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79/R/MA/1 Rates and Times of N - Maize

Rothamsted Research

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79/R/MA/1

FORAGE MAIZE

RATES & TIMES OF N

Object: To study the effects of a range of nitrogen fertiliser rates, applied before sowing or to the seedbed, on the yields and nitrogen uptakes of forage maize - Long Hoos VI/VII 4.

Sponsor: A.J. Barnard.

Design: 2 randomised blocks of 32 plots.

Whole plot dimensions: 2.13 x 3.66.

Treatments: All combinations of:

1. EARLY N Rates of nitrogen fertiliser (kg N) applied on 6 April, 1979:

0
60
120
180

2. SDBED N Rates of nitrogen fertiliser (kg N) applied on 13 June 1979:

0
30
60
90
120
150
180
210

Basal applications: Weedkiller: Atrazine (as 'Vectal SC' at 3.4 kg) in 340 l.

Insecticides: Dimethoate at 0.67 kg in 340 l. Pirimicarb at 0.14 kg in 340 l.

Seed: Fronica, sown at 100,000 seeds per hectare.

Cultivations, etc.:— Ploughed twice: 16 Nov, 1978 and 6 Mar, 1979. Spring-tine cultivated: 5 Apr. Power harrowed, seed sown: 7 June. Weedkiller applied:

11 June. Dimethoate applied: 29 June. Pirimicarb applied: 26 July.

Harvested by hand: 30 Oct. Previous cropping: Wheat 1977 and 1978.

NOTES: (1) Plant population counts were made in July.

(2) Nitrogen percentages in harvested produce were determined.

(3) Because of an inadequate stand on 2 plots of treatment combination

EARLY N 0 180

SDBED N 0 210

yields were not recorded. Estimated values were used in the analysis.

79/R/MA/1

FORAGE MAIZE TONNES/HECTARE

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

SDBED N	0	30	60	90	120	150	180	210	MEAN
EARLY N									
0	6.58	5.97	10.40	9.64	8.47	9.27	11.00	9.98	8.91
60	6.74	7.87	10.97	9.83	11.40	10.74	8.60	10.59	9.59
120	11.46	10.71	7.56	9.55	9.26	10.07	9.88	9.10	9.70
180	11.00	8.86	8.12	10.58	10.98	9.80	10.43	12.12	10.24
MEAN	8.95	8.35	9.26	9.90	10.03	9.97	9.98	10.45	9.61

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

TABLE	EARLY N	SDBED N	EARLY N SDBED N
SED	0.490	0.692	1.385

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	1.385	14.4

GRAIN MEAN DM% 21.2

PLOT AREA HARVESTED 0.00039