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Yields of the Field Experiments 1978

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78/R/CS/140 Chemical Reference Plots - Barley

Rothamsted Research

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78/R/CS/140

CHEMICAL REFERENCE PLOTS

Object: To study the persistence in soil of four agricultural chemicals applied annually, singly and in combination and their effects on soil microflora and on yield of continuous barley - Long Hoos V 3.

Sponsors: G.G. Briggs, N. Walker, R. MacDonald.

The fifth year, barley.

For previous years see 74-77/R/CS/140.

Design: Two replicates of 2 x 2 x 2 x 2 fully randomised.

Whole plot dimensions: 4.06 x 4.57.

Treatments, applied cumulatively 1974-78 except WEEDKLLR - 1974 and 76 only:
All combinations of:-

1. FUNGCIDE Fungicide:

NONE None
BENOMYL Benomyl at 4 kg

2. INSCTCDE Insecticide:

NONE None
CHLORFEN Chlorfenvinphos at 2 kg

3. NEMACIDE Nematicide:

NONE None
ALDICARB Aldicarb at 6 kg

4. WEEDKLLR Weedkiller:

NONE None
CHLORTOL Chlortoluron at 2 kg applied 1974 and 1976 only

NOTE: Chemicals were applied to the seedbed on 8 Mar, 1978.

Basal applications: Manures: (0:14:28) at 720 kg, 'Nitro-Chalk 25' at 450 kg.

Weedkillers: Dicamba with mecoprop and MCPA ('Tetralex Plus' at 5.6 l in 340 l).

Seed: Porthos (undressed), sown at 160 kg.

Cultivations, etc.: - PK applied: 3 Oct, 1977. Ploughed: 29 Nov. N applied: 6 Mar, 1978. Spring-tine cultivated: 7 Mar. Power harrowed, seed sown: 8 Mar. Weedkillers applied: 10 May. Combine harvested: 18 Aug.

NOTE: Mildew was assessed during the season.

78/R/CS/140

GRAIN TONNES/HECTARE

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

INSCTCDE FUNGICIDE	NONE	CHLORFEN	MEAN
NONE	4.91	5.17	5.04
BENOMYL	5.07	4.62	4.85
MEAN	4.99	4.90	4.94

NEMACIDE FUNGICIDE	NONE	ALDICARB	MEAN
NONE	4.47	5.61	5.04
BENOMYL	4.85	4.84	4.85
MEAN	4.66	5.23	4.94

NEMACIDE INSCTCDE	NONE	ALDICARB	MEAN
NONE	4.50	5.48	4.99
CHLORFEN	4.82	4.98	4.90
MEAN	4.66	5.23	4.94

WEEDKLLR FUNGICIDE	NONE	CHLORTOL	MEAN
NONE	5.55	4.53	5.04
BENOMYL	4.70	4.99	4.85
MEAN	5.13	4.76	4.94

WEEDKLLR INSCTCDE	NONE	CHLORTOL	MEAN
NONE	5.16	4.82	4.99
CHLORFEN	5.10	4.70	4.90
MEAN	5.13	4.76	4.94

WEEDKLLR NEMACIDE	NONE	CHLORTOL	MEAN
NONE	5.10	4.22	4.66
ALDICARB	5.16	5.30	5.23
MEAN	5.13	4.76	4.94

INSCTCDE NEMACIDE FUNGICIDE	NONE	ALDICARB	CHLORFEN NONE	ALDICARB
NONE	4.11	5.71	4.82	5.52
BENOMYL	4.89	5.25	4.81	4.44

INSCTCDE WEEDKLLR FUNGICIDE	NONE	CHLORTOL	CHLORFEN NONE	CHLORTOL
NONE	5.60	4.22	5.51	4.84
BENOMYL	4.72	5.42	4.68	4.57

78/R/CS/140

GRAIN TONNES/HECTARE

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

NEMACIDE WEEDKLLR FUNGIDE	NONE		ALDICARB	
	NONE	CHLORTOL	NONE	CHLORTOL
NONE	5.44	3.49	5.67	5.56
BENOMYL	4.75	4.95	4.65	5.03

NEMACIDE WEEDKLLR INSCTCDE	NONE		ALDICARB	
	NONE	CHLORTOL	NONE	CHLORTOL
NONE	5.00	4.00	5.32	5.63
CHLORFEN	5.19	4.44	5.00	4.96

FUNGIDE INSCTCDE	NEMACIDE WEEDKLLR	NONE		ALDICARB	
		NONE	CHLORTOL	NONE	CHLORTOL
NONE	NONE	5.26	2.96	5.93	5.48
	CHLORFEN	5.62	4.03	5.40	5.64
BENOMYL	NONE	4.74	5.05	4.71	5.79
	CHLORFEN	4.77	4.86	4.60	4.27

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

TABLE	FUNGIDE	INSCTCDE	NEMACIDE	WEEDKLLR
SED	0.394	0.394	0.394	0.394

TABLE	FUNGIDE INSCTCDE	FUNGIDE NEMACIDE	INSCTCDE NEMACIDE	FUNGIDE WEEDKLLR
SED	0.557	0.557	0.557	0.557

TABLE	INSCTCDE WEEDKLLR	NEMACIDE WEEDKLLR	FUNGIDE INSCTCDE NEMACIDE	FUNGIDE INSCTCDE WEEDKLLR
SED	0.557	0.557	0.787	0.787

TABLE	FUNGIDE NEMACIDE WEEDKLLR	INSCTCDE NEMACIDE WEEDKLLR	FUNGIDE INSCTCDE NEMACIDE WEEDKLLR
SED	0.787	0.787	1.113

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

STRATUM	DF	SE	CV%
WP	16	1.113	22.5

GRAIN MEAN DM% 84.6

PLOT AREA HARVESTED 0.00075