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Yields of the Field Experiments 1973

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73/W/CS/103 - Simazine Rates & Soil Types - Wheat

Rothamsted Research

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73/W/CS/103

SIMAZINE RATES AND SOIL TYPES

Object: To study the residual effects on heavy and light soils containing different amounts of organic matter of simazine and other weedkillers applied to beans on the yield of winter wheat - Woburn, Warren Field II, White Horse, Great Hill Bottom I.

Sponsors: J.R. Moffatt, A.E. Johnston, G.G. Briggs.

The second year, winter wheat.

For previous year see 72/W/CS/103(t).

Design: Warren Field II, White Horse: 4 blocks of 15 plots.
Great Hill Bottom I: 3 blocks of 15 plots.

Whole plot dimensions:

Warren Field II, White Horse: 4.26 x 12.2. Area harvested: 0.00347.
Great Hill Bottom I: 4.26 x 9.14. Area harvested: 0.00260.

Treatments (to beans 1972): All combinations of:-

1. Weedkiller:

WEEDKILLER

Simazine

Simazine

Simazine with trietazine (1:7)

Sim/Tri

2. Rate of weedkiller (kg):

RATE

	Warren Field II	White Horse & Gt Hill Bottom I		
50% below normal for soil type	0.56	0.42	0.56	0.42
Normal rate for soil type	1.12	0.84	1.12	0.84
50% above normal for soil type	1.68	1.26	1.68	1.26

3. Times of applying weedkiller:

TIME

Early, day after sowing

Early

Late, 10 days after sowing on White Horse and

Late

Warren Field II, 37 days after sowing on

Great Hill Bottom I

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together with three extra treatments

EXTRA

No weed control

None

Mechanical cultivation

Mechancl

Chlorpropham with diuron ('New Residuren' at 4.2 l

Chlor/di

on White Horse and Great Hill Bottom I, 5.6 l

on Warren Field II) applied the day after sowing.

Basal applications: Manures: (8:20:16) at 310 kg, combine drilled. N at 100 kg as 'Nitro-Chalk' on Warren Field II and White Horse, N at 110 kg as 'Nitro-Chalk' on Great Hill Bottom I. Weedkillers: Paraquat at 0.56 kg ion in 280 l on Warren Field II only. Ioxynil at 0.63 kg plus mecoprop at 1.9 kg in 280 l on all fields.

Seed: Maris Huntsman, sown at 190 kg.

Cultivations, etc.:-

Warren Field II: Paraquat applied: 29 Sept, 1972. Deep-tine cultivated three times: 9 Oct, 13 Oct, 14 Oct. Rotary cultivated: 18 Oct.

Seed sown: 20 Oct. N applied: 18 Apr, 1973. Ioxynil plus mecoprop applied: 26 Apr. Combine harvested: 31 Aug.

White Horse: Ploughed: 18 Oct, 1972. Seed sown: 23 Oct. N applied:

18 Apr, 1973. Weedkiller applied: 21 Apr. Combine harvested: 31 Aug.

Great Hill Bottom I: Deep-tine cultivated twice: 7 Oct, 1972. Seed sown: 23 Oct. N applied: 18 Apr, 1973. Weedkiller applied: 26 Apr. Combine harvested: 31 Aug.

Standard errors per plot. Grain, tonnes/hectare.

Warren Field II: 0.567 or 7.1% (42 d.f.)

White Horse: 0.401 or 7.2% (42 d.f.)

Great Hill Bottom I: 0.222 or 2.7% (28 d.f.)

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

WARREN FIELD II (W)

	RATE			TIME		Mean
	0.56	1.12	1.68	Early	Late	
WEEDKILLR						
Simazine	8.27	8.07	7.93	8.28	7.91	8.09
Sim/Tri	7.61	7.82	7.81	7.58	7.91	7.75
			RATE			
			0.56	7.98	7.90	7.94
			1.12	7.87	8.02	7.95
			1.68	7.92	7.81	7.87
Mean				7.93	7.91	7.92

EXTRA

None Mechanc1 Chlor/di

8.30 8.07 8.24

STANDARD ERRORS OF DIFFERENCES

WEEDKILLR	RATE	TIME	EXTRA	WEEDKILLR RATE	WEEDKILLR TIME	RATE TIME
0.164	0.200	0.164	0.401	0.283	0.231	0.283
Grand mean	7.98					
Mean D.M. %	82.0					

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GRAIN: TONNES/HECTARE

WHITE HORSE (W)

	RATE			TIME		Mean
	0.42	0.84	1.26	Early	Late	
WEEDKILLER						
Simazine	5.83	5.52	5.55	5.85	5.41	5.63
Sim/Tri	5.53	5.63	5.40	5.58	5.46	5.52
			RATE			
			0.42	5.77	5.59	5.68
			0.84	5.67	5.47	5.57
			1.26	5.70	5.24	5.47
Mean				5.72	5.43	5.57

EXTRA

None Mechanc1 Chlor/di

5.62 5.39 5.76

STANDARD ERRORS OF DIFFERENCES

WEEDKILLER	RATE	TIME	EXTRA	WEEDKILLER RATE	WEEDKILLER TIME	RATE TIME
	0.116	0.142	0.116	0.283	0.200	0.164
Grand mean	5.58					0.200
Mean D.M. %	82.3					

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GRAIN: TONNES/HECTARE

GT HILL BOTTOM I (W)

	RATE			TIME		Mean
	0.42	0.84	1.26	Early	Late	
WEEDKILLR						
Simazine	8.08	8.28	8.27	8.25	8.17	8.21
Sim/Tri	8.35	8.32	8.04	8.20	8.28	8.24
			RATE			
			0.42	8.15	8.28	8.22
			0.84	8.39	8.21	8.30
			1.26	8.14	8.17	8.16
Mean				8.23	8.22	8.22

EXTRA

None Mechanc1 Chlor/di

8.38 8.55 8.46

STANDARD ERRORS OF DIFFERENCES

WEEDKILLR	RATE	TIME	EXTRA	WEEDKILLR RATE	WEEDKILLR TIME	RATE TIME
	0.074	0.091	0.074	0.181	0.128	0.105

Grand mean 8.27

Mean D.M. % 83.1