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## Yields of the Field Experiments 1992

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### 92/R/CS/140 Chemical Reference Plots - S. Barley

#### Rothamsted Research

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92/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, A.A. Evans, P.H. Nicholls.

The 19th year, s. barley.

For previous years see 74-91/R/CS/140.

**Design:** Single replicate of 32 plots.

**Whole plot dimensions:** 4.06 x 4.57.

Treatments, applied cumulatively every year 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, at 0.72 kg in 1985, at 0.54 kg in 1986, at 1.3 kg in 1987 and at 1.5 kg in 1988 to 1991.
  
2. **FUNGICIDE[1]** Fungicide in autumn:  

NONE	None
TRIADIM	Triadimefon at 0.25 kg in autumn 1981, 1982, 1984 to 1991, 0.28 kg in autumn 1983
  
3. **FUNGICIDE[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

92/R/CS/140

**Experimental diary:**

06-Nov-91 : T : WEEDKLLR GLYPHOS: Glyphosate at 1.5 kg in 220 l.  
 : T : FUNGCIDE[1] TRIADIM: Triadimefon at 0.25 kg in 220 l.  
 03-Jan-92 : B : Ploughed.  
 06-Mar-92 : B : Spring-tine cultivated.  
 11-Mar-92 : T : FUNGCIDE[2] BENOMYL: Benomyl at 4.0 kg.  
 : T : INSCTCDE CHLORFEN: Chlorfenvinphos at 2.0 kg.  
 : T : NEMACIDE ALDICARB: Aldicarb at 6.0 kg.  
 13-Mar-92 : B : 34.5% N at 440 kg.  
 17-Mar-92 : B : Spring-tine cultivated twice, rotary harrowed. Alexis, undressed, drilled at 150 kg. Rolled.  
 20-May-92 : B : Vindex at 1.0 l and Duplosan New System CMPP at 2.0 l in 200 l.  
 06-Aug-92 : B : Combine harvested.

**GRAIN TONNES/HECTARE**

\*\*\*\*\* Tables of means \*\*\*\*\*

<b>FUNGCIDE[1]</b>	NONE	TRIADIM	Mean
<b>WEEDKLLR</b>			
NONE	4.93	5.02	4.97
GLYPHOS	5.26	5.29	5.27
Mean	5.09	5.16	5.12
<b>FUNGCIDE[2]</b>	NONE	BENOMYL	Mean
<b>WEEDKLLR</b>			
NONE	5.00	4.94	4.97
GLYPHOS	5.17	5.38	5.27
Mean	5.09	5.16	5.12
<b>FUNGCIDE[2]</b>	NONE	BENOMYL	Mean
<b>FUNGCIDE[1]</b>			
NONE	5.17	5.01	5.09
TRIADIM	5.00	5.31	5.16
Mean	5.09	5.16	5.12
<b>INSCTCDE</b>	NONE	CHLORFEN	Mean
<b>WEEDKLLR</b>			
NONE	5.00	4.94	4.97
GLYPHOS	5.30	5.25	5.27
Mean	5.15	5.09	5.12
<b>INSCTCDE</b>	NONE	CHLORFEN	Mean
<b>FUNGCIDE[1]</b>			
NONE	5.05	5.14	5.09
TRIADIM	5.26	5.05	5.16
Mean	5.15	5.09	5.12

92/R/CS/140

GRAIN TONNES/HECTARE

\*\*\*\*\* Tables of means \*\*\*\*\*

INSCTCDE	NONE	CHLORFEN	Mean
<b>FUNGCIDE [2]</b>			
NONE	5.00	5.17	5.09
BENOMYL	5.31	5.02	5.16
Mean	5.15	5.09	5.12

NEMACIDE	NONE	ALDICARB	Mean
<b>WEEDKLLR</b>			
NONE	4.91	5.03	4.97
GLYPHOS	5.14	5.41	5.27
Mean	5.02	5.22	5.12

NEMACIDE	NONE	ALDICARB	Mean
<b>FUNGCIDE [1]</b>			
NONE	5.03	5.15	5.09
TRIADIM	5.02	5.29	5.16
Mean	5.02	5.22	5.12

NEMACIDE	NONE	ALDICARB	Mean
<b>FUNGCIDE [2]</b>			
NONE	4.98	5.19	5.09
BENOMYL	5.06	5.26	5.16
Mean	5.02	5.22	5.12

NEMACIDE	NONE	ALDICARB	Mean
<b>INSCTCDE</b>			
NONE	5.05	5.26	5.15
CHLORFEN	5.00	5.19	5.09
Mean	5.02	5.22	5.12

<b>FUNGCIDE [1]</b>		NONE	<b>TRIADIM</b>		
<b>WEEDKLLR</b>	<b>FUNGCIDE [2]</b>	NONE	BENOMYL	NONE	BENOMYL
NONE		5.05	4.80	4.95	5.08
GLYPHOS		5.28	5.23	5.05	5.53

<b>FUNGCIDE [1]</b>		NONE	<b>TRIADIM</b>		
<b>WEEDKLLR</b>	<b>INSCTCDE</b>	NONE	CHLORFEN	NONE	CHLORFEN
NONE		4.84	5.02	5.17	4.86
GLYPHOS		5.25	5.26	5.35	5.24

<b>FUNGCIDE [2]</b>		NONE	<b>BENOMYL</b>		
<b>WEEDKLLR</b>	<b>INSCTCDE</b>	NONE	CHLORFEN	NONE	CHLORFEN
NONE		4.90	5.10	5.11	4.77
GLYPHOS		5.10	5.24	5.50	5.26

92/R/CS/140

GRAIN TONNES/HECTARE

\*\*\*\*\* Tables of means \*\*\*\*\*

		FUNGICIDE [2]		BENOMYL	
FUNGICIDE [1]	INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
NONE		5.03	5.30	5.06	4.97
TRIADIM		4.97	5.04	5.55	5.06

		FUNGICIDE [1]		TRIADIM	
WEEDKLLR	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.86	4.99	4.95	5.08
GLYPHOS		5.20	5.31	5.08	5.51

		FUNGICIDE [2]		BENOMYL	
WEEDKLLR	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.95	5.05	4.86	5.02
GLYPHOS		5.02	5.32	5.26	5.50

		FUNGICIDE [2]		BENOMYL	
FUNGICIDE [1]	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		5.13	5.21	4.93	5.09
TRIADIM		4.84	5.17	5.19	5.42

		INSCTCDE		CHLORFEN	
WEEDKLLR	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.97	5.04	4.85	5.02
GLYPHOS		5.13	5.47	5.15	5.35

		INSCTCDE		CHLORFEN	
FUNGICIDE [1]	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		5.07	5.02	4.99	5.28
TRIADIM		5.02	5.50	5.01	5.09

		INSCTCDE		CHLORFEN	
FUNGICIDE [2]	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.76	5.24	5.21	5.13
BENOMYL		5.34	5.27	4.79	5.24

\*\*\* Standard errors of differences of means \*\*\*

Margins of two factor tables	0.099
Two factor tables	0.140
Three factor tables	0.198

\*\*\*\*\* Stratum standard errors and coefficients of variation \*\*\*\*\*

Stratum	d.f.	s.e.	cv%
WP	6	0.280	5.5

GRAIN MEAN DM% 86.9 PLOT AREA HARVESTED 0.00069