

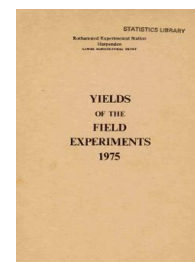
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1975

[Full Table of Content](#)



75/ R/CS/90 - Cultivations for Cerealswheat -

Rothamsted Research

Rothamsted Research (1976) 75/ R/CS/90 - *Cultivations for Cerealswheat* - ; Yields Of The Field Experiments 1975, pp 192 - 194 - DOI: <https://doi.org/10.23637/ERADOC-1-141>

75/R/CS/90

CULTIVATIONS FOR CEREALS

Object: To study the engineering aspects - power requirements, rate of work, revenue and costs - of different tillage systems for continuous wheat. Effects on weeds, soil pathogens and yields are also studied - Meadow.

Sponsors: D.E. Patterson (N.I.A.E.), R. Moffitt.

The fourth year, winter wheat.

For previous years see 72/R/CS/90(t) and 73-74/R/CS/90.

Design: 3 randomised blocks of 10 plots.

Whole plot dimensions: 13.7 x 33.8.

Treatments: Tillage systems:-

TILLAGE

Three passages of the tractor (three-pass system): Ploughed* 20 cm deep (8 inches): spring-tine cultivated: drilled.	1
Three-pass system: Tine cultivated* (Bomford) 15 cm deep (6 inches): tine cultivated 15 cm: spring-tine cultivated and drilled.	2
Two-pass system: Ploughed* 20 cm deep: spring-tine cultivated and drilled.	3
Two-pass system: Ploughed* 10 cm deep (4 inches): spring-tine cultivated and drilled.	4
Two-pass system: Tine cultivated* (N.I.A.E.) 20 cm deep: spring-tine cultivated and drilled.	5
Three-pass system: Sprayed with paraquat (0.56 kg ion in 220 l on 14 Oct): tine cultivated* (N.I.A.E.) 10 cm deep: spring-tine cultivated and drilled.	6
Two-pass system: Sprayed with paraquat (0.56 kg ion in 220 l on 14 Oct): tine cultivated, rotary cultivated and drilled.	7
Two-pass system: Sprayed with paraquat (0.56 kg ion in 220 l on 24 Oct): direct drilled.	8
Two-pass system: Rotary digger (N.I.A.E.) cultivated*: spring-tine cultivated and drilled.	9
Two-pass system: Rotary digger cultivated* 20 cm deep: spring-tine cultivated and drilled.	10

* Cultivation done on 14-18 Oct. All other cultivations and drilling done on 24-25 Oct. A disc drill was used on all treatments except 8.

75/R/CS/90

NOTE: Rotary digger (N.I.A.E.) - depth of working: rotor 10 cm, tines 20 cm.

Basal applications: Manures: (10:24:24) at 310 kg combine drilled, 'Nitro-Chalk' at 380 kg. Weedkiller: Mecoprop ('Proponex Plus' at 4.2 l in 220 l).

Seed: Cappelle, sown at 160 kg.

Cultivations, etc.: - N applied: 21 Apr, 1975. Weedkiller applied: 24 Apr. Combine harvested: 11 Aug.

NOTES: Observations and determinations were made as follows:-

- (1) Soil: Mechanical analysis and profile descriptions, moisture determinations, soil aggregate stability, organic matter, pH, nutrient distribution and photographs.
- (2) Implements: Depth and width of work, forward speed, wheel slip, power requirements.
- (3) Crop: Plant and tiller counts, number of ears and grains per ear, disease and pest assessments, aerial photographs.

75/R/CS/90

*** TABLES OF MEANS ***

GRAIN TONNES/HECTARE

TILLAGE	1	2	3	4	5	6	7	8	9	10	MEAN
	5.98	5.49	6.05	5.67	5.24	5.56	5.59	5.52	5.80	5.81	5.67

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

TABLE	TILLAGE
-----	-----
SED	0.284

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

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.348	6.1

GRAIN MEAN DM% 86.8

PLOT AREA HARVESTED 0.01031