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Yields of the Field Experiments 1981

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81/R/CS/140 Chemical Reference Plots - S. Barley

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81/R/CS/140

CHEMICAL REFERENCE PLOTS

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

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

The seventh year, s. barley.

For previous years see 74-80/R/CS/140.

Design: Single replicate of 32 plots.

Whole plot dimensions: 4.06 x 4.57.

Treatments, applied cumulatively 1974-79 except WEEDKLLR(1) - 1974 and 1976 only and WEEDKLLR(2) - 1980 and 1981 only:

All combinations of:-

- | | |
|----------------|--|
| 1. FUNGCIDE | Fungicide: |
| NONE | None |
| BENOMYL | Benomyl at 4 kg to the seedbed |
| 2. INSECTCDE | Insecticide: |
| NONE | None |
| CHLORFEN | Chlorfenvinphos at 2 kg to the seedbed |
| 3. NEMACIDE | Nematicide: |
| NONE | None |
| ALDICARB | Aldicarb at 6 kg to the seedbed as granules |
| 4. WEEDKLLR(1) | Weedkiller in spring: |
| NONE | None |
| CHLORTOL | Chlortoluron at 2 kg soon after sowing, applied 1974 and 1976 only |
| 5. WEEDKLLR(2) | Weedkiller in autumn: |
| NONE | None |
| GLYPHOS | Glyphosate at 1.5 kg to stubble of 1979 and 1980 s. barley. |

NOTE: Glyphosate was applied in 340 l on 25 Sept, 1980. Other treatments were applied on 8 Apr, 1981.

Basal applications: Manures: 'Nitro-Chalk' at 520 kg.

Seed: Triumph, seed not dressed, sown at 160 kg.

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Cultivations, etc.:— Ploughed: 24 Nov, 1980. N applied, spring-tine cultivated: 20 Mar, 1981. Power harrowed, seed sown: 8 Apr. Combine harvested: 27 Aug.

NOTE: Mildew and aphids were assessed twice during the season, and soil was analysed for Benomyl residues.

GRAIN TONNES/HECTARE

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

INSCTCDE	NONE	CHLORFEN	MEAN
FUNGCIDE			
NONE	6.04	6.19	6.12
BENOMYL	6.17	6.31	6.24
MEAN	6.10	6.25	6.18
NEMACIDE	NONE	ALDICARB	MEAN
FUNGCIDE			
NONE	5.98	6.26	6.12
BENOMYL	6.12	6.36	6.24
MEAN	6.05	6.31	6.18
NEMACIDE	NONE	ALDICARB	MEAN
INSCTCDE			
NONE	5.94	6.27	6.10
CHLORFEN	6.16	6.35	6.25
MEAN	6.05	6.31	6.18
WEEDKLLR(1)	NONE	CHLORTOL	MEAN
FUNGCIDE			
NONE	6.04	6.20	6.12
BENOMYL	6.22	6.26	6.24
MEAN	6.13	6.23	6.18
WEEDKLLR(1)	NONE	CHLORTOL	MEAN
INSCTCDE			
NONE	6.10	6.11	6.10
CHLORFEN	6.16	6.35	6.25
MEAN	6.13	6.23	6.18
WEEDKLLR(1)	NONE	CHLORTOL	MEAN
NEMACIDE			
NONE	5.86	6.24	6.05
ALDICARB	6.40	6.22	6.31
MEAN	6.13	6.23	6.18

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GRAIN TONNES/HECTARE

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

WEEDKLLR(2)	NONE	GLYPHOS	MEAN	
FUNGCIDE				
NONE	6.10	6.14	6.12	
BENOMYL	6.25	6.22	6.24	
MEAN	6.18	6.18	6.18	
WEEDKLLR(2)	NONE	GLYPHOS	MEAN	
INSTCDE				
NONE	6.07	6.14	6.10	
CHLORFEN	6.29	6.22	6.25	
MEAN	6.18	6.18	6.18	
WEEDKLLR(2)	NONE	GLYPHOS	MEAN	
NEMACIDE				
NONE	6.01	6.08	6.05	
ALDICARB	6.34	6.28	6.31	
MEAN	6.18	6.18	6.18	
WEEDKLLR(2)	NONE	GLYPHOS	MEAN	
WEEDKLLR(1)				
NONE	6.16	6.10	6.13	
CHLORTOL	6.19	6.26	6.23	
MEAN	6.18	6.18	6.18	
INSTCDE	NONE	CHLORFEN		
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
FUNGCIDE				
NONE	5.86	6.23	6.10	6.28
BENOMYL	6.02	6.31	6.21	6.41
INSTCDE	NONE	CHLORFEN		
WEEDKLLR(1)	NONE	CHLORTOL	NONE	CHLORTOL
FUNGCIDE				
NONE	5.91	6.18	6.17	6.22
BENOMYL	6.30	6.03	6.14	6.48
NEMACIDE	NONE	ALDICARB		
WEEDKLLR(1)	NONE	CHLORTOL	NONE	CHLORTOL
FUNGCIDE				
NONE	5.85	6.11	6.23	6.29
BENOMYL	5.87	6.37	6.58	6.15
NEMACIDE	NONE	ALDICARB		
WEEDKLLR(1)	NONE	CHLORTOL	NONE	CHLORTOL
INSTCDE				
NONE	5.79	6.09	6.42	6.12
CHLORFEN	5.93	6.39	6.38	6.31

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GRAIN TONNES/HECTARE

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

INSCTCDE	NONE		CHLORFEN	
WEEDKLLR(2)	NONE	GLYPHOS	NONE	GLYPHOS
FUNGCIDE				
NONE	6.12	5.97	6.07	6.31
BENOMYL	6.01	6.32	6.50	6.13

NEMACIDE	NONE		ALDICARB	
WEEDKLLR(2)	NONE	GLYPHOS	NONE	GLYPHOS
FUNGCIDE				
NONE	5.93	6.03	6.27	6.25
BENOMYL	6.10	6.13	6.41	6.32

NEMACIDE	NONE		ALDICARB	
WEEDKLLR(2)	NONE	GLYPHOS	NONE	GLYPHOS
INSCTCDE				
NONE	5.82	6.06	6.32	6.23
CHLORFEN	6.21	6.10	6.36	6.34

WEEDKLLR(1)	NONE		CHLORTOL	
WEEDKLLR(2)	NONE	GLYPHOS	NONE	GLYPHOS
FUNGCIDE				
NONE	6.09	5.99	6.10	6.29
BENOMYL	6.23	6.21	6.28	6.23

WEEDKLLR(1)	NONE		CHLORTOL	
WEEDKLLR(2)	NONE	GLYPHOS	NONE	GLYPHOS
INSCTCDE				
NONE	6.04	6.17	6.09	6.12
CHLORFEN	6.28	6.04	6.29	6.40

WEEDKLLR(1)	NONE		CHLORTOL	
WEEDKLLR(2)	NONE	GLYPHOS	NONE	GLYPHOS
NEMACIDE				
NONE	5.80	5.92	6.23	6.25
ALDICARB	6.52	6.29	6.16	6.28

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

MARGINS OF TWO FACTOR TABLES	0.155
TWO FACTOR TABLES	0.220
THREE FACTOR TABLES	0.311

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

STRATUM	DF	SE	CV%
WP	6	0.439	7.1

GRAIN MEAN DM% 87.4

PLOT AREA HARVESTED 0.00075