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# Yields of the Field Experiments 1982

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## 82/R/CS/133 Control of Pathogens - Forage Maize

### Rothamsted Research

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82/R/CS/133

CONTROL OF PATHOGENS

Object: To study the effects of a range of chemicals on incidence of pathogens and yield of continuous maize - Long Hoos VI/VII 6.

Sponsors: A.J. Barnard, K.E. Fletcher, D.J. Hooper, D. Hornby, R.T. Plumb, T.D. Williams.

The ninth year, forage maize.

For previous years see 74-81/R/CS/133.

Design: 3 randomised blocks of 9 plots split into 3.

Whole plot dimensions: 2.13 x 18.3.

Treatments: All combinations of:-

Whole plots

1. CHEMICAL	Chemicals applied annually except where stated:
NONE	None (2 plots per block)
ALDICARB	Aldicarb, 4.5 kg as granules to seedbed
BENOMYL	Benomyl, 11.2 kg as dust to seedbed
DAZOMET	Dazomet, 450 kg as granules in early spring (not applied 1975, 1979 and 1981)
PERMETH	Permethrin, 0.15 kg as foliar spray (1979 only)
PHORATE	Phorate, 1.68 kg as granules to seedbed
PIRIMICA	Pirimicarb, 0.14 kg as foliar spray (1979 only)
BE+DA+PH	Benomyl + dazomet (not applied 1975, 1979 & 1981) + phorate, at above rates and times

Sub plots

2. N	Nitrogen fertilizer (kg N):
50	
100	
150	

NOTE: Treatment sprays were applied in 340 l.

Basal applications: Manures: Chalk at 2.9 t: Muriate of potash at 520 kg. Weedkiller: Atrazine at 1.7 kg in 340 l.

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

Cultivations, etc.: - Stover from the previous crop incorporated by rotary cultivator: 10 Nov, 1981. K applied: 12 Nov. Chalk applied: 27 Nov. Ploughed: 29 Feb, 1982. Power harrowed, dazomet treatments applied and rotary cultivated in: 15 Apr. Remaining treatments applied, power harrowed, seed sown: 19 May. Weedkiller and N applied: 1 June. Harvested by hand: 13 Oct.

NOTE: Frit fly (*Oscinella frit*) damage was assessed and estimates of common smut (*Ustilago maydis*) were made. The N content of the harvested produce was measured.

82/R/CS/133

FORAGE MAIZE DRY MATTER TONNES/HECTARE

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

	N	50	100	150	MEAN
CHEMICAL					
NONE		12.45	14.62	14.52	13.86
ALDICARB		13.63	14.47	14.18	14.09
BENOMYL		12.94	15.39	14.12	14.15
DAZOMET		13.27	14.97	14.68	14.31
PERMETH		13.18	14.83	14.57	14.19
PHORATE		12.97	14.53	14.55	14.02
PIRIMICA		11.44	13.28	16.03	13.58
BE+DA+PH		13.51	13.82	14.60	13.98
MEAN		12.87	14.50	14.64	14.01

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

TABLE	CHEMICAL	N	CHEMICAL	N
SED	0.536		0.987	MIN REP
	0.465	0.338	0.855	MAX-MIN
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
CHEMICAL			1.015	MIN REP
			0.718	MAX REP

CHEMICAL  
 MAX REP WITHIN NONE  
 MAX-MIN NONE V ANY OF REMAINDER  
 MIN REP ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	17	0.657	4.7
BLOCK.WP.SP	38	1.244	8.9

GRAIN MEAN DM% 24.5

SUB PLOT AREA HARVESTED 0.00059