

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED  
RESEARCH

## Yields of the Field Experiments 1994

[Full Table of Content](#)



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

#### Rothamsted Research

Rothamsted Research (1995) *94/R/CS/140 Chemical Reference Plots - S. Barley* ; Yields Of The Field Experiments 1994, pp 54 - 57 - DOI: <https://doi.org/10.23637/ERADOC-1-49>

94/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 21st year, s. barley.

For previous years see 74-93/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 in 1994.

All combinations of:-

1. **WEEDKLLR** Weedkiller in autumn:  
(NONE) None  
(GLYPHOS) Glyphosate to barley stubble each autumn
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. **INSCTCDE** Insecticide:  
(NONE) None  
(CHLORFEN) Chlorfenvinphos to the seedbed
5. **NEMACIDE** Nematicide:  
(NONE) None  
(ALDICARB) Aldicarb to the seedbed

**Experimental diary:**

- 03-Nov-93 : B : Ploughed.  
17-Mar-94 : B : Spring-tine cultivated, rotary harrowed, Alexis undressed, drilled at 350 seeds per m<sup>2</sup>, rolled.  
19-Apr-94 : B : 34.5% N at 428 kg.  
02-Jun-94 : B : Oxytril CM at 1.5 l with Duplosan New System CMPP at 2.0 l in 200 l.  
08-Aug-94 : B : Combine harvested.

94/R/CS/140

**NOTE:** Samples of topsoil were taken from representative plots in August 1994 for the estimation of pesticide residues. The influence of treatment history on the breakdown rates of the chemicals was examined in these samples.

**GRAIN TONNES/HECTARE**

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

| FUNGCIDE [1]    | (NONE) | (TRIADIM) | Mean |
|-----------------|--------|-----------|------|
| <b>WEEDKLLR</b> |        |           |      |
| (NONE)          | 5.29   | 5.35      | 5.32 |
| (GLYPHOS)       | 5.19   | 5.25      | 5.22 |
| Mean            | 5.24   | 5.30      | 5.27 |

| FUNGCIDE [2]    | (NONE) | (BENOMYL) | Mean |
|-----------------|--------|-----------|------|
| <b>WEEDKLLR</b> |        |           |      |
| (NONE)          | 5.25   | 5.39      | 5.32 |
| (GLYPHOS)       | 5.08   | 5.36      | 5.22 |
| Mean            | 5.16   | 5.37      | 5.27 |

| FUNGCIDE [2]        | (NONE) | (BENOMYL) | Mean |
|---------------------|--------|-----------|------|
| <b>FUNGCIDE [1]</b> |        |           |      |
| (NONE)              | 5.24   | 5.24      | 5.24 |
| (TRIADIM)           | 5.09   | 5.51      | 5.30 |
| Mean                | 5.16   | 5.37      | 5.27 |

| INSTCDE         | (NONE) | (CHLORFEN) | Mean |
|-----------------|--------|------------|------|
| <b>WEEDKLLR</b> |        |            |      |
| (NONE)          | 5.45   | 5.20       | 5.32 |
| (GLYPHOS)       | 5.34   | 5.09       | 5.22 |
| Mean            | 5.39   | 5.14       | 5.27 |

| INSTCDE             | (NONE) | (CHLORFEN) | Mean |
|---------------------|--------|------------|------|
| <b>FUNGCIDE [1]</b> |        |            |      |
| (NONE)              | 5.24   | 5.23       | 5.24 |
| (TRIADIM)           | 5.55   | 5.05       | 5.30 |
| Mean                | 5.39   | 5.14       | 5.27 |

| INSTCDE             | (NONE) | (CHLORFEN) | Mean |
|---------------------|--------|------------|------|
| <b>FUNGCIDE [2]</b> |        |            |      |
| (NONE)              | 5.24   | 5.09       | 5.16 |
| (BENOMYL)           | 5.55   | 5.20       | 5.37 |
| Mean                | 5.39   | 5.14       | 5.27 |

