

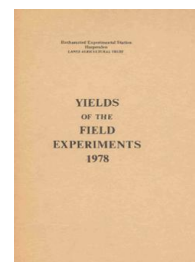
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Yields of the Field Experiments 1978

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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 ('Tetrallex 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	NONE	CHLORFEN	MEAN	
FUNGCIDE				
NONE	4.91	5.17	5.04	
BENOMYL	5.07	4.62	4.85	
MEAN	4.99	4.90	4.94	
NEMACIDE	NONE	ALDICARB	MEAN	
FUNGCIDE				
NONE	4.47	5.61	5.04	
BENOMYL	4.85	4.84	4.85	
MEAN	4.66	5.23	4.94	
NEMACIDE	NONE	ALDICARB	MEAN	
INSCTCDE				
NONE	4.50	5.48	4.99	
CHLORFEN	4.82	4.98	4.90	
MEAN	4.66	5.23	4.94	
WEEDKLLR	NONE	CHLORTOL	MEAN	
FUNGCIDE				
NONE	5.55	4.53	5.04	
BENOMYL	4.70	4.99	4.85	
MEAN	5.13	4.76	4.94	
WEEDKLLR	NONE	CHLORTOL	MEAN	
INSCTCDE				
NONE	5.16	4.82	4.99	
CHLORFEN	5.10	4.70	4.90	
MEAN	5.13	4.76	4.94	
WEEDKLLR	NONE	CHLORTOL	MEAN	
NEMACIDE				
NONE	5.10	4.22	4.66	
ALDICARB	5.16	5.30	5.23	
MEAN	5.13	4.76	4.94	
INSCTCDE	NONE	CHLORFEN		
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
FUNGCIDE				
NONE	4.11	5.71	4.82	5.52
BENOMYL	4.89	5.25	4.81	4.44
INSCTCDE	NONE	CHLORFEN		
WEEDKLLR	NONE	CHLORTOL	NONE	CHLORTOL
FUNGCIDE				
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	NONE		ALDICARB	
WEEDKLLR	NONE	CHLORTOL	NONE	CHLORTOL
FUNGCIDE				
NONE	5.44	3.49	5.67	5.56
BENOMYL	4.75	4.95	4.65	5.03

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

	NEMACIDE	NONE		ALDICARB	
	WEEDKLLR	NONE	CHLORTOL	NONE	CHLORTOL
FUNGCIDE	INSCTCDE				
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	FUNGCIDE	INSCTCDE	NEMACIDE	WEEDKLLR
SED	0.394	0.394	0.394	0.394

TABLE	FUNGCIDE	FUNGCIDE	INSCTCDE	FUNGCIDE
	INSCTCDE	NEMACIDE	NEMACIDE	WEEDKLLR
SED	0.557	0.557	0.557	0.557

TABLE	INSCTCDE	NEMACIDE	FUNGCIDE	FUNGCIDE
	WEEDKLLR	WEEDKLLR	INSCTCDE	INSCTCDE
			NEMACIDE	WEEDKLLR
SED	0.557	0.557	0.787	0.787

TABLE	FUNGCIDE	INSCTCDE	FUNGCIDE
	NEMACIDE	NEMACIDE	INSCTCDE
	WEEDKLLR	WEEDKLLR	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