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Yields of the Field Experiments 1977

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77/R/CS/185 Late N - Wheat

Rothamsted Research

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77/R/CS/185

LATE N

Object: To study the residual effects on wheat of a range of fertilisers applied to potatoes in 1976 - Gt. Knott III.

Sponsors: T.M. Addiscott, J. Ashworth, A. Penny, F.V. Widdowson.

The second year, wheat.

For previous year see 76/R/CS/185.

Design: 3 randomised blocks of 18 plots.

Whole plot dimensions: 4.27 x 12.19.

Treatments applied in 1976: All combinations of:-

1. N FORM(76) Forms of nitrogen fertiliser:

AA	Aqueous ammonia injected before planting
AA+NITRA	Aqueous ammonia + nitrapyrin ('N-Serve') at 1.1 kg injected before planting
AA+ATC	Aqueous ammonia + ammonium trithiocarbonate at 18 kg injected before planting
IB SMALL	IBDU (isobutylidene diurea), small granules to seedbed
IB LARGE	IBDU, large granules to seedbed
AN E+L	Ammonium nitrate half in seedbed, half in mid-June
AN E	Ammonium nitrate all in seedbed

2. N RATE(1) Rates of nitrogen fertiliser (kg N):

200
300

plus four extra treatments given ammonium nitrate, all in the seedbed (kg N):

N RATE(2)

AN E 150
AN E 250
AN E 350
AN E 400

Basal applications: Manures: (0:20:20) at 250 kg, combine drilled. 'Nitro-Chalk' at 280 kg. Weedkillers: Ioxynil at 0.53 kg with mecoprop at 1.6 kg in 220 l. Insecticide: Pirimicarb at 0.14 kg in 270 l. Growth regulator: Chlormequat at 1.7 l in 220 l.

Seed: Atou, sown at 200 kg.

Cultivations, etc.: Deep-tine cultivated twice: 10 Dec, 1976. Rotary harrowed and seed sown: 16 Dec. N applied: 19 Apr, 1977. Weedkillers applied: 10 May. Growth regulator applied: 2 June. Insecticide applied: 13 July. Combine harvested: 9 Sept.

NOTE: An adjustment has been made by covariance for differences between rows of plots, which run in the direction of a valley across the site.

77/R/CS/185

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

N RATE(1)	200	300	MEAN
N FORM			
AA	6.26	6.12	6.19
AA+NITRA	6.50	6.78	6.64
AA+ATC	6.06	6.29	6.18
IB SMALL	6.61	7.16	6.88
IB LARGE	6.56	7.12	6.84
AN E+L	6.11	6.57	6.34
AN E	6.06	6.29	6.18
MEAN	6.31	6.62	6.46

N RATE(2)	AN E 150	AN E 250	AN E 350	AN E 400	MEAN
	6.25	6.37	6.31	6.42	6.34

GRAND MEAN 6.44

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	N RATE(2)	N FORM	N RATE(1)	N FORM N RATE(1) & N RATE(2)
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SED	0.361	0.250	0.127	0.348
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***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.390	6.1

GRAIN MEAN DM% 78.7

PLOT AREA HARVESTED 0.00347