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Yields of the Field Experiments 1979

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79/R/CS/223 Late N - Wheat

Rothamsted Research

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79/R/CS/223

LATE N

Object: To study the residual effects on wheat of a range of fertilisers applied to potatoes in 1978 - Long Hoos III.

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

The second year, wheat.

For previous year see 78/R/CS/223.

Design: 3 randomised blocks of 18 plots.

Whole plot dimensions: 9.14 x 4.27.

Treatments: All combinations of:-

1. N FORM(78) Forms of nitrogen fertiliser in 1978:

AA	Aqueous ammonia, injected before planting
AA+NITRA	Aqueous ammonia + nitrapyrin at 1.1 kg, injected before planting
AA+STC	Aqueous ammonia + sodium trithiocarbonate at 22 kg injected before planting
AU	Aqueous urea, injected before planting
AN E	Ammonium nitrate, all to the seedbed
AN E+L	Ammonium nitrate, half to the seedbed, half top-dressed
IBDU	Isobutylidene diurea, medium granules all to the seedbed
2. N RATE(1) Rates of nitrogen fertiliser in 1978 (kg N):

200
300

plus four extra treatments given ammonium nitrate, all to the seedbed in 1978 (kg N):

EXTRA

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

Basal applications: Manures: (0:20:20) at 310 kg, combine drilled. 'Nitro-Chalk' at 370 kg. Weedkillers: Mecoprop at 2.5 kg in 220 l. Growth regulator: Chlormequat at 1.7 kg in 220 l.

Seed: Flanders, sown at 190 kg.

Cultivations, etc.: Heavy spring-tine cultivated twice: 26 Oct, 1978. Seed sown: 27 Oct. N applied: 30 Apr, 1979. Weedkiller applied: 9 May. Growth regulator applied: 1 June. Combine harvested: 29 Aug.

NOTE: Grain samples were taken for N determinations.

79/R/CS/223

GRAIN TONNES/HECTARE

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

N RATE(1)	200	300	MEAN
N FORM			
AA	6.30	6.42	6.36
AA+NITRA	6.51	6.40	6.45
AA+STC	6.40	6.47	6.44
AU	6.41	6.57	6.49
AN E	6.53	6.44	6.49
AN E+L	6.39	6.59	6.49
IBDU	6.71	6.59	6.65
MEAN	6.47	6.50	6.48

EXTRA	AN E 150	AN E 250	AN E 350	AN E 400	MEAN
	6.25	6.52	6.57	6.70	6.51

GRAND MEAN 6.49

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

TABLE	EXTRA	N FORM	N RATE(1)	N FORM N RATE(1) & EXTRA
SED	0.145	0.102	0.055	0.145

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	34	0.177	2.7

GRAIN MEAN DM% 86.4

PLOT AREA HARVESTED 0.00290