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

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93/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 20th year, s. barley.

For previous years see 74-92/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 1992. |
| 2. FUNGICIDE[1] | Fungicide in autumn: |
| NONE | None |
| TRIADIM | Triadimefon at 0.25 kg in autumn 1981, 1982, 1984 to 1992, 0.28 kg in autumn 1983 |
| 3. FUNGICIDE[2] | Fungicide in spring: |
| NONE | None |
| BENOMYL | Benomyl at 4 kg to the 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 |

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Experimental diary:

28-Sep-92 : T : **WEEDKLLR** GLYPHOS: Glyphosate at 1.5 kg in 220 l.
 : T : **FUNGICIDE[1]** TRIADIM: Triadimefon at 0.25 kg in 220 l.
08-Oct-92 : B : PK as (0:18:36) at 1390 kg.
21-Jan-93 : B : Ploughed.
08-Mar-93 : B : 34.5% N at 440 kg.
 : B : Spring-tine cultivated.
09-Mar-93 : T : **FUNGICIDE[2]** BENOMYL: Benomyl at 4.0 kg in 5000 l,
 applied by watering can.
 : T : **INSTCDE** CHLORFEN: Chlorfenvinphos at 2.0 kg as
 granules, applied by hand.
 : T : **NEMACIDE** ALDICARB: Aldicarb at 6.0 kg as granules,
 applied by hand.
11-Mar-93 : B : Heavy spring-tine cultivated, rotary harrowed twice,
 Alexis, undressed, drilled at 400 seeds per square
 metre.
28-May-93 : B : Ally at 30 g and Starane 2 at 0.50 l in 200 l.
13-Aug-93 : B : Combine harvested.

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GRAIN TONNES/HECTARE

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

FUNGCIDE[1]	NONE	TRIADIM	Mean
WEEDKLLR			
NONE	3.99	4.17	4.08
GLYPHOS	4.31	4.32	4.31
Mean	4.15	4.24	4.20
FUNGCIDE[2]	NONE	BENOMYL	Mean
WEEDKLLR			
NONE	3.94	4.23	4.08
GLYPHOS	4.35	4.28	4.31
Mean	4.14	4.25	4.20
FUNGCIDE[2]	NONE	BENOMYL	Mean
FUNGCIDE[1]			
NONE	4.16	4.15	4.15
TRIADIM	4.13	4.36	4.24
Mean	4.14	4.25	4.20
INSTCDE	NONE	CHLORFEN	Mean
WEEDKLLR			
NONE	4.07	4.10	4.08
GLYPHOS	4.31	4.32	4.31
Mean	4.19	4.21	4.20
INSTCDE	NONE	CHLORFEN	Mean
FUNGCIDE[1]			
NONE	4.21	4.10	4.15
TRIADIM	4.17	4.32	4.24
Mean	4.19	4.21	4.20
INSTCDE	NONE	CHLORFEN	Mean
FUNGCIDE[2]			
NONE	4.07	4.22	4.14
BENOMYL	4.31	4.19	4.25
Mean	4.19	4.21	4.20
NEMACIDE	NONE	ALDICARB	Mean
WEEDKLLR			
NONE	4.22	3.94	4.08
GLYPHOS	4.53	4.10	4.31
Mean	4.38	4.02	4.20

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GRAIN TONNES/HECTARE

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

NEMACIDE	NONE	ALDICARB	Mean
FUNGCIDE[1]			
NONE	4.30	4.01	4.15
TRIADIM	4.46	4.03	4.24
Mean	4.38	4.02	4.20

NEMACIDE	NONE	ALDICARB	Mean
FUNGCIDE[2]			
NONE	4.39	3.90	4.14
BENOMYL	4.37	4.14	4.25
Mean	4.38	4.02	4.20

NEMACIDE	NONE	ALDICARB	Mean
INSCTCDE			
NONE	4.33	4.05	4.19
CHLORFEN	4.42	3.99	4.21
Mean	4.38	4.02	4.20

	FUNGCIDE[1]	NONE		TRIADIM	
WEEDKLLR	FUNGCIDE[2]	NONE	BENOMYL	NONE	BENOMYL
NONE		3.92	4.06	3.95	4.39
GLYPHOS		4.39	4.24	4.31	4.32

	FUNGCIDE[1]	NONE		TRIADIM	
WEEDKLLR	INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
NONE		4.00	3.99	4.14	4.20
GLYPHOS		4.42	4.21	4.20	4.43

	FUNGCIDE[2]	NONE		BENOMYL	
WEEDKLLR	INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
NONE		3.86	4.02	4.28	4.17
GLYPHOS		4.28	4.42	4.35	4.21

	FUNGCIDE[2]	NONE		BENOMYL	
FUNGCIDE[1]	INSCTCDE	NONE	CHLORFEN	NONE	CHLORFEN
NONE		4.10	4.21	4.31	3.99
TRIADIM		4.03	4.23	4.32	4.40

	FUNGCIDE[1]	NONE		TRIADIM	
WEEDKLLR	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.02	3.96	4.42	3.92
GLYPHOS		4.57	4.06	4.50	4.13

	FUNGCIDE[2]	NONE		BENOMYL	
WEEDKLLR	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.10	3.78	4.35	4.11
GLYPHOS		4.68	4.02	4.39	4.17

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GRAIN TONNES/HECTARE

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

FUNGICIDE[2]		NONE		BENOMYL	
FUNGICIDE[1]	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.35	3.96	4.24	4.06
TRIADIM		4.43	3.84	4.49	4.22

INSCTCDE		NONE		CHLORFEN	
WEEDKLLR	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.14	4.00	4.31	3.88
GLYPHOS		4.53	4.09	4.53	4.10

INSCTCDE		NONE		CHLORFEN	
FUNGICIDE[1]	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.39	4.03	4.20	3.99
TRIADIM		4.28	4.07	4.64	3.99

INSCTCDE		NONE		CHLORFEN	
FUNGICIDE[2]	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.29	3.85	4.49	3.95
BENOMYL		4.38	4.25	4.35	4.03

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

Margins of two factor tables	0.073
Two factor tables	0.104
Three factor tables	0.146

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

Stratum	d.f.	s.e.	cv%
WP	6	0.207	4.9

GRAIN MEAN DM% 85.8

PLOT AREA HARVESTED 0.00069