

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/R/CS/88 and 72/W/CS/88 Fertiliser and Fym - Potatoes

Rothamsted Research

Rothamsted Research (1973) *72/R/CS/88 and 72/W/CS/88 Fertiliser and Fym - Potatoes* ; Yields Of The Field Experiments 1972, pp 239 - 244 - DOI: <https://doi.org/10.23637/ERADOC-1-62>

72/R/CS/88 and 72/W/CS/88

FERTILISER AND FYM

Object: To study the effects of a range of rates of NPK fertiliser, P and K being applied in autumn or spring, and FYM on the yields of potatoes - Rothamsted, Great Knott I (R) and Woburn, Warren Field I (W).

Sponsor: F.V. Widdowson.

The first year, potatoes.

Design: 3 randomised blocks of 18 plots.

Whole plot dimensions: 4.27 x 16.2. Area harvested: 0.00230.

Treatments: All combinations of:-

1. FYM: None (O), Great Knott I (R): 53 tonnes, Warren Field I (W): 73 tonnes (D).
2. N and PK fertilisers (F) to give rates of nitrogen*: 188 (1), 377 (2), 565 (3) kg N as 'Nitro-Chalk'.
3. Times of applying PK: All in autumn (A), all in spring (S), half in autumn, half in spring (AS).

* The ratio of N:P2O5:K2O was 1:1.5:1.5 for all N treatments.

Basal applications:

Great Knott I (R): Weedkiller: Linuron at 0.84 kg with paraquat at 0.42 kg ion in 440 l. Fungicide: Mancozeb at 1.3 kg in 440 l. Fungicide with insecticide: Mancozeb at 1.3 kg plus demeton-s-methyl at 0.25 kg in 440 l.

Warren Field I (W): Ground chalk at 5 tonnes. Weedkiller: Linuron at 1.7 kg in 370 l. Fungicide: Mancozeb at 1.3 kg in 430 l. Fungicide with insecticide: Mancozeb at 1.3 kg plus demeton-s-methyl at 0.25 kg in 430 l.

Seed: Great Knott I (R): King Edward.
Warren Field I (W): Maris Piper.

Cultivations, etc.:-

Great Knott I (R): Autumn PK applied: 1 Nov, 1971. FYM applied: 4 - 5 Nov. Ploughed: 5 Nov. Spring PK applied: 24 Apr, 1972. N applied: 25 apr. Rotary cultivated, potatoes planted: 26 Apr. Weedkiller applied: 18 May. Grubbed, rotary ridged: 15 June.

72/R/CS/88 and 72/W/CS/88

Fungicide applied on three occasions: 11 July, 24 July, 10 Aug.
Insecticide applied with fungicide: 24 July. Sprayed with undiluted BOV at 200 l: 20 Sept. Haulm destroyed mechanically: 7 Oct. Lifted: 9 Oct. Previous crops: Barley 1970, fallow 1971.
Warren Field I (W): Chalk applied: 6 Sept, 1971. Autumn PK applied: 28 Oct. FYM applied, ploughed: 1 Nov. Spring PK and N applied: 5 Apr, 1972. Rotary cultivated twice, potatoes planted: 24 Apr. Weedkiller applied: 11 May. Rotary ridged: 20 June. Fungicide applied: 6 July. Fungicide with insecticide applied: 28 July. Sprayed with undiluted BOV at 200 l: 5 Oct. Lifted: 17 - 18 Oct. Previous crops: Wheat 1970, barley 1971.

- NOTES: (1) Leaf samples were taken in July for percentage of Mg and K.
(2) Tuber samples were taken at grading for percentage of N, P and K.
(3) Tuber samples were taken for cooking tests by N.I.A.B.

Standard errors per plot. Total tubers, tonnes/hectare:
Great Knott I (R): 3.69 or 8.0% (34 d.f.)
Warren Field I (W): 2.31 or 4.7% (34 d.f.)

