ROTHAMSTED RESEARCH

Yields of the Field Experiments 1979

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79/W/CS/66 Dazomet and Nitrogen - Maize

Rothamsted Research

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79/W/CS/66

DAZOMET AND NITROGEN

Object: To study the cumulative effects of dazomet and nitrogen on pathogens and yield of maize grown continuously - Woburn Butt Furlong.

Sponsors: A.J. Barnard, D. Hornby.

The ninth year, maize.

For previous years see 71/W/CS/66(t), 72/W/CS/66(t) and 73-78/W/CS/66.

Design: 4 blocks of 2 plots split into 4.

Whole plot dimensions: 2.13 x 16.5.

Treatments: All combinations of:-

Whole plots

1. DAZOMET	Dazomet (kg per annum) cumulative 1971-79:	
0		
450		

Sub plots

2. N	Nitrogen fertiliser (kg N as 'Nitro-Chalk') cumulative 1971-79:
50	50 to seedbed
100	100 to seedbed
150	150 to seedbed
50+100	100 to seedbed, 50 four weeks before sowing (before 1978 this treatment received 100 to seedbed, 50 five weeks after emergence)

Basal applications: Manures: (0:14:28) at 870 kg. Weedkiller: Atrazine at 1.1 kg in 340 l.

Seed: Fronica, sown at 103,300 seeds per hectare.

Cultivations, etc.:- Ploughed: 17 Nov, 1978. Spring-tine cultivated: 20 Nov. Dazomet applied, rotary cultivated: 23 Nov. Early N applied: 19 Apr, 1979. PK applied: 7 May. Spring-tine cultivated with crumbler attached: 8 May. Seed sown: 17 May. Seedbed N applied: 4 June. Weedkiller applied: 6 June. Hand harvested: 24 Oct.

NOTES: (1) Soil samples were taken before sowing and after harvest for counts of ectoparasitic nematodes.
(2) Counts were made of common smut (Ustilago maydis) and stalk rots (Fusarium spp.).
(3) Because of bird damage, yields from 2 whole plots were lost, those with DAZOMET 0 and 450. Estimated values were used in the analysis.

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79/W/CS/66

FORAGE DRY MATTER TONNES/HECTARE

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

N DAZOMET	50	100	150	50+100	MEAN
0	8.39	10.14	12.55	11.25	10.58
450	11.54	11.82	14.69	12.41	12.61
MEAN	9.96	10.98	13.62	11.83	11.60

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

TABLE	N	DAZOMET* N
SED	0.605	0.856

* WITHIN THE SAME LEVEL OF DAZOMET ONLY

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	12	1.211	10.4

GRAIN MEAN DM% 27.2

SUB PLOT AREA HARVESTED 0.00039

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