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

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90/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 17th year, s. barley.

For previous years see 74-89/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 and 1989.
2. **FUNGICIDE[1]** Fungicide in autumn:

NONE	None
TRIADIM	Triadimefon at 0.25 kg in autumn 1981, 1982, 1984 to 1989, 0.28 kg in autumn 1983
3. **FUNGICIDE[2]** Fungicide in spring:

NONE	None
BENOMYL	Benomyl at 4 kg to seedbed
4. **INSECTCDE** Insecticide:

NONE	None
CHLORFEN	Chlorfenvinphos at 2 kg to the seedbed
5. **NEMACIDE** Nematicide:

NONE	None
ALDICARB	Aldicarb at 6 kg to the seedbed

NOTE: Glyphosate and triadimefon were applied in 220 l on 3 Oct, 1989. Other treatments were applied on 13 Mar, 1990.

Basal applications: Manures: 'Nitram' at 440 kg. Muriate of potash at 520 kg. Weedkillers: Bromoxynil at 0.20 kg, ioxynil at 0.20 kg and mecoprop at 1.6 kg in 220 l.

Seed: Klaxon, seed not dressed, sown at 160 kg.

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Cultivations, etc.:— K applied: 24 Aug, 1989. Ploughed: 28 Nov.
Spring-tine cultivated, N applied: 12 Mar, 1990. Rotary harrowed,
seed sown: 13 Mar. Rolled: 14 Mar. Weedkillers applied: 23 May.
Combine harvested: 1 Aug.

GRAIN TONNES/HECTARE

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

FUNGCODE[1]	NONE	TRIADIM	Mean
WEEDKLLR			
NONE	4.45	4.43	4.44
GLYPHOS	4.50	4.41	4.45
Mean	4.47	4.42	4.45

FUNGCODE[2]	NONE	BENOMYL	Mean
WEEDKLLR			
NONE	4.44	4.44	4.44
GLYPHOS	4.40	4.51	4.45
Mean	4.42	4.48	4.45

FUNGCODE[2]	NONE	BENOMYL	Mean
FUNGCODE[1]			
NONE	4.51	4.44	4.47
TRIADIM	4.33	4.52	4.42
Mean	4.42	4.48	4.45

INSTCDE	NONE	CHLORFEN	Mean
WEEDKLLR			
NONE	4.55	4.34	4.44
GLYPHOS	4.46	4.45	4.45
Mean	4.50	4.39	4.45

INSTCDE	NONE	CHLORFEN	Mean
FUNGCODE[1]			
NONE	4.46	4.49	4.47
TRIADIM	4.54	4.30	4.42
Mean	4.50	4.39	4.45

INSTCDE	NONE	CHLORFEN	Mean
FUNGCODE[2]			
NONE	4.41	4.43	4.42
BENOMYL	4.60	4.36	4.48
Mean	4.50	4.39	4.45

NEMACIDE	NONE	ALDICARB	Mean
WEEDKLLR			
NONE	4.42	4.47	4.44
GLYPHOS	4.36	4.55	4.45
Mean	4.39	4.51	4.45

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GRAIN TONNES/HECTARE

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

NEMACIDE	NONE	ALDICARB	Mean
FUNGCIDE[1]			
NONE	4.41	4.54	4.47
TRIADIM	4.36	4.48	4.42
Mean	4.39	4.51	4.45

NEMACIDE	NONE	ALDICARB	Mean
FUNGCIDE[2]			
NONE	4.39	4.44	4.42
BENOMYL	4.38	4.58	4.48
Mean	4.39	4.51	4.45

NEMACIDE	NONE	ALDICARB	Mean
INSECTCIDE			
NONE	4.53	4.47	4.50
CHLORFEN	4.24	4.55	4.39
Mean	4.39	4.51	4.45

FUNGCIDE[1]	NONE	TRIADIM
WEEDKILLER FUNGCIDE[2]	NONE	BENOMYL
NONE	4.42	4.48
GLYPHOS	4.60	4.39

FUNGCIDE[1]	NONE	TRIADIM
WEEDKILLER INSECTCIDE	NONE	CHLORFEN
NONE	4.54	4.36
GLYPHOS	4.39	4.61

FUNGCIDE[2]	NONE	BENOMYL
WEEDKILLER INSECTCIDE	NONE	CHLORFEN
NONE	4.43	4.45
GLYPHOS	4.39	4.40

FUNGCIDE[2]	NONE	BENOMYL
FUNGCIDE[1] INSECTCIDE	NONE	CHLORFEN
NONE	4.44	4.58
TRIADIM	4.38	4.27

FUNGCIDE[1]	NONE	TRIADIM
WEEDKILLER NEMACIDE	NONE	ALDICARB
NONE	4.39	4.51
GLYPHOS	4.43	4.57

FUNGCIDE[2]	NONE	BENOMYL
WEEDKILLER NEMACIDE	NONE	ALDICARB
NONE	4.54	4.34
GLYPHOS	4.25	4.55

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GRAIN TONNES/HECTARE

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

FUNGICIDE[2]		NONE		BENOMYL	
FUNGICIDE[1]	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.47	4.55	4.35	4.53
TRIADIM		4.31	4.34	4.41	4.62
INSCTCDE		NONE		CHLORFEN	
WEEDKLLR	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.65	4.45	4.19	4.48
GLYPHOS		4.42	4.50	4.29	4.61
INSCTCDE		NONE		CHLORFEN	
FUNGICIDE[1]	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.54	4.39	4.28	4.69
TRIADIM		4.53	4.56	4.20	4.40
INSCTCDE		NONE		CHLORFEN	
FUNGICIDE[2]	NEMACIDE	NONE	ALDICARB	NONE	ALDICARB
NONE		4.40	4.42	4.39	4.47
BENOMYL		4.67	4.53	4.09	4.62

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

Margins of two factor tables	0.061
Two factor tables	0.086
Three factor tables	0.122

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

Stratum	d.f.	s.e.	cv%
WP	6	0.173	3.9
GRAIN MEAN DM%	85.4		
PLOT AREA HARVESTED	0.00073		