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## Yields of the Field Experiments 1996

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

#### Rothamsted Research

Rothamsted Research (1997) *96/R/CS/140 Chemical Reference Plots - S. Barley* ; Yields Of The Field Experiments 1996, pp 57 - 60 - DOI: <https://doi.org/10.23637/ERADOC-1-51>

96/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 23rd year, s. barley.

For previous years see 74-95/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
2. **FUNGICIDE[1]** Fungicide in autumn:  
(NONE) None  
(TRIADIM) Triadimefon in autumn
3. **FUNGICIDE[2]** Fungicide in spring:  
(NONE) None  
(BENOMYL) Benomyl to the seedbed
4. **INSECTICIDE** Insecticide:  
(NONE) None  
(CHLORFEN) Chlorfenvinphos to the seedbed
5. **NEMACIDE** Nematicide:  
(NONE) None  
(ALDICARB) Aldicarb to the seedbed

**Experimental diary:**

- 12-Aug-95 : B : Straw baled.
- 09-Oct-95 : B : Stubble topped.
- 15-Nov-95 : B : Ploughed.
- 20-Mar-96 : B : Spring-tine cultivated, rotary harrowed, Alexis, undressed, drilled at 350 seeds per m<sup>2</sup>.
- 08-May-96 : B : 34.5% N at 435 kg.
- 04-Jun-96 : B : Ally at 30 g with Vindex at 1.0 l in 200 l.

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**Experimental diary:**

09-Jul-96 : B : Wild oats pulled by hand.  
 22-Aug-96 : B : Combine harvested.

