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Yields of the Field Experiments 1979

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

Rothamsted Research

Rothamsted Research (1980) *79/R/CS/140 Chemical Reference Plots - Barley ; Yields Of The Field Experiments 1979*, pp 131 - 133 - DOI: <https://doi.org/10.23637/ERADOC-1-45>

79/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 sixth year, barley.

For previous years see 74-78/R/CS/140.

Design: 32 plots fully randomised.

Whole plot dimensions: 4.06 x 4.57.

Treatments, applied cumulatively 1974-79 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 6 Apr, 1979.

Basal applications: Manures: Chalk at 2.9 t, 'Nitro-Chalk' at 450 kg.
Weedkillers: Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.5 l) in 340 l.

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

Cultivations: Chalk applied: 31 Oct, 1978. Ploughed: 22 Jan, 1979. N applied: 5 Apr. Power harrowed, seed sown: 17 Apr. Weedkillers applied: 30 May. Combine harvested: 28 Aug.

NOTES: (1) Observations were made on the incidence of aphids and mildew. Amounts of chlorfenvinphos and benomyl in plants were measured during the season.
(2) The yields were adjusted for a fertility difference between the North and South halves of the experimental area.

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GRAIN TONNES/HECTARE

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

INSCTCDE	NONE	CHLORFEN	MEAN
FUNGICIDE			
NONE	4.70	4.62	4.66
BENQMYL	4.56	4.60	4.58
MEAN	4.63	4.61	4.62
NEMACIDE	NONE	ALDICARB	MEAN
FUNGICIDE			
NONE	4.53	4.79	4.66
BENQMYL	4.65	4.51	4.58
MEAN	4.59	4.65	4.62
NEMACIDE	NONE	ALDICARB	MEAN
INSCTCDE			
NONE	4.48	4.78	4.63
CHLORFEN	4.70	4.52	4.61
MEAN	4.59	4.65	4.62
WEEDKLLR	NONE	CHLORTOL	MEAN
FUNGICIDE			
NONE	4.59	4.72	4.66
BENQMYL	4.61	4.55	4.58
MEAN	4.60	4.64	4.62
WEEDKLLR	NONE	CHLORTOL	MEAN
INSCTCDE			
NONE	4.66	4.60	4.63
CHLORFEN	4.54	4.68	4.61
MEAN	4.60	4.64	4.62
WEEDKLLR	NONE	CHLORTOL	MEAN
NEMACIDE			
NONE	4.54	4.64	4.59
ALDICARB	4.66	4.64	4.65
MEAN	4.60	4.64	4.62
FUNGICIDE	NEMACIDE	NONE	ALDICARB
NONE	INSCTCDE		
	NONE	4.44	4.95
	CHLORFEN	4.61	4.62
BENQMYL	NONE	4.51	4.61
	CHLORFEN	4.78	4.41
FUNGICIDE	WEEDKLLR	NONE	CHLORTOL
NONE	INSCTCDE		
	NONE	4.76	4.64
	CHLORFEN	4.43	4.80
BENQMYL	NONE	4.57	4.55
	CHLORFEN	4.64	4.56

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GRAIN TONNES/HECTARE

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

	WEEDKLLR	NONE	CHLORTOL		
FUNGCIDE	NEMACIDE				
NONE	NONE	4.55	4.50		
	ALDICARB	4.64	4.94		
BENOMYL	NONE	4.52	4.77		
	ALDICARB	4.69	4.34		
	WEEDKLLR	NONE	CHLORTOL		
INSECTCDE	NEMACIDE				
NONE	NONE	4.57	4.38		
	ALDICARB	4.75	4.81		
CHLORFEN	NONE	4.50	4.89		
	ALDICARB	4.57	4.46		
	NEMACIDE	NONE	ALDICARB		
	WEEDKLLR	NONE	CHLORTOL	NONE	CHLORTOL
FUNGCIDE	INSECTCDE				
NONE	NONE	4.68	4.20	4.83	5.08
	CHLORFEN	4.42	4.80	4.44	4.80
BENOMYL	NONE	4.46	4.56	4.68	4.54
	CHLORFEN	4.59	4.98	4.70	4.13

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

TABLE	FUNGCIDE	INSCTCDE	NEMACIDE	WEEDKLLR
SED	0.165	0.172	0.162	0.165
TABLE	FUNGCIDE	FUNGCIDE	INSCTCDE	FUNGCIDE
	INSCTCDE	NEMACIDE	NEMACIDE	WEEDKLLR
SED	0.237	0.232	0.239	0.237
TABLE	INSCTCDE	NEMACIDE	FUNGCIDE	FUNGCIDE
	WEEDKLLR	WEEDKLLR	INSCTCDE	INSCTCDE
			NEMACIDE	WEEDKLLR
SED	0.246	0.232	0.333	0.342
TABLE	FUNGCIDE	INSCTCDE	FUNGCIDE	
	NEMACIDE	NEMACIDE	INSCTCDE	
	WEEDKLLR	WEEDKLLR	NEMACIDE	
			WEEDKLLR	
SED	0.330	0.339	0.474	

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

STRATUM	DF	SE	CV%
WP	15	0.459	9.9
GRAIN MEAN DM%	84.7		
PLOT AREA HARVESTED	0.00075		