ROTHAMSTED RESEARCH

Yields of the Field Experiments 1974

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74/R/M/6 Control of Frit Fly - Maize, Sweet Corn - Mixed Crops

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74/R/M/6

MAIZE AND SWEET CORN

CONTROL OF FRIT FLY

Object: To study the effects of several insecticides applied at different times on the incidence of frit fly (Oscinella frit) and yield of maize and sweet corn. The effects of a molluscicde are also studied - Long Hoos VI.

Sponsors: J.C. Wilson, K.E. Fletcher.

Design: 3 randomised blocks of 2 plots split into 7.

Whole plot dimensions: 3.66 x 6.09. Sub plot area harvested: 0.00149.

Treatments: All combinations of:-

Whole plots:	1.	Crop:	CROP
		Grain maize, Pioneer 131	Maize
		Sweet corn, Early King	Sweetcrn
Sub plots:	2.	Chemicals:	CHEMICAL
		None	None
		Chlorfenvinphos foliar spray early (12 June)	Chlorf E
		Chlorfenvinphos foliar spray later (8 July)	Chlorf L
		Dimethoate foliar spray early (12 June)	Dimeth E
		Dimethoate foliar spray later (8 July)	Dimeth L
		Phorate granules drilled with the seed	Phorate
		Methiocarb granules at crop emergence (13 June)	Methio

NOTE: Chlorfenvinphos applied at 1.35 kg in 340 l.
Dimethoate applied at 0.67 kg in 340 l.
Phorate applied at 1.68 kg.
Methiocarb applied at 0.22 kg.

Basal applications: Manures: (0:14:28) at 875 kg. 'Nitro-Chalk' at 500 kg.
Weedkiller: Atrazine ('Vectal' at 3.4 kg in 340 l).

Seed: Sown at 108,000 per ha.

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Cultivations, etc.:- PK applied, ploughed: 12 Nov, 1973. Spring-tine cultivated: 24 Apr, 1974. Power harrowed: 1 May. N applied, power harrowed, seed sown: 2 May. Weedkiller applied: 21 May. Sweet corn harvested: 8 Oct. Grain maize harvested: 13 Dec. Previous crops: Winter wheat 1972, fallow 1973.

NOTES: (1) Estimates of the effectiveness of control of frit fly were made on 5 July.
(2) Marked plants in each treatment were used to assess damage by pest and possible phytotoxic effects.
(3) Water traps were placed in each treatment to measure the activity of adult frit flies.
(4) Length and weight of cobs and number of grains per cob, were measured after harvest on plants with and without frit fly damage.

Standard errors per plot:
Maize. Grain, tonnes/hectare: 0.122 or 9.9% (12 d.f.)
Sweet corn. Total saleable cobs, tonnes/hectare: 0.514 or 54.7% (12 d.f.)
No. of saleable cobs, thousands/hectare: 2.66 or 59.4% (12 d.f.)

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74/R/M/6

TABLES OF MEANS

CROP

Maize

GRAIN: TONNES/HECTARE

CHEMICAL							
None	Chlorf E	Chlorf L	Dimeth E	Dimeth L	Phorate	Methio	Mean
1.23	1.08	1.25	1.14	1.37	1.38	1.16	1.23

STANDARD ERRORS OF DIFFERENCES

CHEMICAL

0.100

Mean D.M. % 87.7

CROP

Sweetcrn

CHEMICAL							
None	Chlorf E	Chlorf L	Dimeth E	Dimeth L	Phorate	Methio	Mean
TOTAL SALEABLE COBS: TONNES/HECTARE							
0.66	0.61	0.67	0.99	0.91	2.01	0.73	0.94

STANDARD ERRORS OF DIFFERENCES

CHEMICAL

0.420

NUMBER OF SALEABLE COBS: THOUSANDS/HECTARE							
2.9	2.9	2.9	5.2	3.8	10.5	3.1	4.5

STANDARD ERRORS OF DIFFERENCES

CHEMICAL

2.17

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