

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 1972

[Full Table of Content](#)



72/W/CS/103 Simazine Rates and Soil Types - S. Beans

Rothamsted Research

Rothamsted Research (1973) *72/W/CS/103 Simazine Rates and Soil Types - S. Beans* ; Yields Of The Field Experiments 1972, pp 262 - 266 - DOI: <https://doi.org/10.23637/ERADOC-1-62>

72/W/CS/103

SIMAZINE RATES AND SOIL TYPES

Object: To study the effects of simazine and other weedkillers on weed control and yield in beans grown on heavy and light soils containing different amounts of organic matter - Woburn, Warren Field II, White Horse, Great Hill Bottom I.

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

The first year, spring beans.

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: 0.00390.
Great Hill Bottom I: 4.26 x 9.14. Area harvested: 0.00293.

Treatments: No weed control (O), mechanical cultivation (M), chlorpropham with diuron, applied the day after sowing (DCE) together with **All combinations of:-**

1. Weedkiller (W): Simazine (S), simazine with trietazine in proportions 1:7 (SF).
2. Rates of weedkiller: 50% below normal rate for soil type (1), normal rate (2), 50% above normal rate (3).
3. Times of application: Early, day after sowing (E), late, up to 14 days after sowing (L).

Rates and times used on each field:-

Warren Field II (heavy soil, much organic matter).

Chlorpropham with diuron ('New Residuren' at 5.6 l in 450 l) simazine and simazine with trietazine at 0.56, 1.12, 1.68 kg in 450 l.

Early = day after sowing, Late = 10 days after sowing.

White Horse (light soil, much organic matter).

Chlorpropham with diuron ('New Residuren' at 4.2 l in 450 l), simazine and simazine with trietazine at 0.42, 0.84, 1.26 kg in 450 l.

Early = day after sowing, Late = 10 days after sowing.

Great Hill Bottom I (light soil, little organic matter).

Chlorpropham with diuron ('New Residuren' at 4.2 l in 450 l), simazine and simazine with trietazine at 0.42, 0.84, 1.26 kg in 450 l.

Early = day after sowing, Late = 37 days after sowing.

72/W/CS/103

Basal applications: All fields: 400 kg (0:14:28). Insecticide:
Phorate at 1.1 kg.
White Horse: 7.5 tonnes magnesian limestone.
Warren Field II and White Horse: Weedkiller: Paraquat at 0.56 kg ion
in 280 l.

Seed: Maris Bead sown at 220 kg.

Cultivations, etc.:

Warren Field II: Paraquat applied: 9 Sept, 1971. Deep-tine cultivated
three times: 4 - 5 Nov, 5 - 15 Nov, 15 - 16 Nov. PK placed, seed
drilled: 20 Mar, 1972. E plots sprayed: 21 Mar. L plots sprayed:
30 Mar. M plots harrowed: 9 May. M plots mechanically hoed three
times: 9 May, 15 May, 31 May, Insecticide applied: 13 June.
Combine harvested: 21 Sept. Previous crops: Winter wheat 1970,
spring beans 1971.

White Horse: Magnesian limestone applied: 4 Sept, 1971. Paraquat
applied: 9 Sept. Ploughed: 13 Oct. Deep-tine cultivated: 10 Nov.
PK placed, seed drilled: 20 Mar, 1972. E plots sprayed: 21 Mar.
L plots sprayed: 30 Mar. M plots harrowed: 9 May. M plots
mechanically hoed twice: 10 May, 31 May. Volunteer potatoes
pulled: 31 May - 5 June. Insecticide applied: 6 June. Combine
harvested: 3 Oct. Previous crops: Potatoes 1970, winter wheat
1971.

Great Hill Bottom I: Ploughed: 5 Nov, 1971. PK placed, seed drilled:
20 Mar, 1972. E plots sprayed: 21 Mar. L plots sprayed:
26 Apr. M plots harrowed: 9 May. M plots mechanically hoed
twice: 10 May, 31 May. Insecticide applied: 13 June. Combine
harvested: 29 Sept. Previous crops: Winter wheat 1970, barley
1971.

NOTE: Soil samples were taken in spring to determine organic matter
content at depths 0 - 7.6 cm and 7.6 - 15.0 cm to determine
the movement of the active ingredient of the weedkillers
down the soil profile.

Standard errors per plot. Grain, tonnes/hectare.

Warren Field II (R): 0.299 or 13.2% (42 d.f.)

White Horse (R): 0.410 or 13.5% (41 d.f.)

Great Hill Bottom I (W): 0.413 or 13.8% (27 d.f.)

72/W/CS/103

TABLES OF MEANS

GRAIN: TONNES/HECTARE

WARREN FIELD II (W)

	RATE			TIME		Mean	
	1	2	3	E	L		
W							
S	2.30	2.51	2.23	2.19	2.51	2.35	
ST	2.26	2.30	2.26	2.24	2.31	2.27	
		RATE					
		1	2	3	2.17	2.39	2.28
					2.28	2.53	2.41
					2.18	2.31	2.25
Mean				2.21	2.41	2.31	

EXTRA

O	M	DCE
1.91	2.12	2.25

Grand mean: 2.27

STANDARD ERRORS OF DIFFERENCES

W	RATE	TIME	EXTRA	W RATE	W TIME	RATE TIME
0.086	0.106	0.086	0.212	0.150	0.122	0.150

Mean D.M. %: 74.6

72/W/CS/103

GRAIN: TONNES/HECTARE

WHITE HORSE (W)

	RATE			TIME		Mean
	1	2	3	E	L	
W						
S	3.06	2.96	3.16	3.13	2.98	3.06
ST	2.90	3.14	2.98	2.98	3.03	3.01
		RATE				
		1		2.92	3.04	2.98
		2		3.07	3.04	3.05
		3		3.19	2.95	3.07
Mean				3.06	3.01	3.03

EXTRA

O	M	DCE
3.43	2.69	3.06

Grand mean: 3.04

STANDARD ERRORS OF DIFFERENCES

W	RATE	TIME	EXTRA	W RATE	W TIME	RATE TIME
0.118	0.145	0.118	0.290	0.205	0.236	0.290

Mean D.M. %: 81.3

72/W/CS/103

GRAIN: TONNES/HECTARE

GREAT HILL BOTTOM I (W)

	RATE			TIME		Mean	
	1	2	3	E	L		
W							
S	2.88	3.34	2.97	3.01	3.12	3.06	
ST	2.86	3.04	2.72	3.07	2.67	2.87	
		RATE					
		1	2	3	2.92	2.82	2.87
			2		3.23	3.15	3.19
			3		2.98	2.71	2.84
Mean					3.04	2.89	2.97

EXTRA

O	M	DCE
2.98	3.11	3.05

Grand mean: 2.98

STANDARD ERRORS OF DIFFERENCES

W	RATE	TIME	EXTRA	W RATE	W TIME	RATE TIME
0.138	0.169	0.138	0.337	0.238	0.275	0.337
Mean D.M. %: 82.2						