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Yields of the Field Experiments 1974

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

74/R/CS/140 Chemical Reference Plots - Barley, Rothamsted Research (1975) Yields Of The Field Experiments 1974, pp 262 - 264 - DOI: <https://doi.org/10.23637/ERADOC-1-119>

74/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 barley - Long Hoos V3.

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

The first year, barley.

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

Whole plot dimensions: 4.06 x 4.57. Area harvested: 0.00075.

Treatments: All combinations of:-

1. Fungicide:

FUNGICIDE

None

None

Benomyl at 4 kg applied 28 March, 1974

Benomyl

2. Insecticide:

INSECTICIDE

None

None

Chlorfenvinphos at 2 kg applied 28 March, 1974

Chlorfen

3. Nematicide:

NEMACIDE

None

None

Aldicarb at 6 kg applied 28 March, 1974

Aldicarb

4. Weedkiller:

WEEDKILLER

None

None

Chlortoluron at 2 kg applied 2 Apr, 1974

Chlortol

Basal applications: Manures: (0:20:20) at 1000 kg. 'Nitro-Chalk' at 380 kg. Weedkiller: Dicamba with mecoprop and MCPA ('Banlene Plus' at 5.6 l in 340 l).

Seed: Julia - undressed, sown at 160 kg.

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Cultivations, etc.:— PK applied: 24 Oct, 1973. Ploughed: 7 Dec.
Spring-tine cultivated: 27 Mar, 1974. Power harrowed: 28 Mar.
Seed drilled and N applied: 29 Mar. Weedkiller applied: 21 May.
Combine harvested: 21 Aug. Previous crops: Maize and sweetcorn
1972, potatoes 1973.

NOTE: The following assessments were made:
Seedling emergence, weed numbers in April, mildew and aphid
numbers in June, barley yellow dwarf virus in July, algae
on soil surface in July and chemical residues throughout
the season.

Standard error per plot.

Grain, tonnes/hectare: 0.343 or 5.6% (16 d.f.)

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

	INSTCDE		NEMACIDE		WEEDKLLR		Mean
	None	Chlorfen	None	Aldicarb	None	Chlortol	
FUNGCIDE							
None	5.99	6.15	5.94	6.20	6.19	5.95	6.07
Benomyl	6.19	6.36	6.25	6.31	6.58	5.97	6.28
	INSTCDE						
	None		5.97	6.21	6.24	5.94	6.09
	Chlorfen		6.22	6.29	6.53	5.98	6.26
	NEMACIDE						
			None		6.19	6.00	6.09
			Aldicarb		6.58	5.92	6.25
Mean					6.39	5.96	6.17

	FUNGCIDE	INSTCDE	NEMACIDE		WEEDKLLR	
			None	Aldicarb	None	Chlortol
			None	Chlortol	None	Chlortol
None	None		5.62	6.04	6.45	5.84
	Chlorfen		6.21	5.89	6.48	6.01
Benomyl	None		6.20	6.01	6.68	5.88
	Chlorfen		6.72	6.06	6.72	5.94

STANDARD ERRORS OF DIFFERENCES

FUNGCIDE INSTCDE NEMACIDE WEEDKLLR FUNGCIDE FUNGCIDE FUNGCIDE INSTCDE
INSTCDE NEMACIDE WEEDKLLR NEMACIDE

0.121 0.121 0.121 0.121 0.172 0.172 0.172 0.172

INSTCDE NEMACIDE FUNGCIDE
WEEDKLLR WEEDKLLR INSTCDE
NEMACIDE
WEEDKLLR

0.172 0.172 0.343

Mean D.M. % 85.3