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Yields of the Field Experiments 1975

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75/ R/CS/148 - Slow-release N - Wheat

Rothamsted Research

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75/R/CS/148

SLOW-RELEASE N

Object: To compare the residual effects of a slow-release form of nitrogen with a conventional form (both applied to potatoes in 1974 at a range of rates), using winter wheat as the test crop - Pastures.

Sponsors: D. Cox, T.M. Addiscott.

The second year, winter wheat.

For previous year see 74/R/CS/148.

Design: 2 randomised blocks of 18 plots split into 2.

Whole plot dimensions: 4.27 x 16.2.

Treatments: All combinations of:-

Whole plots:	1. Form of nitrogen fertiliser 1974:	N FORM(74)
	'Gold-N', sulphur-coated urea	GOLD N
	'Nitro-Chalk', ammonium nitrate/calcium carbonate	NITRO C
	2. Rates of nitrogen fertiliser 1974 (kg N):	N RATE(74)
	None	0
	50	50
	100	100
	150	150
	200	200
	250	250
	300	300
	350	350
	400	400
Sub-plots:	3. Rates of nitrogen fertiliser 1975 (kg N) applied as 'Nitro-Chalk':	N 75
	None	0
	30	30
	60	60
	90	90

Basal applications: Manures: (0:20:20) at 250 kg, combine drilled.

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Seed: Cappelle, dressed with dieldrin, sown at 200 kg.

Cultivations, etc.: - Chisel ploughed twice: 10 Dec, 1974. Power harrowed,
seed sown: 19 Dec. N applied: 25 Apr, 1975. Combine harvested:
14 Aug. Previous crops: Beans 1973, potatoes 1974.

NOTE: Samples of grain were taken for N determinations.

GRAIN MEAN DM% 87.2

SUB PLOT AREA HARVESTED 0.00217

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GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

N RATE(74)	50	100	150	200	250	300	350	400	MEAN
N FORM(74)									
GOLD N	6.00	6.44	6.25	6.73	7.39	6.95	7.29	7.42	6.81
NITRO C	6.20	6.07	6.43	6.88	6.66	6.46	7.08	7.09	6.61
MEAN	6.10	6.25	6.34	6.80	7.03	6.70	7.19	7.26	6.71

N RATE(74)	0	50	100	150	200	250	300	350	400	MEAN
N 75										
0	4.24	4.86	4.80	5.12	5.73	6.32	5.80	7.25	6.93	5.67
30	5.81	5.61	5.91	6.05	6.78	7.01	6.70	7.10	7.27	6.47
60	6.61	7.03	7.04	7.16	7.32	7.08	7.18	7.38	7.51	7.15
90	7.33	6.90	7.27	7.03	7.38	7.69	7.13	7.01	7.31	7.23
MEAN	6.00	6.10	6.25	6.34	6.80	7.03	6.70	7.19	7.26	6.63

N 75	0	30	60	90	MEAN
N FORM(74)					
NONE	4.24	5.81	6.61	7.33	6.00
GOLD N	6.08	6.62	7.31	7.23	6.81
NITRO C	5.62	6.49	7.11	7.20	6.61
MEAN	5.67	6.47	7.15	7.23	6.63

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

TABLE	N 75	N FORM(74)	N RATE(74)	N FORM(74) N RATE(74)	N FORM(74) N 75	N RATE(74) N 75
SED	0.092	0.094(1) 0.060(2)	0.119	0.146	0.217(1) 0.137(2) 0.275(3)	0.275
EXCEPT WHEN COMPARING MEANS WITH LEVELS 0 & 60 OR 30 & 90 OF N 75						
0.102						
EXCEPT WHEN COMPARING MEANS WITH SAME LEVELS OF N FORM(74)						
AND LEVELS 0 & 60 OR 30 & 90 OF N 75						
0.242(1) 0.153(2) 0.307(3)						
EXCEPT WHEN COMPARING MEANS WITH SAME LEVELS OF N RATE(74)						
AND LEVELS 0 & 60 OR 30 & 90 OF N 75						
0.307						

- (1) NONE V REMAINDER
- (2) WITHIN REMAINDER
- (3) WITHIN NONE

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

STRATUM	DF	SE	CV%
BLOCK.WP	8	0.169	2.5
BLOCK.WP.SP	16	0.307	4.6