72/R/CS/88 and 72/W/CS/88

TABLES OF MEANS

GREAT KNOTT I (R)

TOTAL TUBERS: TONNES/HECTARE

	F			TIME			Mean
	1	2	3	A	S	AS	
FYM							
O	38.6	45.9	47.6	41.7	45.1	45.2	44.0
D	44.0	48.0	51.0	45.4	48.6	49.0	47.7
			F				
			1	40.0	42.4	41.5	41.3
			2	44.1	48.4	48.3	47.0
			3	46.5	49.8	51.6	49.3
Mean				43.5	46.9	47.1	45.8

F TIME	1			2			3		
	A	S	AS	A	S	AS	A	S	AS
FYM									
O	36.7	39.8	39.2	42.4	47.6	47.6	46.1	47.8	48.8
D	43.3	45.0	43.9	45.9	49.3	49.0	47.0	51.7	54.3

STANDARD ERRORS OF DIFFERENCES

FYM	F	TIME	FYM F	FYM TIME	F TIME	FYM F TIME
1.00	1.23	1.23	1.74	1.74	2.13	3.01

72/R/CS/88 and 72/W/CS/88

GREAT KNOTT I (R)

PERCENTAGE WARE: 4.44 CM (1.75 INCH) RIDDLE

	F			TIME			Mean		
	1	2	3	A	S	AS			
FYM									
O	73.7	80.1	78.4	78.6	77.4	76.3	77.4		
D	77.2	79.7	80.1	80.4	77.4	79.2	79.0		
			F						
			1	77.5	74.2	74.6	75.4		
			2	80.8	79.2	79.8	79.9		
			3	80.3	78.7	78.8	79.3		
Mean				79.5	77.4	77.8	78.2		
F		1			2			3	
TIME	A	S	AS	A	S	AS	A	S	AS
FYM									
O	76.5	72.8	71.8	81.2	80.1	79.2	78.2	79.3	77.9
D	78.4	75.6	77.5	80.4	78.3	80.5	82.4	78.2	79.7

72/R/CS/88 and 72/W/CS/88

WARREN FIELD I (W)

TOTAL TUBERS: TONNES/HECTARE

	F			TIME			Mean		
	1	2	3	A	S	AS			
FYM									
O	39.1	47.9	54.5	46.4	47.9	47.2	47.2		
D	45.8	52.9	55.1	50.1	51.2	52.5	51.3		
			F						
			1	42.8	40.9	43.7	42.5		
			2	48.5	51.7	51.0	50.4		
			3	53.4	56.1	54.9	54.8		
Mean				48.3	49.5	49.9	49.2		
F	1			2			3		
TIME	A	S	AS	A	S	AS	A	S	AS
FYM									
O	40.1	37.6	39.6	45.3	49.5	48.9	53.9	56.5	53.1
D	45.5	44.1	47.8	51.8	53.8	53.1	52.9	55.6	56.7

STANDARD ERRORS OF DIFFERENCES

FYM	F	TIME	FYM F	FYM TIME	F TIME	FYM F TIME
0.63	0.77	0.77	1.09	1.09	1.34	1.89

72/R/CS/88 and 72/W/CS/88

WARREN FIELD I (W)

PERCENTAGE WARE: 4.44 CM (1.75 INCH) RIDDLE

	F			TIME			Mean
	1	2	3	A	S	AS	
FYM							
O	88.8	89.6	89.7	91.2	87.4	89.5	89.4
D	89.9	91.1	89.7	90.9	89.3	90.5	90.2
			F				
			1	91.6	86.0	90.4	89.4
			2	90.6	90.0	90.4	90.3
			3	90.8	89.0	89.4	89.7
Mean				91.0	88.3	90.0	89.8

F TIME	1			2			3		
	A	S	AS	A	S	AS	A	S	AS
FYM									
O	92.1	84.3	90.0	90.6	88.8	89.3	90.8	89.1	89.4
D	91.1	87.8	90.8	90.6	91.2	91.4	90.9	88.8	89.4