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80/W/MA/1 Maize Effects of *Heterodera Avenae*

Rothamsted Research

Rothamsted Research (1981) *80/W/MA/1 Maize Effects of Heterodera Avenae* ; Yields Of The Field Experiments 1980, pp 324 - 325 - DOI: <https://doi.org/10.23637/ERADOC-1-31>

80/W/MA/1

MAIZE

EFFECTS OF HETERODERA AVENAE

Object: To study the effects of four rates of aldicarb on the incidence of cereal cyst nematode, *Heterodera avenae*, and on the yield of two varieties of forage maize - Woburn Butt Close.

Sponsor: T.D. Williams.

Design: 4 randomised blocks of 4 plots split into 4.

Whole plot dimensions: 2.13 x 21.0.

Treatments: All combinations of:-

Whole plots

1. VARIETY Varieties:

AURELIA
FRONICA

2. N Nitrogen fertiliser (kg N):

50
100

Sub plots

3. ALDICARB Aldicarb (kg):

0.0
1.7
3.3
5.0

Basal applications:- Manures: (0:14:28) at 640 kg. Weedkiller: Atrazine at 1.1 l in 280 l. Insecticide: Chlorfenvinphos at 2.2 kg.

Seed: Sown at 103,300 seed per hectare.

Cultivations, etc.: - Ploughed: 5 Nov, 1979. Heavy spring-tine cultivated: 28 Feb, 1980. Spring-tine cultivated: 25 Apr. Aldicarb applied, rotary cultivated: 28 Apr. N and PK applied, rotary cultivated: 29 Apr. Weedkiller applied, harrowed, seed sown: 30 Apr. Insecticide applied: 28 May. Hand harvested: 6 Oct. Previous crops: S. oats 1978, s. barley 1979.

NOTE: Soil samples were taken before treatments were applied and after harvest for counts of cysts and larvae of cereal cyst nematode.

80/W/MA/1

FORAGE MAIZE DRY MATTER TONNES/HECTARE

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

N	50	100	MEAN		
VARIETY					
AURELIA	9.48	11.82	10.65		
FRONICA	10.35	13.34	11.85		
MEAN	9.92	12.58	11.25		
ALDICARB	0.0	1.7	3.3	5.0	MEAN
VARIETY					
AURELIA	9.14	11.31	10.79	11.37	10.65
FRONICA	10.14	11.74	12.61	12.90	11.85
MEAN	9.64	11.52	11.70	12.13	11.25
ALDICARB	0.0	1.7	3.3	5.0	MEAN
N					
50	8.33	9.97	10.08	11.30	9.92
100	10.96	13.08	13.32	12.97	12.58
MEAN	9.64	11.52	11.70	12.13	11.25
	ALDICARB	0.0	1.7	3.3	5.0
VARIETY	N				
AURELIA	50	7.91	10.13	9.30	10.61
	100	10.38	12.50	12.29	12.13
FRONICA	50	8.75	9.81	10.87	11.99
	100	11.53	13.66	14.36	13.80

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

TABLE	VARIETY	N	ALDICARB	VARIETY N
SED	0.770	0.770	0.486	1.089

TABLE	VARIETY ALDICARB	N ALDICARB	VARIETY N ALDICARB
SED	0.973	0.973	1.377

EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:
 VARIETY 0.687
 N 0.687
 VARIETY.N 0.972

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

STRATUM	DF	SE	CV%
BLOCK.WP	9	1.541	13.7
BLOCK.WP.SP	36	1.374	12.2
GRAIN MEAN DM% 25.0	SUB PLOT AREA HARVESTED		0.00049