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82/W/CS/66 Dazomet and Nitrogen - Forage Maize

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82/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 12th year, forage maize.

For previous years see 71/W/CS/66(t), 72/W/CS/66(t) and 73-81/W/CS/66.

Design: 2 blocks of 4 plots split into 4.

Whole plot dimensions: 2.13 x 16.5.

Treatments: All combinations of:-

Whole plots

1. DAZOMET(79) Dazomet (kg per annum) cumulative 1971-79, residual 1980-81:

0
450

2. DAZOMET(82) Dazomet (kg) in 1982 only:

0
450

Sub plots

3. N+FUNG Nitrogen fertilizer as 'Nitro-Chalk' and fungicide:

NONE	None
N78+N120	78 kg N on 5 Feb, 120 kg N to seedbed on 5 May
N120	120 kg N to seedbed on 5 May
N120+FOS	120 kg N to seedbed + 28 kg fosetyl-A1 to seedbed

NOTE: Sub plot treatments were superimposed on previous cumulative N treatments 1971-81.

Basal applications: Manures: (0:18:36) at 490 kg. Weedkiller: Atrazine at 1.1 kg in 280 l.

Seed: Fronica, sown at 103,000 seed per hectare.

Cultivations, etc.: - Ploughed: 16 Nov, 1981. Spring-tine cultivated: 24 Nov. Dazomet applied, rotary cultivated twice: 26 Nov. Early N applied: 5 Feb, 1982. Heavy spring-tine cultivated: 21 Apr. PK applied: 29 Apr. Seedbed N applied, fungicide treatment applied, rotary cultivated with crumbler attached, weedkiller applied, seed sown: 5 May. Missing portions of row resown by hand: 28 May. Hand harvested: 13 Oct.

NOTES (1): Soil samples were taken for estimates of total biomass.
(2): Plant samples were taken for assessments of bacteria and fungi on the roots.

82/W/CS/66

(3): Counts were made of common smut (*Ustilago maydis*) and stalk rots (*Fusarium* spp.)

FORAGE DRY MATTER TONNES/HECTARE

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

DAZOMET(82)	0	450	MEAN		
DAZOMET(79)					
0	5.97	6.64	6.31		
450	6.64	6.85	6.74		
MEAN	6.30	6.75	6.53		
N+FUNG	NONE	N78+N120	N120	N120+FOS	MEAN
DAZOMET(79)					
0	3.13	7.81	7.11	7.16	6.31
450	3.29	8.06	8.13	7.49	6.74
MEAN	3.21	7.94	7.62	7.33	6.53
N+FUNG	NONE	N78+N120	N120	N120+FOS	MEAN
DAZOMET(82)					
0	2.92	8.24	7.09	6.97	6.30
450	3.50	7.64	8.16	7.69	6.75
MEAN	3.21	7.94	7.62	7.33	6.53
DAZOMET(79)	N+FUNG	NONE	N78+N120	N120	N120+FOS
0	DAZOMET(82)				
	0	3.08	7.60	6.62	6.58
	450	3.19	8.03	7.61	7.75
450	0	2.77	8.87	7.55	7.36
	450	3.81	7.25	8.72	7.63

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

TABLE	N+FUNG	DAZOMET(79)* N+FUNG	DAZOMET(82)* N+FUNG	DAZOMET(79)* DAZOMET(82) N+FUNG
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SED	0.315	0.445	0.445	0.629
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* WITHIN SAME LEVEL OF DAZOMET(79) OR DAZOMET(82) OR BOTH

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

STRATUM	DF	SE	CV%
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BLOCK.WP.SP	12	0.629	9.6
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GRAIN MEAN DM% 29.7

SUB PLOT AREA HARVESTED 0.00078