

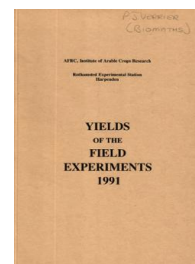
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91/R/CS/355

RATES OF N AND MINERALIZATION

Object: To study the cumulative effects of rates of nitrogen fertilizer on soil mineralization capacity and yields of continuous winter wheat - Claycroft.

Sponsor: P.R. Poulton.

The first year, w. wheat.

Design: 3 randomised blocks of 7 plots.

Whole plot dimensions: 21.0 x 23.0.

Treatments:

N	Nitrogen fertilizer (kg N) as 'Nitram':
0	
50	
100	
150	
200	
250	
300	

Basal applications: Manure: Magnesian limestone at 5.0 t. Weedkillers: Bifenox at 0.95 kg and chlortoluron at 3.5 kg with the insecticide in 200 l. Fungicides: Fenpropimorph at 0.38 kg in 200 l. Fenpropimorph at 0.38 kg with chlorothalonil at 0.49 kg and flutriafol at 0.078 kg in 200 l. Insecticide: Deltamethrin at 6.2 g.

Seed: Mercia, sown at 170 kg.

Cultivations, etc.:- Magnesian limestone applied: 22 Aug, 1990. Deep tine cultivated with vibrating tines 60 cm apart and 45 cm deep: 19 Sept. Ploughed: 27 Sept. Disced: 28 Sept. Disced, rotary harrowed, seed sown: 9 Oct. Weedkillers with the insecticide applied: 23 Nov. N treatments applied: 9 Apr, 1991. Fenpropimorph alone applied: 10 May. Fenpropimorph with chlorothalonil and flutriafol applied: 20 June. Combine harvested: 21 Aug. Previous crops: W. wheat 1989 and 1990.

NOTE: Quadrat samples were taken before harvest to estimate straw and stubble yield.

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GRAIN TONNES/HECTARE

***** Tables of means *****

N	
0	4.38
50	6.30
100	7.43
150	7.64
200	8.00
250	8.21
300	7.98
Mean	7.13

*** Standard errors of differences of means ***

N
0.395

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	12	0.484	6.8

GRAIN MEAN DM% 87.5

PLOT AREA HARVESTED 0.00483