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Yields of the Field Experiments 1998

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98/R/CS/140 Chemical Reference Plots - S. Barley

Rothamsted Research

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98/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 yield of continuous s. barley - Long Hoos V 3.

Sponsors: R.H. Bromilow, A.A. Evans, P.H. Nicholls.

The 25th year, s. barley.

For previous years see 74-97/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. INSCTCDE | Insecticide: |
| (NONE) | None |
| (CHLORFEN) | Chlorfenvinphos to the seedbed |
| 5. NEMACIDE | Nematicide: |
| (NONE) | None |
| (ALDICARB) | Aldicarb to the seedbed |

Experimental diary:

03-Dec-97 : B : Ploughed.
05-Feb-98 : B : Spring-tine cultivated.
11-Feb-98 : B : Spring-tine cultivated. Rotary harrowed, Alexis, undressed, drilled at 350 seeds per m².
19-Mar-98 : B : 34.5% N at 435 kg.
28-Apr-98 : B : Ally at 20 g with MSS Optica at 1.5 l in 200 l.

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Experimental diary:

13-Jul-98 : B : Hand rogued wild oats.
08-Aug-98 : B : Combine harvested.

GRAIN TONNES/HECTARE

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

FUNGCIDE[1]	(NONE)	(TRIADIM)	Mean
WEEDKLLR			
(NONE)	2.77	3.17	2.97
(GLYPHOS)	3.68	3.65	3.66
Mean	3.22	3.41	3.32
FUNGCIDE[2]	(NONE)	(BENOMYL)	Mean
WEEDKLLR			
(NONE)	2.83	3.11	2.97
(GLYPHOS)	3.76	3.56	3.66
Mean	3.30	3.34	3.32
FUNGCIDE[2]	(NONE)	(BENOMYL)	Mean
FUNGCIDE[1]			
(NONE)	3.21	3.23	3.22
(TRIADIM)	3.38	3.44	3.41
Mean	3.30	3.34	3.32
INSTCDE	(NONE)	(CHLORFEN)	Mean
WEEDKLLR			
(NONE)	3.06	2.88	2.97
(GLYPHOS)	3.67	3.66	3.66
Mean	3.36	3.27	3.32
INSTCDE	(NONE)	(CHLORFEN)	Mean
FUNGCIDE[1]			
(NONE)	3.32	3.12	3.22
(TRIADIM)	3.40	3.42	3.41
Mean	3.36	3.27	3.32
INSTCDE	(NONE)	(CHLORFEN)	Mean
FUNGCIDE[2]			
(NONE)	3.38	3.22	3.30
(BENOMYL)	3.35	3.32	3.34
Mean	3.36	3.27	3.32

98/R/CS/140

GRAIN TONNES/HECTARE

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

NEMACIDE	(NONE)	(ALDICARB)	Mean		
WEEDKLLR					
(NONE)	3.03	2.91	2.97		
(GLYPHOS)	3.80	3.53	3.66		
Mean	3.42	3.22	3.32		
NEMACIDE	(NONE)	(ALDICARB)	Mean		
FUNGCIDE[1]					
(NONE)	3.29	3.16	3.22		
(TRIADIM)	3.55	3.27	3.41		
Mean	3.42	3.22	3.32		
NEMACIDE	(NONE)	(ALDICARB)	Mean		
FUNGCIDE[2]					
(NONE)	3.28	3.31	3.30		
(BENOMYL)	3.55	3.12	3.34		
Mean	3.42	3.22	3.32		
NEMACIDE	(NONE)	(ALDICARB)	Mean		
INSTCDE					
(NONE)	3.43	3.30	3.36		
(CHLORFEN)	3.41	3.13	3.27		
Mean	3.42	3.22	3.32		
FUNGCIDE[1]	(NONE)	(TRIADIM)			
WEEDKLLR FUNGCIDE[2]	(NONE)	(BENOMYL)	(NONE)	(BENOMYL)	
(NONE)	2.52	3.02	3.15	3.19	
(GLYPHOS)	3.91	3.45	3.62	3.68	
FUNGCIDE[1]	(NONE)	(TRIADIM)			
WEEDKLLR INSTCDE	(NONE)	(CHLORFEN)	(NONE)	(CHLORFEN)	
(NONE)	3.02	2.52	3.10	3.24	
(GLYPHOS)	3.63	3.73	3.71	3.59	
FUNGCIDE[2]	(NONE)	(BENOMYL)			
WEEDKLLR INSTCDE	(NONE)	(CHLORFEN)	(NONE)	(CHLORFEN)	
(NONE)	2.90	2.77	3.23	2.99	
(GLYPHOS)	3.86	3.67	3.48	3.65	
FUNGCIDE[2]	(NONE)	(BENOMYL)			
FUNGCIDE[1] INSTCDE	(NONE)	(CHLORFEN)	(NONE)	(CHLORFEN)	
(NONE)	3.33	3.10	3.32	3.15	
(TRIADIM)	3.43	3.34	3.38	3.49	

98/R/CS/140

GRAIN TONNES/HECTARE

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

FUNGICIDE[1]		(NONE)		(TRIADIM)	
WEEDKLLR	NEMACIDE	(NONE)	(ALDICARB)	(NONE)	(ALDICARB)
(NONE)		2.69	2.84	3.37	2.97
(GLYPHOS)		3.88	3.48	3.72	3.58

FUNGICIDE[2]		(NONE)		(BENOMYL)	
WEEDKLLR	NEMACIDE	(NONE)	(ALDICARB)	(NONE)	(ALDICARB)
(NONE)		2.69	2.97	3.37	2.84
(GLYPHOS)		3.87	3.66	3.73	3.40

FUNGICIDE[2]		(NONE)		(BENOMYL)	
FUNGICIDE[1]	NEMACIDE	(NONE)	(ALDICARB)	(NONE)	(ALDICARB)
(NONE)		3.27	3.15	3.30	3.17
(TRIADIM)		3.29	3.48	3.80	3.07

INSCTCDE		(NONE)		(CHLORFEN)	
WEEDKLLR	NEMACIDE	(NONE)	(ALDICARB)	(NONE)	(ALDICARB)
(NONE)		3.15	2.97	2.91	2.84
(GLYPHOS)		3.70	3.63	3.90	3.42

INSCTCDE		(NONE)		(CHLORFEN)	
FUNGICIDE[1]	NEMACIDE	(NONE)	(ALDICARB)	(NONE)	(ALDICARB)
(NONE)		3.40	3.24	3.17	3.08
(TRIADIM)		3.45	3.36	3.64	3.19

INSCTCDE		(NONE)		(CHLORFEN)	
FUNGICIDE[2]	NEMACIDE	(NONE)	(ALDICARB)	(NONE)	(ALDICARB)
(NONE)		3.42	3.33	3.14	3.30
(BENOMYL)		3.43	3.28	3.67	2.97

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

Margins of two factor tables 0.264
 Two factor tables 0.373
 Three factor tables 0.527

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

Stratum	d.f.	s.e.	cv%
WP	6	0.745	22.5

GRAIN MEAN DM% 90.7

PLOT AREA HARVESTED 0.00105