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

Rothamsted Research

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76/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 sixth year, maize.

For previous years see 71/W/CS/66(t), 72/W/CS/66(t) and 73-75/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 1971-76:

0	0
450	450

Sub plots

2. N Nitrogen fertiliser (kg N per annum) cumulative 1971-76:

50	50 to seedbed
100	100 to seedbed
150	150 to seedbed
100+50	100 to seedbed, 50 five weeks after emergence

Basal applications: Manures: (0:14:28) at 870 kg. Weedkiller: Atrazine at 1.1 kg in 280 l.

Seed: Cargill Primeur 170 sown at 124,000 seeds per ha.

Cultivations, etc.:- Ploughed: 24 Nov, 1975. Spring-tine cultivated: 1 Dec. Dazomet applied, rotary cultivated twice: 9 Dec. Ploughed: 15 Jan, 1976. PK applied: 20 Apr. Power harrowed: 21 Apr. Weedkiller applied, harrowed, rolled: 28 Apr. Seed sown by hand: 6 May. Seedbed N applied: 11 May. Late N applied: 14 July. Harvested by hand: 22-27 Sept.

- NOTES: (1) Soil samples were taken in spring before sowing and after harvest for counts of ectoparasitic nematodes.
(2) Plant samples were taken for estimates of incidence of stem and leaf pathogens.
(3) Counts were made of common smut (*Ustilago maydis*) and stalk rots (*Fusarium* spp.).

76/W/CS/66

FORAGE DRY MATTER TONNES/HECTARE

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

	N	50	100	150	100+50	MEAN
DAZOMET						
0		7.76	8.21	9.04	8.70	8.42
450		9.62	9.09	9.63	9.62	9.49
MEAN		8.69	8.65	9.34	9.16	8.96

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

TABLE	N	DAZOMET*
		N
SED	0.724	1.024

* WITHIN THE SAME LEVEL OF DAZOMET ONLY

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	18	1.448	16.2

MEAN DM% 30.8

SUB PLOT AREA HARVESTED 0.00039