

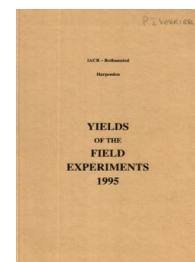
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# Yields of the Field Experiments 1995

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

### Rothamsted Research

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### 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 22nd year, s. barley.

For previous years see 74-94/R/CS/140.

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

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

**Treatments:** Applied cumulatively every year until 1993, none since.

All combinations of:-

1. **WEEDKLLR** Weedkiller in autumn:  
(NONE) None  
(GLYPHOS) Glyphosate to barley stubble each autumn
2. **FUNGCIDE[1]** Fungicide in autumn:  
(NONE) None  
(TRIADIM) Triadimefon in autumn
3. **FUNGCIDE[2]** Fungicide in spring:  
(NONE) None  
(BENOMYL) Benomyl to the seedbed
4. **INSCTCDE** Insecticide:  
(NONE) None  
(CHLORFEN) Chlorfenvinphos to the seedbed
5. **NEMACIDE** Nematicide:  
(NONE) None  
(ALDICARB) Aldicarb to the seedbed

**Experimental diary:**

- 09-Aug-94 : B : Straw baled.
- 15-Nov-94 : B : Stubble topped.
- 01-Dec-94 : B : Ploughed.
- 23-Mar-95 : B : Heavy spring-tine cultivated. Rotary harrowed, Alexis, undressed, drilled at 310 seeds per m<sup>2</sup>.
- 11-May-95 : B : 34.5% N at 435 kg.
- 15-Jun-95 : B : Lorate 20 DF at 30 g in 300 l.

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**Experimental diary:**

15-Jun-95 : B : Starane 2 at 0.5 l in 300 l.  
08-Aug-95 : B : Combine harvested.

**GRAIN TONNES/HECTARE**

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

<b>FUNGCIDE [1]</b>	(NONE)	(TRIADIM)	Mean
<b>WEEDKLLR</b>			
(NONE)	3.87	3.78	3.83
(GLYPHOS)	3.65	3.91	3.78
Mean	3.76	3.85	3.80
<b>FUNGCIDE [2]</b>	(NONE)	(BENOMYL)	Mean
<b>WEEDKLLR</b>			
(NONE)	3.86	3.80	3.83
(GLYPHOS)	3.61	3.95	3.78
Mean	3.73	3.87	3.80
<b>FUNGCIDE [2]</b>	(NONE)	(BENOMYL)	Mean
<b>FUNGCIDE [1]</b>			
(NONE)	3.82	3.69	3.76
(TRIADIM)	3.64	4.05	3.85
Mean	3.73	3.87	3.80
<b>INSTCDE</b>	(NONE)	(CHLORFEN)	Mean
<b>WEEDKLLR</b>			
(NONE)	3.95	3.71	3.83
(GLYPHOS)	3.82	3.73	3.78
Mean	3.89	3.72	3.80
<b>INSTCDE</b>	(NONE)	(CHLORFEN)	Mean
<b>FUNGCIDE [1]</b>			
(NONE)	3.69	3.83	3.76
(TRIADIM)	4.09	3.61	3.85
Mean	3.89	3.72	3.80
<b>INSTCDE</b>	(NONE)	(CHLORFEN)	Mean
<b>FUNGCIDE [2]</b>			
(NONE)	3.74	3.73	3.73
(BENOMYL)	4.04	3.71	3.87
Mean	3.89	3.72	3.80

