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Yields of the Field Experiments 1975

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75/ R/CS/133 - Control of Pathogens - Maize

Rothamsted Research

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75/R/CS/133

CONTROL OF PATHOGENS

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

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

The second year, maize.

For previous year see 74/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. Chemicals applied cumulatively to 1974 treatments except where stated:

	CHEMICAL
None (4 plots per block)	NONE
Aldicarb, 4.5 kg as granules to seedbed	ALDICARB
Benomyl, 11.2 kg as dust to seedbed	BENOMYL
Dazomet, 450 kg as granules in early spring (1974 only)	DAZ (74)
Phorate, 1.68 kg as granules drilled with the seed	PHORATE
Benomyl + dazomet (1974 only) + phorate, at above rates and times	BE/DA/PH

Sub plots: 2. Nitrogen fertiliser (kg N):

	N
50	50
100	100
150	150

NOTE: Plots were divided for yields at forage and grain stage.

Basal applications: Manures: (0:14:28) at 820 kg. Weedkiller: Atrazine ('Vectal' at 3.4 kg in 340 l).

Seed: Cargill Primeur 170, sown at 123,000 seeds per ha.

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Cultivations, etc.: - Ploughed: 4 Feb, 1975. Spring-tine cultivated: 16 Apr and 21 Apr. PK applied: 28 Apr. Power harrowed: 2 May. Aldicarb and benomyl treatments applied: 6 May. Power harrowed, seed sown: 14 May. Weedkiller applied: 23 May. Part plots harvested for forage: 9 Oct. Part plots harvested for grain: 11 Nov.

NOTES: The following assessments were made:

- (1) Total number of plants per plot on 24 July.
- (2) Percentage of plants damaged by frit fly (*Oscinella frit*) on 24 July.
- (3) Nitrogen percentage of forage and grain was determined.

GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

CHEMICAL N	NONE	ALDICARB	BENOMYL	DAZ(74)	PHORATE	BE/DA/PH	MEAN
50	3.54	3.62	4.01	3.97	3.74	4.42	3.77
100	3.58	3.89	3.52	3.72	4.16	4.08	3.74
150	3.78	4.26	4.11	4.00	4.61	4.75	4.10
MEAN	3.63	3.92	3.88	3.90	4.17	4.41	3.87

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

TABLE	N	CHEMICAL	N CHEMICAL
SED		0.418(1)	0.523(1)
	0.162	0.529(2)	0.662(2)
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: CHEMICAL			0.244(3)
			0.487(2)

- (1) NONE V ANY OF REMAINDER
- (2) REMAINDER
- (3) NONE

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

STRATUM	DF	SE	CV%
BLOCK.WP	19	0.648	16.7
BLOCK.WP.SP	42	0.597	15.4

GRAIN MEAN DM% 65.7

SUB PLOT AREA HARVESTED 0.00039

75/R/CS/133

FORAGE DRY MATTER TONNES/HECTARE

*** TABLES OF MEANS ***

CHEMICAL N	NONE	ALDICARB	BENOMYL	DAZ(74)	PHORATE	BE/DA/PH	MEAN
50	6.67	6.50	6.21	6.73	7.66	7.27	6.78
100	6.65	6.03	6.35	7.25	7.73	7.08	6.78
150	7.11	9.09	8.61	6.89	8.77	8.95	7.96
MEAN	6.81	7.50	7.06	6.96	8.05	7.77	7.18

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

TABLE	N	CHEMICAL	N CHEMICAL
SED		0.537(1)	0.872(1)
	0.354	0.680(2)	1.103(2)
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
CHEMICAL			0.532(3)
			1.063(2)

- (1) NONE V ANY OF REMAINDER
- (2) REMAINDER
- (3) NONE

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

STRATUM	DF	SE	CV%
BLOCK.WP	19	0.832	11.6
BLOCK.WP.SP	42	1.302	18.1

MEAN DM% 32.2

SUB PLOT AREA HARVESTED 0.00020