94/R/CS/140

GRAIN TONNES/HECTARE

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

|                              |        |            |        |           |
|------------------------------|--------|------------|--------|-----------|
| <b>NEMACIDE</b>              | (NONE) | (ALDICARB) | Mean   |           |
| <b>WEEDKLLR</b>              |        |            |        |           |
| (NONE)                       | 5.39   | 5.26       | 5.32   |           |
| (GLYPHOS)                    | 5.25   | 5.18       | 5.22   |           |
| Mean                         | 5.32   | 5.22       | 5.27   |           |
| <b>NEMACIDE</b>              | (NONE) | (ALDICARB) | Mean   |           |
| <b>FUNGCIDE [1]</b>          |        |            |        |           |
| (NONE)                       | 5.31   | 5.17       | 5.24   |           |
| (TRIADIM)                    | 5.32   | 5.28       | 5.30   |           |
| Mean                         | 5.32   | 5.22       | 5.27   |           |
| <b>NEMACIDE</b>              | (NONE) | (ALDICARB) | Mean   |           |
| <b>FUNGCIDE [2]</b>          |        |            |        |           |
| (NONE)                       | 5.20   | 5.13       | 5.16   |           |
| (BENOMYL)                    | 5.43   | 5.31       | 5.37   |           |
| Mean                         | 5.32   | 5.22       | 5.27   |           |
| <b>NEMACIDE</b>              | (NONE) | (ALDICARB) | Mean   |           |
| <b>INSTCDE</b>               |        |            |        |           |
| (NONE)                       | 5.39   | 5.40       | 5.39   |           |
| (CHLORFEN)                   | 5.24   | 5.05       | 5.14   |           |
| Mean                         | 5.32   | 5.22       | 5.27   |           |
| <b>FUNGCIDE [1]</b>          | (NONE) | (TRIADIM)  |        |           |
| <b>WEEDKLLR FUNGCIDE [2]</b> | (NONE) | (BENOMYL)  | (NONE) | (BENOMYL) |
| (NONE)                       | 5.23   | 5.35       | 5.27   | 5.43      |
| (GLYPHOS)                    | 5.25   | 5.12       | 4.91   | 5.59      |
| <b>FUNGCIDE [1]</b>          | (NONE) | (TRIADIM)  |        |           |
| <b>WEEDKLLR INSTCDE</b>      | (NONE) | (CS)       | (NONE) | (CS)      |
| (NONE)                       | 5.35   | 5.23       | 5.54   | 5.16      |
| (GLYPHOS)                    | 5.14   | 5.23       | 5.55   | 4.94      |
| <b>FUNGCIDE [2]</b>          | (NONE) | (BENOMYL)  |        |           |
| <b>WEEDKLLR INSTCDE</b>      | (NONE) | (CS)       | (NONE) | (CS)      |
| (NONE)                       | 5.23   | 5.27       | 5.66   | 5.13      |
| (GLYPHOS)                    | 5.25   | 4.90       | 5.43   | 5.28      |
| <b>FUNGCIDE [2]</b>          | (NONE) | (BENOMYL)  |        |           |
| <b>FUNGCIDE [1] INSTCDE</b>  | (NONE) | (CS)       | (NONE) | (CS)      |
| (NONE)                       | 5.13   | 5.35       | 5.36   | 5.12      |
| (TRIADIM)                    | 5.36   | 4.82       | 5.73   | 5.29      |

94/R/CS/140

GRAIN TONNES/HECTARE

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

| FUNGICIDE [1] |          | (NONE) | (TRIADIM) |        |      |
|---------------|----------|--------|-----------|--------|------|
| WEEDKLLR      | NEMACIDE | (NONE) | (AL)      | (NONE) | (AL) |
| (NONE)        |          | 5.38   | 5.20      | 5.39   | 5.31 |
| (GLYPHOS)     |          | 5.24   | 5.13      | 5.25   | 5.24 |

| FUNGICIDE [2] |          | (NONE) | (BENOMYL) |        |      |
|---------------|----------|--------|-----------|--------|------|
| WEEDKLLR      | NEMACIDE | (NONE) | (AL)      | (NONE) | (AL) |
| (NONE)        |          | 5.30   | 5.20      | 5.47   | 5.31 |
| (GLYPHOS)     |          | 5.10   | 5.05      | 5.39   | 5.32 |

| FUNGICIDE [2] |          | (NONE) | (BENOMYL) |        |      |
|---------------|----------|--------|-----------|--------|------|
| FUNGICIDE [1] | NEMACIDE | (NONE) | (AL)      | (NONE) | (AL) |
| (NONE)        |          | 5.31   | 5.17      | 5.31   | 5.16 |
| (TRIADIM)     |          | 5.09   | 5.09      | 5.55   | 5.47 |

| INSCTCDE  |          | (NONE) | (CHLORFEN) |        |      |
|-----------|----------|--------|------------|--------|------|
| WEEDKLLR  | NEMACIDE | (NONE) | (AL)       | (NONE) | (AL) |
| (NONE)    |          | 5.46   | 5.43       | 5.32   | 5.08 |
| (GLYPHOS) |          | 5.33   | 5.36       | 5.17   | 5.01 |

| INSCTCDE      |          | (NONE) | (CHLORFEN) |        |      |
|---------------|----------|--------|------------|--------|------|
| FUNGICIDE [1] | NEMACIDE | (NONE) | (AL)       | (NONE) | (AL) |
| (NONE)        |          | 5.27   | 5.21       | 5.35   | 5.12 |
| (TRIADIM)     |          | 5.51   | 5.58       | 5.14   | 4.97 |

| INSCTCDE      |          | (NONE) | (CHLORFEN) |        |      |
|---------------|----------|--------|------------|--------|------|
| FUNGICIDE [2] | NEMACIDE | (NONE) | (AL)       | (NONE) | (AL) |
| (NONE)        |          | 5.20   | 5.28       | 5.20   | 4.97 |
| (BENOMYL)     |          | 5.58   | 5.51       | 5.28   | 5.12 |

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

|                              |       |
|------------------------------|-------|
| Margins of two factor tables | 0.109 |
| Two factor tables            | 0.154 |
| Three factor tables          | 0.218 |

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

| Stratum | d.f. | s.e.  | cv% |
|---------|------|-------|-----|
| WP      | 6    | 0.308 | 5.8 |

GRAIN MEAN DM% 87.9

PLOT AREA HARVESTED 0.00069