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# Yields of the Field Experiments 1986

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## 86/R/CS/140 Chemical Reference Plots -s. Barley

### Rothamsted Research

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86/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: R.H. Bromilow, R. Macdonald.

The 13th year, s. barley.

For previous years see 74-85/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 1.4 kg to barley stubble each autumn from 1979 to 1984 and at 0.72 kg in 1985 |
| 2. FUNGCIDE(1) | Fungicide in autumn:  |
| NONE           | None  |
| TRIADIM        | Triadimefon at 0.25 kg in autumn 1981, 1982, 1984 and 1985, 0.28 kg in autumn 1983          |
| 3. FUNGCIDE(2) | Fungicide in spring:  |
| NONE           | None  |
| BENOMYL        | Benomyl at 4 kg to seedbed  |
| 4. INSCTCDE    | Insecticide:  |
| NONE           | None  |
| CHLORFEN       | Chlorfenvinphos at 2 kg to the seedbed  |
| 5. NEMACIDE    | Nematicide:   |
| NONE           | None  |
| ALDICARB       | Aldicarb at 6 kg to the seedbed   |

NOTE: Glyphosate and triadimefon were applied in 220 l on 27 Sept, 1985 and 11 Oct respectively. Other treatments were applied on 29 Apr, 1986.

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Basal applications: Manures: 'Nitro-Chalk' at 440 kg. Weedkillers: Bentazone at 0.77 kg, dichlorprop at 1.0 kg and MCPA at 0.62 kg in 220 l.

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

Cultivations, etc.: - Ploughed: 30 Oct, 1985. N applied: 28 Apr, 1986. Spring-tine cultivated, seedbed treatments applied, rotary harrowed, seed sown: 29 Apr. Weedkillers applied: 12 June. Combine harvested: 29 Aug.

GRAIN TONNES/HECTARE

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

FUNGCIDE(1)	NONE	TRIADIM	MEAN
WEEDKLLR			
NONE	5.91	6.06	5.98
GLYPHOS	6.02	5.89	5.95
MEAN	5.96	5.97	5.97
FUNGCIDE(2)	NONE	BENOMYL	MEAN
WEEDKLLR			
NONE	6.08	5.88	5.98
GLYPHOS	5.87	6.04	5.95
MEAN	5.98	5.96	5.97
FUNGCIDE(2)	NONE	BENOMYL	MEAN
FUNGCIDE(1)			
NONE	6.02	5.90	5.96
TRIADIM	5.93	6.02	5.97
MEAN	5.98	5.96	5.97
INSTCDE	NONE	CHLORFEN	MEAN
WEEDKLLR			
NONE	6.08	5.88	5.98
GLYPHOS	6.08	5.82	5.95
MEAN	6.08	5.85	5.97
INSTCDE	NONE	CHLORFEN	MEAN
FUNGCIDE(1)			
NONE	5.99	5.93	5.96
TRIADIM	6.17	5.77	5.97
MEAN	6.08	5.85	5.97
INSTCDE	NONE	CHLORFEN	MEAN
FUNGCIDE(2)			
NONE	6.05	5.90	5.98
BENOMYL	6.11	5.81	5.96
MEAN	6.08	5.85	5.97

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GRAIN TONNES/HECTARE

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

NEMACIDE	NONE	ALDICARB	MEAN	
WEEDKLLR				
NONE	5.97	5.99	5.98	
GLYPHOS	5.91	5.99	5.95	
MEAN	5.94	5.99	5.97	
NEMACIDE	NONE	ALDICARB	MEAN	
FUNGCIDE (1)				
NONE	5.96	5.97	5.96	
TRIADIM	5.92	6.02	5.97	
MEAN	5.94	5.99	5.97	
NEMACIDE	NONE	ALDICARB	MEAN	
FUNGCIDE (2)				
NONE	5.87	6.08	5.98	
BENOMYL	6.01	5.91	5.96	
MEAN	5.94	5.99	5.97	
NEMACIDE	NONE	ALDICARB	MEAN	
INSCTCDE				
NONE	6.13	6.03	6.08	
CHLORFEN	5.75	5.96	5.85	
MEAN	5.94	5.99	5.97	
FUNGCIDE (1)	NONE		TRIADIM	
FUNGCIDE (2)	NONE	BENOMYL	NONE	BENOMYL
WEEDKLLR				
NONE	5.97	5.85	6.20	5.92
GLYPHOS	6.08	5.96	5.66	6.12
FUNGCIDE (1)	NONE		TRIADIM	
INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
WEEDKLLR				
NONE	5.96	5.85	6.21	5.91
GLYPHOS	6.02	6.01	6.14	5.63
FUNGCIDE (2)	NONE		BENOMYL	
INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
WEEDKLLR				
NONE	5.94	6.22	6.23	5.54
GLYPHOS	6.16	5.57	6.00	6.07
FUNGCIDE (2)	NONE		BENOMYL	
INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
FUNGCIDE (1)				
NONE	6.10	5.94	5.88	5.92
TRIADIM	6.00	5.85	6.34	5.69

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GRAIN TONNES/HECTARE

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

FUNGCIDE(1)	NONE	ALDICARB	TRIADIM	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
WEEDKLLR				
NONE	5.92	5.90	6.03	6.09
GLYPHOS	6.00	6.04	5.82	5.95

FUNGCIDE(2)	NONE	ALDICARB	BENOMYL	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
WEEDKLLR				
NONE	6.04	6.13	5.91	5.86
GLYPHOS	5.71	6.02	6.11	5.97

FUNGCIDE(2)	NONE	ALDICARB	BENOMYL	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
FUNGCIDE(1)				
NONE	6.00	6.05	5.92	5.89
TRIADIM	5.75	6.11	6.09	5.94

INSC TCDE	NONE	ALDICARB	CHLORFEN	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
WEEDKLLR				
NONE	6.23	5.94	5.71	6.05
GLYPHOS	6.04	6.12	5.78	5.87

INSC TCDE	NONE	ALDICARB	CHLORFEN	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
FUNGCIDE(1)				
NONE	6.16	5.83	5.76	6.10
TRIADIM	6.11	6.23	5.73	5.81

INSC TCDE	NONE	ALDICARB	CHLORFEN	ALDICARB
NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
FUNGCIDE(2)				
NONE	5.96	6.14	5.79	6.01
BENOMYL	6.31	5.92	5.71	5.90

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

MARGINS OF TWO FACTOR TABLES	0.088
TWO FACTOR TABLES	0.124
THREE FACTOR TABLES	0.176

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

STRATUM	DF	SE	CV%
WP	6	0.249	4.2

GRAIN MEAN DM% 81.4

PLOT AREA HARVESTED 0.00075