plot: 0.0212 acres. Area harvested: 0.0141 acres.

Treatments:

No nitrogen. 0.41 cwt N per acre (N_1); 0.82* cwt N per acre (N_2) either broadcast as sulphate of ammonia or combine drilled as part of a compound fertiliser.

0.41 cwt N per acre as above plus 0.35 cwt N per acre as 'Nitro-Chalk' top dressing.

Compound fertilisers used:

N_1 : 8% N, 8% P_2O_5 , 8% K_2O .

N_2 : 16% N, 9% P_2O_5 , 9% K_2O .

*Note: 0.88 on Lansome Field, Woburn.

Basal dressing per acre: combine drilled

(a) on the plots receiving drilled nitrogen, as compounds N_1 , N_2 :-

Little Knott I (R): 0.46 cwt P_2O_5 ; 0.46 cwt K_2O .

Lansome Field (W): 0.49 cwt P_2O_5 ; 0.49 cwt K_2O .

(b) on the no nitrogen and broadcast nitrogen plots: as compound 16% P_2O_5 , 16% K_2O :-

Little Knott I (R): 0.46 cwt P_2O_5 ; 0.46 cwt K_2O .

Lansome Field (W): 0.60 cwt P_2O_5 ; 0.60 cwt K_2O .

Note: The rates of application aimed at were N_1 , 0.45; N_2 , 0.8; N top-dressed, 0.35 cwt per acre; basal P_2O_5 and K_2O , 0.45 cwt per acre. The discrepancies were due to machine application.

Cultivations, etc.:

Little Knott I (R): Ploughed: Nov 10, 1959. Ground chalk applied at 23 cwt per acre: Feb 24 - Mar 2, 1960. Seed combine drilled at $2\frac{3}{4}$ bushels per acre, sulphate of ammonia applied: Mar 21. 'Nitro-Chalk' top dressings applied: Apr 22. Sprayed with TCB/MCPA at 4 pints in 40 gallons per acre: May 10. Combine harvested: Sept 13. Variety: Jufy I. Previous crop: Oats.

60/Oa/7.2

Lansome Field (W): Sprayed twice with sodium trichloroacetate at 15 lb in 40 gallons per acre: Nov 17 and Dec 29, 1959. Ground chalk applied at 46 cwt per acre: Feb 16, 1960. Seed combine drilled at $2\frac{3}{4}$ bushels per acre, sulphate of ammonia applied: Mar 22. Sprayed with 2,4-D butoxyethyl ester at $\frac{1}{2}$ pint in 40 gallons per acre: May 7. Combine harvested: Sept 10. Variety: Jufy I. Previous crop: Potatoes.

Note: Plant counts at germination were made.

Standard errors per plot, Grain (at 85% dry matter):

Little Knott (R): 2.06 cwt per acre or 6.5% (18 d.f.)

Lansome Field (W): 1.58 cwt per acre or 8.4% (18 d.f.)

Summary of Results

Grain (at 85% dry matter): cwt per acre

N: cwt per acre

None	Broadcast			Drilled			Mean
	0.41	0.82*	0.41 & 0.35 ⁺	0.41	0.82	0.41 & 0.35 ⁺	

Little Knott I (R)

26.9	31.5	33.3	32.5	31.4	33.1	34.8	31.9
			(±1.03)				

Mean dry matter % as harvested: 83.2

Lansome Field (W)

14.2	17.9	19.9	20.8	19.5	20.7	18.5	18.8
			(±0.79)				

Mean dry matter % as harvested: 80.3

*0.88 at Woburn

⁺Top dressing.