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GRAIN TONNES/HECTARE

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

<b>NEMACIDE</b>	(NONE) (ALDICARB)	Mean	
<b>WEEDKLLR</b>			
(NONE)	3.80	3.86	3.83
(GLYPHOS)	3.73	3.82	3.78
Mean	3.77	3.84	3.80
<b>NEMACIDE</b>	(NONE) (ALDICARB)	Mean	
<b>FUNGCIDE [1]</b>			
(NONE)	3.76	3.76	3.76
(TRIADIM)	3.77	3.92	3.85
Mean	3.77	3.84	3.80
<b>NEMACIDE</b>	(NONE) (ALDICARB)	Mean	
<b>FUNGCIDE [2]</b>			
(NONE)	3.67	3.80	3.73
(BENOMYL)	3.86	3.88	3.87
Mean	3.77	3.84	3.80
<b>NEMACIDE</b>	(NONE) (ALDICARB)	Mean	
<b>INSCTCDE</b>			
(NONE)	3.79	3.99	3.89
(CHLORFEN)	3.74	3.70	3.72
Mean	3.77	3.84	3.80
<b>WEEDKLLR</b>	<b>FUNGCIDE [2]</b>	(NONE) (BENOMYL)	
(NONE)	(NONE)	4.00	3.74
	(TRIADIM)	3.72	3.85
(GLYPHOS)	(NONE)	3.65	3.65
	(TRIADIM)	3.57	4.25
<b>WEEDKLLR</b>	<b>INSCTCDE</b>	(NONE) (CHLORFEN)	
(NONE)	(NONE)	3.90	3.85
	(TRIADIM)	4.00	3.57
(GLYPHOS)	(NONE)	3.47	3.82
	(TRIADIM)	4.17	3.64
<b>WEEDKLLR</b>	<b>INSCTCDE</b>	(NONE) (CHLORFEN)	
(NONE)	(NONE)	3.80	3.92
	(BENOMYL)	4.10	3.50
(GLYPHOS)	(NONE)	3.67	3.54
	(BENOMYL)	3.97	3.92

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GRAIN TONNES/HECTARE

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

		<b>INSCTCDE</b>	(NONE) (CHLORFEN)	
<b>FUNGCIDE [1]</b>	<b>FUNGCIDE [2]</b>			
(NONE)	(NONE)		3.58	4.07
	(BENOMYL)		3.80	3.59
(TRIADIM)	(NONE)		3.90	3.39
	(BENOMYL)		4.28	3.82
		<b>NEMACIDE</b>	(NONE) (ALDICARB)	
<b>WEEDKLLR</b>	<b>FUNGCIDE [1]</b>			
(NONE)	(NONE)		3.82	3.92
	(TRIADIM)		3.77	3.80
(GLYPHOS)	(NONE)		3.69	3.60
	(TRIADIM)		3.77	4.05
		<b>NEMACIDE</b>	(NONE) (ALDICARB)	
<b>WEEDKLLR</b>	<b>FUNGCIDE [2]</b>			
(NONE)	(NONE)		3.80	3.92
	(BENOMYL)		3.80	3.79
(GLYPHOS)	(NONE)		3.54	3.67
	(BENOMYL)		3.92	3.97
		<b>NEMACIDE</b>	(NONE) (ALDICARB)	
<b>FUNGCIDE [1]</b>	<b>FUNGCIDE [2]</b>			
(NONE)	(NONE)		3.80	3.85
	(BENOMYL)		3.72	3.67
(TRIADIM)	(NONE)		3.54	3.74
	(BENOMYL)		4.00	4.10
		<b>NEMACIDE</b>	(NONE) (ALDICARB)	
<b>WEEDKLLR</b>	<b>INSCTCDE</b>			
(NONE)	(NONE)		3.93	3.97
	(CHLORFEN)		3.67	3.75
(GLYPHOS)	(NONE)		3.65	4.00
	(CHLORFEN)		3.82	3.64
		<b>NEMACIDE</b>	(NONE) (ALDICARB)	
<b>FUNGCIDE [1]</b>	<b>INSCTCDE</b>			
(NONE)	(NONE)		3.70	3.67
	(CHLORFEN)		3.82	3.85
(TRIADIM)	(NONE)		3.87	4.30
	(CHLORFEN)		3.67	3.54
		<b>NEMACIDE</b>	(NONE) (ALDICARB)	
<b>FUNGCIDE [2]</b>	<b>INSCTCDE</b>			
(NONE)	(NONE)		3.68	3.80
	(CHLORFEN)		3.67	3.80
(BENOMYL)	(NONE)		3.90	4.17
	(CHLORFEN)		3.82	3.59

