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80/R/CS/133 Control of Pathogens

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80/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, J.C. Wilson.

The seventh year, forage maize.

For previous years see 74-79/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)
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) + phorate, at above rates and times

Sub plots

2. N Nitrogen fertiliser (kg N):

50
100
150

NOTE: Dazomet was applied on 5 March, 1980. Treatment sprays were applied in 340 l.

Basal applications: Manures: (0:14:28) at 870 kg. Weedkillers: Atrazine at 1.7 kg in 340 l.

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

Cultivations, etc.: Ploughed: 23 Nov, 1979. Power harrowed: 5 Mar, 1980. PK applied: 21 Mar. Spring-tine cultivated: 9 May. Power harrowed, seed sown: 12 May. N applied: 15 May. Weedkiller applied: 19 May. Hand harvested: 15 Oct.

NOTE: Frit fly (*Oscinella frit*) damage was assessed, and the N content of the harvest produce was measured.

80/R/CS/133

FORAGE MAIZE DRY MATTER TONNES/HECTARE

GRAIN TONNES/HECTARE

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

	N	50	100	150	MEAN
CHEMICAL					
NONE		9.72	10.29	10.78	10.26
ALDICARB		9.21	11.95	12.11	11.09
BENOMYL		9.30	10.84	10.88	10.34
DAZOMET		11.55	11.62	13.36	12.18
PERMETH		8.95	10.60	10.51	10.02
PHORATE		8.77	9.48	11.27	9.84
PIRIMICA		9.92	11.19	10.51	10.54
BE+DA+PH		11.32	11.79	12.06	11.72
MEAN		9.83	10.89	11.36	10.70

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

TABLE	CHEMICAL	N	CHEMICAL	N
SED	0.703		0.928	MIN REP
	0.609	0.247	0.804	MAX-MIN
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
CHEMICAL			0.742	MIN REP
			0.525	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	0.861	8.1
BLOCK.WP.SP	38	0.909	8.5

GRAIN MEAN DM% 21.0

SUB PLOT AREA HARVESTED 0.00059