ROTHAMSTED RESEARCH

Yields of the Field Experiments 1978

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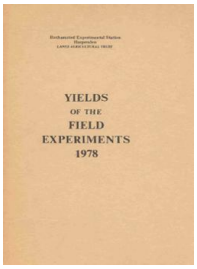

78/R/CS/205 Nitrification Inhibitors - Barley

Rothamsted Research

Rothamsted Research (1979) *78/R/CS/205 Nitrification Inhibitors - Barley ;* Yields Of The Field Experiments 1978, pp 285 - 287 **- DOI: https://doi.org/10.23637/ERADOC-1-30**

78/R/CS/205

NITRIFICATION INHIBITORS

Object: To study the residual effects on barley of nitrogen fertiliser treatments applied to kale in 1977 - West Barnfield II.

Sponsors: F.V. Widdowson, A. Penny, J. Ashworth.

The second year, barley.

For previous year see 77/R/CS/205.

Design: 3 randomised blocks of 24 plots.

Whole plot dimensions: 4.27 x 8.53.

Treatments: All combinations of:-

1. L N FORM(77) Forms of liquid nitrogen fertiliser applied in 1977:

AN+UR	Ammonium nitrate + urea (26% N)
UR	Urea (19% N)

2. L N RATE(77) Rates of nitrogen fertiliser applied in 1977 (kg N):

100
200

3. NI INHIB(77) Nitrification inhibitors added to liquid nitrogen fertiliser in 1977:

NONE	None
NITRAPYR	Nitrapyrin ('N-Serve') at 1 kg
SOD TRI	Sodium trithiocarbonate at 22 kg

plus twelve extra treatments given solid nitrogen fertiliser (kg N) in 1977:

SOLID N(77)

BSL 100S	BSL (a urea condensation product) at 100 to seedbed
BSL 200S	BSL at 200 to seedbed
NC 50S	'Nitro-Chalk' at 50 to seedbed
NC 100S	'Nitro-Chalk' at 100 to seedbed
NC 100DE	'Nitro-Chalk' at 100 divided equally between seedbed and top dressing
NC 100DU	'Nitro-Chalk' at 100 divided unequally, one-quarter to seedbed, three-quarters top dressed
NC 150S	'Nitro-Chalk' at 150 to seedbed
NC 200S	'Nitro-Chalk' at 200 to seedbed
NC 200DE	'Nitro-Chalk' at 200 divided equally between seedbed and top dressing
NC 200DU	'Nitro-Chalk' at 200 divided unequally, one-quarter to seedbed, three-quarters top dressed
NC 250S	'Nitro-Chalk' at 250 to seedbed
NC 300S	'Nitro-Chalk' at 300 to seedbed

Basal applications: Manures: (20:14:14) at 380 kg, combine drilled. Weedkillers: Ioxynil at 0.53 kg and mecoprop at 1.6 kg in 220 l. Fungicide: Tridemorph at 0.53 kg applied with the weedkillers.

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78/R/CS/205

Seed: Porthos, dressed with ethirimol, sown at 160 kg.

Cultivations, etc.:- Ploughed: 13 Jan, 1978. Rotary harrowed: 31 Mar. Seed sown: 5 Apr. Weedkillers and fungicide applied: 23 May. Combine harvested: 10 Sept.

NOTES: Crop samples were taken for N determinations.

GRAIN TONNES/HECTARE

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

L N RATE(77)	100	200	MEAN
L N FORM(77)			
AN+UR	5.82	6.14	5.98
UR	6.01	6.09	6.05
MEAN	5.92	6.11	6.02

NI INHIB(77)	NONE	NITRAPYR	SOD TRI	MEAN
L N FORM(77)				
AN+UR	5.81	6.03	6.10	5.98
UR	6.10	6.04	6.02	6.05
MEAN	5.95	6.03	6.06	6.02

NI INHIB(77)	NONE	NITRAPYR	SOD TRI	MEAN
L N RATE(77)				
100	5.88	5.86	6.00	5.92
200	6.02	6.20	6.12	6.11
MEAN	5.95	6.03	6.06	6.02

L N RATE(77)	100			200		
NI INHIB(77)	NONE	NITRAPYR	SOD TRI	NONE	NITRAPYR	SOD TRI
L N FORM(77)						
AN+UR	5.69	5.82	5.95	5.93	6.23	6.25
UR	6.08	5.91	6.05	6.12	6.17	5.98

SOLID N(77)	
BSL 100S	5.89
BSL 200S	6.25
NC 50S	5.88
NC 100S	6.26
NC 100DE	5.92
NC 100DU	5.99
NC 150S	6.13
NC 200S	6.10
NC 200DE	6.11
NC 200DU	6.03
NC 250S	6.30
NC 300S	6.02
MEAN	6.07

GRAND MEAN 6.04

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GRAIN TONNES/HECTARE

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

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

TABLE	SOLID N(77) L N FORM(77) L N RATE(77) NI INHIB(77)
SED	0.197

TABLE	L N FORM(77) L N FORM(77) L N RATE(77) L N FORM(77) L N RATE(77) NI INHIB(77) NI INHIB(77) L N RATE(77) NI INHIB(77) & SOLID N(77)
SED	0.114

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

STRATUM	DF	SE	CV%
BLOCK.WP	46	0.241	4.0

GRAIN MEAN DM% 83.4

PLOT AREA HARVESTED 0.00243

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