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GRAIN TONNES/HECTARE

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

	<b>FUNGCIDE [1]</b>	(NONE)		(TRIADIM)	
<b>WEEDKLLR</b>	<b>FUNGCIDE [2]</b>	(NONE) (BENOMYL)		(NONE) (BENOMYL)	
(NONE)		4.00	3.74	3.72	3.85
(GLYPHOS)		3.65	3.65	3.57	4.25
	<b>FUNGCIDE [1]</b>	(NONE)		(TRIADIM)	
<b>WEEDKLLR</b>	<b>INSCTCDE</b>	(NONE) (CHLORFEN)		(NONE) (CHLORFEN)	
(NONE)		3.90	3.85	4.00	3.57
(GLYPHOS)		3.47	3.82	4.17	3.64
	<b>FUNGCIDE [2]</b>	(NONE)		(BENOMYL)	
<b>WEEDKLLR</b>	<b>INSCTCDE</b>	(NONE) (CHLORFEN)		(NONE) (CHLORFEN)	
(NONE)		3.80	3.92	4.10	3.50
(GLYPHOS)		3.67	3.54	3.97	3.92
	<b>FUNGCIDE [2]</b>	(NONE)		(BENOMYL)	
<b>FUNGCIDE [1]</b>	<b>INSCTCDE</b>	(NONE) (CHLORFEN)		(NONE) (CHLORFEN)	
(NONE)		3.58	4.07	3.80	3.59
(TRIADIM)		3.90	3.39	4.28	3.82
	<b>FUNGCIDE [1]</b>	(NONE)		(TRIADIM)	
<b>WEEDKLLR</b>	<b>NEMACIDE</b>	(NONE) (ALDICARB)		(NONE) (ALDICARB)	
(NONE)		3.82	3.92	3.77	3.80
(GLYPHOS)		3.69	3.60	3.77	4.05
	<b>FUNGCIDE [2]</b>	(NONE)		(BENOMYL)	
<b>WEEDKLLR</b>	<b>NEMACIDE</b>	(NONE) (ALDICARB)		(NONE) (ALDICARB)	
(NONE)		3.80	3.92	3.80	3.79
(GLYPHOS)		3.54	3.67	3.92	3.97
	<b>FUNGCIDE [2]</b>	(NONE)		(BENOMYL)	
<b>FUNGCIDE [1]</b>	<b>NEMACIDE</b>	(NONE) (ALDICARB)		(NONE) (ALDICARB)	
(NONE)		3.80	3.85	3.72	3.67
(TRIADIM)		3.54	3.74	4.00	4.10
	<b>INSCTCDE</b>	(NONE)		(CHLORFEN)	
<b>WEEDKLLR</b>	<b>NEMACIDE</b>	(NONE) (ALDICARB)		(NONE) (ALDICARB)	
(NONE)		3.93	3.97	3.67	3.75
(GLYPHOS)		3.65	4.00	3.82	3.64
	<b>INSCTCDE</b>	(NONE)		(CHLORFEN)	
<b>FUNGCIDE [1]</b>	<b>NEMACIDE</b>	(NONE) (ALDICARB)		(NONE) (ALDICARB)	
(NONE)		3.70	3.67	3.82	3.85
(TRIADIM)		3.87	4.30	3.67	3.54
	<b>INSCTCDE</b>	(NONE)		(CHLORFEN)	
<b>FUNGCIDE [2]</b>	<b>NEMACIDE</b>	(NONE) (ALDICARB)		(NONE) (ALDICARB)	
(NONE)		3.68	3.80	3.67	3.80
(BENOMYL)		3.90	4.17	3.82	3.59

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**GRAIN TONNES/HECTARE**

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

Margins of two factor tables	0.202
Two factor tables	0.285
Three factor tables	0.404

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

Stratum	d.f.	s.e.	cv%
WP	6	0.571	15.0

GRAIN MEAN DM% 89.9

PLOT AREA HARVESTED 0.00105