**NOTE:** Soils were sampled for chemical analysis and pH.

**GRAIN TONNES/HECTARE**

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

FUNGCIDE[1]	(NONE)	(TRIADIM)	Mean
WEEDKLLR			
(NONE)	5.38	5.44	5.41
(GLYPHOS)	5.88	5.82	5.85
Mean	5.63	5.63	5.63

FUNGCIDE[2]	(NONE)	(BENOMYL)	Mean
WEEDKLLR			
(NONE)	5.51	5.31	5.41
(GLYPHOS)	5.64	6.06	5.85
Mean	5.58	5.69	5.63

FUNGCIDE[2]	(NONE)	(BENOMYL)	Mean
FUNGCIDE[1]			
(NONE)	5.60	5.67	5.63
(TRIADIM)	5.55	5.70	5.63
Mean	5.58	5.69	5.63

INSECTCDE	(NONE)	(CHLORFEN)	Mean
WEEDKLLR			
(NONE)	5.48	5.35	5.41
(GLYPHOS)	5.92	5.78	5.85
Mean	5.70	5.56	5.63

INSECTCDE	(NONE)	(CHLORFEN)	Mean
FUNGCIDE[1]			
(NONE)	5.47	5.79	5.63
(TRIADIM)	5.92	5.33	5.63
Mean	5.70	5.56	5.63

INSECTCDE	(NONE)	(CHLORFEN)	Mean
FUNGCIDE[2]			
(NONE)	5.60	5.55	5.58
(BENOMYL)	5.80	5.57	5.69
Mean	5.70	5.56	5.63

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GRAIN TONNES/HECTARE

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

<b>NEMACIDE</b>	(NONE)	(ALDICARB)	Mean	
<b>WEEDKLLR</b>	(NONE)		5.49	5.33
	(GLYPHOS)		5.85	5.85
Mean			5.67	5.59
<b>NEMACIDE</b>	(NONE)	(ALDICARB)	Mean	
<b>FUNGCIDE [1]</b>	(NONE)		5.65	5.62
	(TRIADIM)		5.69	5.57
Mean			5.67	5.59
<b>NEMACIDE</b>	(NONE)	(ALDICARB)	Mean	
<b>FUNGCIDE [2]</b>	(NONE)		5.54	5.61
	(BENOMYL)		5.80	5.57
Mean			5.67	5.59
<b>NEMACIDE</b>	(NONE)	(ALDICARB)	Mean	
<b>INSCTCDE</b>	(NONE)		5.67	5.73
	(CHLORFEN)		5.67	5.46
Mean			5.67	5.59
<b>WEEDKLLR</b>	<b>FUNGCIDE [1]</b>	(NONE)	(TRIADIM)	
	<b>FUNGCIDE [2]</b>	(NONE)	(BENOMYL)	(NONE) (BENOMYL)
(NONE)		5.47	5.29	5.56 5.32
(GLYPHOS)		5.73	6.04	5.55 6.09
<b>WEEDKLLR</b>	<b>FUNGCIDE [1]</b>	(NONE)	(TRIADIM)	
	<b>INSCTCDE</b>	(NONE) (CHLORFEN)	(NONE) (CHLORFEN)	
(NONE)		5.34 5.42	5.61 5.27	
(GLYPHOS)		5.61 6.16	6.23 5.40	
<b>WEEDKLLR</b>	<b>FUNGCIDE [2]</b>	(NONE)	(BENOMYL)	
	<b>INSCTCDE</b>	(NONE) (CHLORFEN)	(NONE) (CHLORFEN)	
(NONE)		5.46 5.56	5.49 5.13	
(GLYPHOS)		5.73 5.55	6.11 6.02	
<b>FUNGCIDE [1]</b>	<b>FUNGCIDE [2]</b>	(NONE)	(BENOMYL)	
	<b>INSCTCDE</b>	(NONE) (CHLORFEN)	(NONE) (CHLORFEN)	
(NONE)		5.38 5.82	5.57 5.77	
(TRIADIM)		5.81 5.29	6.03 5.38	

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GRAIN TONNES/HECTARE

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

	FUNGCIDE [1]	(NONE)	(TRIADIM)		
WEEDKLLR	NEMACIDE	(NONE) (ALDICARB)	(NONE) (ALDICARB)		
(NONE)		5.42	5.35	5.57	5.31
(GLYPHOS)		5.88	5.89	5.81	5.82

	FUNGCIDE [2]	(NONE)	(BENOMYL)		
WEEDKLLR	NEMACIDE	(NONE) (ALDICARB)	(NONE) (ALDICARB)		
(NONE)		5.61	5.41	5.37	5.25
(GLYPHOS)		5.47	5.81	6.23	5.90

FUNGCIDE [1]	FUNGCIDE [2]	(NONE)	(BENOMYL)		
	NEMACIDE	(NONE) (ALDICARB)	(NONE) (ALDICARB)		
(NONE)		5.66	5.54	5.64	5.70
(TRIADIM)		5.42	5.69	5.96	5.45

	INSTCDE	(NONE)	(CHLORFEN)		
WEEDKLLR	NEMACIDE	(NONE) (ALDICARB)	(NONE) (ALDICARB)		
(NONE)		5.38	5.57	5.60	5.09
(GLYPHOS)		5.95	5.89	5.74	5.82

FUNGCIDE [1]	INSTCDE	(NONE)	(CHLORFEN)		
	NEMACIDE	(NONE) (ALDICARB)	(NONE) (ALDICARB)		
(NONE)		5.48	5.46	5.81	5.77
(TRIADIM)		5.85	5.99	5.52	5.14

FUNGCIDE [2]	INSTCDE	(NONE)	(CHLORFEN)		
	NEMACIDE	(NONE) (ALDICARB)	(NONE) (ALDICARB)		
(NONE)		5.50	5.69	5.57	5.53
(BENOMYL)		5.83	5.77	5.76	5.38

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

Margins of two factor tables	0.131
Two factor tables	0.186
Three factor tables	0.262

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

Stratum	d.f.	s.e.	cv%
WP	6	0.371	6.6

GRAIN MEAN DM% 88.8

PLOT AREA HARVESTED 0.00105