

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 1976

[Full Table of Content](#)

76/R/RN/8 Cultivation/WEEDKILLER - Beans

Rothamsted Research

Rothamsted Research (1977) *76/R/RN/8 Cultivation/WEEDKILLER - Beans* ; Yields Of The Field Experiments 1976, pp 87 - 89 - DOI: <https://doi.org/10.23637/ERADOC-1-15>

76/R/RN/8

CULTIVATION WEEDKILLER

Object: To study the long-term effects of weedkillers and different methods of primary cultivation on a rotation of crops - Great Harpenden I.

Sponsors: R. Moffitt, G.V. Dyke, J.A. Currie.

The 16th year, spring beans.

For previous years see 'Details' 1967, 68/B/6(t), 69/R/RN/8(t), 70/R/RN/8, 71/R/RN/8(t) and 72-75/R/RN/8.

Design: 2 randomised blocks of 12 plots split into 2.

Whole plot dimensions: 12.8 x 15.2.

Treatments: All combinations of:-

Whole plots

1. CULTIVTN Primary cultivations annually:

PLOUGH	Ploughed: 12 Nov, 1975
ROTAVATE	Rotary cultivated: 13 Nov, 1975
DEEPTINE	Deep-tine cultivated twice: 12 Nov, 1975

2. WEEDCNTL(76) Weed control to beans 1976:

MECHANCL	Mechanical
SIMAZINE	Simazine at 1.1 kg in 220 l (duplicated)

Sub plots

3. WEEDKLLR(751) Hormone weedkiller to barley 1975:

NONE	None
DI+ME+MC	Dicamba + mecoprop + MCPA ('Tetralax Plus' at 7.0 l in 220 l).

4. WEEDKLLR(752) Paraquat weedkiller to barley stubble autumn 1975:

NONE	None
PARAQUAT	Paraquat at 0.42 kg ion in 220 l

EXTRA plus three extra treatments

SPIKE	Spike rotary cultivated: 4 Mar, 1976. Given simazine to beans 1976, with sub plot treatments 3 and 4 above.
-------	---

(SH)PLGH	Shallow ploughed: 17 Nov, 1975. Given simazine to beans 1976 and paraquat to barley stubble autumn 1975, with sub plot treatment 3 above. Barley straw spread: 2 Sept, 1975. Straw burned: 10 Sept.
----------	---

STANDARD	Standard cultivations as considered best for each crop. Ploughed: 12 Nov, 1975. Given simazine to beans 1976, with sub plot treatments 3 and 4 above.
----------	---

76/R/BN/8

- NOTES: (1) Simazine applied: 9 Mar, 1976
(2) Paraquat applied: 6 Oct, 1975.
(3) MECHANCL plots: Mechanically weeded: 29 April, 25 May, 1976.
(4) All plots, except SPIKE plots, heavy spring-tine cultivated:
3 Mar, 1976.
(5) All plots mechanically weeded: 28 May.

Basal applications: Manures: (0:14:28) at 400 kg.

Seed: Maris Bead, sown at 220 kg.

Cultivations, etc.: - Fertiliser applied: 3 Mar, 1976. Seed sown: 4 Mar.
Harvested: 20 July.

EXTRA PLOTS ONLY

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

EXTRA	SPIKE (SH)	PLGH	STANDARD
WEEDKLLR(751)			
NONE	0.31	0.95	0.75
DI+ME+MC	0.29	0.70	0.62
WEEDKLLR(752)			
NONE	0.26		0.67
PARAQUAT	0.35	0.82	0.71
MEAN	0.30	0.82	0.69

GRAIN MEAN DM% 74.8

SUB PLOT AREA HARVESTED 0.00488

76/R/RN/8

OMITTING EXTRA PLOTS

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

CULTIVTN	PLOUGH	ROTAVATE	DEEPTINE	MEAN
WEEDCNTL(76)				
MECHANCL	0.79	0.42	0.34	0.52
SIMAZINE	0.72	0.61	0.41	0.58
WEEDKLLR(751)				
NONE	0.68	0.53	0.28	0.50
DI+ME+MC	0.81	0.57	0.49	0.62
WEEDKLLR(752)				
NONE	0.68	0.48	0.36	0.51
PARAQUAT	0.81	0.62	0.41	0.61
MEAN	0.75	0.55	0.38	0.56

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	WEEDCNTL(76)	WEEDKLLR(751)	WEEDKLLR(752)	CULTIVTN
	0.093	0.056	0.056	0.108

TABLE	CULTIVTN WEEDCNTL(76)	CULTIVTN WEEDKLLR(751)	CULTIVTN WEEDKLLR(S752)	
SED	0.187			MIN-REP
	0.162	0.128	0.128	MAX-MIN
	0.132			MAX-REP

EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:
CULTIVTN

0.098 0.098

WEEDCNTL(76)
MIN-REP WEEDCNTL(76) MECHANCL
MAX-MIN MECHANCL SIMAZINE
MAX-REP SIMAZINE

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	10	0.187	33.4
BLOCK.WP.SP	9	0.169	30.2

GRAIN MEAN DM% 76.7