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Yields of the Field Experiments 1984

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

Rothamsted Research

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84/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 11th year, s. barley.

For previous years see 74-83/R/CS/140.

Design: Single replicate of 32 plots.

Whole plot dimensions: 4.06 x 4.57.

Treatments, applied cumulatively except as stated:

All combinations of:-

1. WEEDKLLR Weedkiller in autumn:
 NONE None
 GLYPHOS Glyphosate at 1.5 kg to barley stubble each autumn since 1979.
2. FUNGCIDE(1) Fungicide in autumn:
 NONE None
 TRIADIM Triadimefon at 0.25 kg in autumn 1981 and 1982, 0.28 kg in autumn 1983.
3. FUNGCIDE(2) Fungicide in spring:
 NONE None
 BENOMYL Benomyl at 4 kg to the seedbed
4. INSECTCDE Insecticide:
 NONE None
 CHLORFEN Chlorfenvinphos at 2 kg to the seedbed
5. NEMACIDE Nematicide:
 NONE None
 ALDICARB Aldicarb at 6 kg to the seedbed as granules

NOTE: Glyphosate and triadimefon were applied in 340 l on 1 Nov, 1983.
Other treatments were applied on 2 Apr, 1984.

Basal applications: Manures: 'Nitro-Chalk' at 560 kg. Weedkillers: Dicamba with mecoprop and MCPA (as 'Banlene Plus' at 4.9 l) in 220 l.

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

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Cultivations, etc.:- Ploughed: 9 Dec, 1983. N applied: 22 Mar, 1984.
 Spring-tine cultivated, power harrowed, seed sown: 2 Apr. Weedkillers
 applied: 31 May. Combine harvested: 14 Aug.

NOTE: Mildew and aphids were assessed twice during the season.

GRAIN TONNES/HECTARE

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

FUNGCIDE(1)	NONE	TRIADIM	MEAN
WEEDKLLR			
NONE	5.16	5.20	5.18
GLYPHOS	5.09	5.11	5.10
MEAN	5.12	5.16	5.14
FUNGCIDE(2)	NONE	BENOMYL	MEAN
WEEDKLLR			
NONE	5.17	5.19	5.18
GLYPHOS	5.02	5.17	5.10
MEAN	5.09	5.18	5.14
FUNGCIDE(2)	NONE	BENOMYL	MEAN
FUNGCIDE(1)			
NONE	5.10	5.14	5.12
TRIADIM	5.09	5.23	5.16
MEAN	5.09	5.18	5.14
INSCTCDE	NONE	CHLORFEN	MEAN
WEEDKLLR			
NONE	5.26	5.10	5.18
GLYPHOS	5.00	5.19	5.10
MEAN	5.13	5.15	5.14
INSCTCDE	NONE	CHLORFEN	MEAN
FUNGCIDE(1)			
NONE	5.13	5.11	5.12
TRIADIM	5.13	5.18	5.16
MEAN	5.13	5.15	5.14
INSCTCDE	NONE	CHLORFEN	MEAN
FUNGCIDE(2)			
NONE	5.07	5.12	5.09
BENOMYL	5.20	5.17	5.18
MEAN	5.13	5.15	5.14
NEMACIDE	NONE	ALDICARB	MEAN
WEEDKLLR			
NONE	5.02	5.33	5.18
GLYPHOS	4.85	5.34	5.10
MEAN	4.94	5.34	5.14

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GRAIN TONNES/HECTARE

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

NEMACIDE	NONE	ALDICARB	MEAN	
FUNGCIDE(1)				
NONE	4.92	5.32	5.12	
TRIADIM	4.95	5.36	5.16	
MEAN	4.94	5.34	5.14	
NEMACIDE	NONE	ALDICARB	MEAN	
FUNGCIDE(2)				
NONE	4.93	5.26	5.09	
BENOMYL	4.95	5.42	5.18	
MEAN	4.94	5.34	5.14	
NEMACIDE	NONE	ALDICARB	MEAN	
INSCTCDE				
NONE	4.95	5.31	5.13	
CHLORFEN	4.93	5.37	5.15	
MEAN	4.94	5.34	5.14	
FUNGCIDE(1)	NONE		TRIADIM	
FUNGCIDE(2)	NONE	BENOMYL	NONE	BENOMYL
WEEDKLLR				
NONE	5.16	5.15	5.17	5.23
GLYPHOS	5.05	5.13	5.00	5.22
FUNGCIDE(1)	NONE		TRIADIM	
INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
WEEDKLLR				
NONE	5.30	5.01	5.22	5.19
GLYPHOS	4.96	5.21	5.05	5.17
FUNGCIDE(2)	NONE		BENOMYL	
INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
WEEDKLLR				
NONE	5.19	5.14	5.33	5.05
GLYPHOS	4.94	5.10	5.06	5.28
FUNGCIDE(2)	NONE		BENOMYL	
INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
FUNGCIDE(1)				
NONE	5.15	5.06	5.11	5.16
TRIADIM	4.98	5.19	5.28	5.17
FUNGCIDE(1)	NONE		TRIADIM	
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
WEEDKLLR				
NONE	4.97	5.34	5.08	5.33
GLYPHOS	4.88	5.30	4.83	5.39

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GRAIN TONNES/HECTARE

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

FUNGCIDE(2)	NONE	ALDICARB	BENOMYL	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
WEEDKLLR				
NONE	5.11	5.22	4.94	5.44
GLYPHOS	4.75	5.30	4.96	5.39

FUNGCIDE(2)	NONE	ALDICARB	BENOMYL	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
FUNGCIDE(1)				
NONE	4.95	5.26	4.90	5.38
TRIADIM	4.91	5.26	5.00	5.45

INSCTCDE	NONE	ALDICARB	CHLORFEN	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
WEEDKLLR				
NONE	5.11	5.41	4.94	5.25
GLYPHOS	4.80	5.21	4.91	5.48

INSCTCDE	NONE	ALDICARB	CHLORFEN	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
FUNGCIDE(1)				
NONE	4.97	5.30	4.88	5.34
TRIADIM	4.94	5.32	4.97	5.39

INSCTCDE	NONE	ALDICARB	CHLORFEN	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
FUNGCIDE(2)				
NONE	4.89	5.24	4.97	5.28
BENOMYL	5.01	5.38	4.88	5.45

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

MARGINS OF TWO FACTOR TABLES	0.077
TWO FACTOR TABLES	0.109
THREE FACTOR TABLES	0.155

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

STRATUM	DF	SE	CV%
WP	6	0.219	4.3

GRAIN MEAN DM% 86.8

PLOT AREA HARVESTED 0.00075