

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 1971

[Full Table of Content](#)



71/S/RN/2 Rotation II - Sugar Beet, Potatoes, Barley

Rothamsted Research

Rothamsted Research (1972) *71/S/RN/2 Rotation II - Sugar Beet, Potatoes, Barley* ; Yields Of The Field Experiments 1971, pp 44 - 49 - DOI: <https://doi.org/10.23637/ERADOC-1-97>

7L/S/RN/2

ROTATION II

Object: To measure, by crop yields and soil analysis, the residual value of P applied as FYM or superphosphate in the periods 1899 - 1964 and 1965 - 1967 - Saxmundham.

The third year of revised scheme, potatoes, barley, sugar beet.

For previous years see 'Details' 1967, 68/A/10(t), 69/S/RN/2(t) and 70/S/RN/2.

Whole plot dimensions: 3.56 x 5.49. Sub plot area harvested: Potatoes - 0.00078, sugar beet: 0.00100, barley: 0.00050.

Basal applications:-

Potatoes: 251 kg N and 160 kg K₂O as (25:0:16). Weedkiller: Linuron at 0.84 kg plus paraquat at 0.84 kg ion in 449 l. Fungicide: Mancozeb at 2.69 kg in 449 l on 5 occasions. Insecticide: Menazon ('Saphicol' at 0.70 l in 449 l) applied with the first four applications of fungicide.
Barley: Manures as previously. Weedkiller: Mecoprop at 2.52 kg plus 2,4-D at 0.63 kg in 225 l.
Sugar beet: 188 kg N and 120 kg K₂O as (25:0:16). Insecticides: DDT at 0.34 kg in 281 l on 2 occasions. Menazon ('Saphicol' at 0.70 l in 449 l) on 5 occasions.

Cultivations, etc.:-

Potatoes: Ploughed: 20 Oct, 1970. Test P and basal NK applied, plots rotary cultivated, potatoes planted: 14 Apr, 1971. Weedkiller applied: 11 May. Insecticide and fungicide applied: 17 June, 30 June, 14 July, 27 July. Fungicide applied: 10 Aug. Lifted: 21 Sept. Variety: King Edward.
Barley: Ploughed: 20 Oct, 1970. Seed drilled at 168 kg and basal NK applied: 31 Mar, 1971. Weedkiller applied: 18 May. Harvested by hand: 11 Aug. Variety: Julia.
Sugar beet: Ploughed: 20 Oct, 1970. Test P and basal NK applied, seed drilled: 6 Apr, 1971. DDT applied: 19 May, 3 June. Singled: 28 May. Menazon applied: 17 June, 30 June, 14 July, 27 July, 10 Aug. Lifted: 12 Oct. Variety: Klein E.

71/S/RN/2

SUMMARY OF RESULTS

POTATOES

TOTAL TUBERS: TONNES/HECTARE

Plot	Treatment 1966 and 1967	1971				Mean
		PO*	P1	P2	P3	
1	PO	26.0	41.0	38.4	48.5	36.0
2	PO	37.2	44.5	54.6	52.9	45.3
3	PO	50.1	50.0	46.2	50.0	49.3
4	D	45.6	43.9	53.2	58.4	49.3
5	DP1	53.3	48.0	58.1	52.3	53.0
6	P1	54.5	54.6	50.9	50.9	53.1
7	P2	53.9	61.9	49.7	60.7	56.0
8	PO	49.3	50.9	54.9	50.0	50.9
Mean		46.2	49.3	50.8	53.0	49.1

SUGAR BEET

ROOTS (WASHED): TONNES/HECTARE

1	PO	20.3	35.7	41.2	37.7	31.0
2	PO	35.0	38.7	41.0	39.4	37.8
3	PO	43.7	51.2	45.8	45.6	46.0
4	D	45.8	44.8	42.4	47.0	45.2
5	DP1	44.3	50.1	42.2	48.4	45.9
6	P1	45.9	43.1	53.1	53.6	48.3
7	P2	45.1	42.8	49.5	45.4	45.6
8	PO	42.0	41.9	42.3	48.9	43.4
Mean		40.3	43.5	44.7	45.8	42.9

* Duplicated treatment

71/S/RN/2

SUGAR BEET

Plot	Treatment 1966 and 1967	1971				Mean
		PO*	P1	P2	P3	
		SUGAR %				
1	PO	16.0	16.7	16.6	16.9	16.5
2	PO	16.6	16.7	16.8	17.0	16.7
3	PO	17.0	16.7	17.1	17.1	17.0
4	D	17.0	17.0	17.1	16.5	16.9
5	DP1	17.0	16.8	16.9	17.0	16.9
6	P1	16.8	16.9	16.8	16.7	16.8
7	P2	17.0	16.9	17.2	16.5	16.9
8	PO	16.9	16.7	17.0	16.7	16.9
Mean		16.8	16.8	16.9	16.8	16.8

TOTAL SUGAR: TONNES/HECTARE

1	PO	3.25	5.94	6.85	6.37	5.14
2	PO	5.80	6.46	6.86	6.68	6.32
3	PO	7.44	8.57	7.82	7.82	7.82
4	D	7.79	7.59	7.22	7.77	7.63
5	DP1	7.53	8.40	7.14	8.21	7.76
6	P1	7.72	7.28	8.93	8.96	8.12
7	P2	7.68	7.24	8.50	7.50	7.72
8	PO	7.11	7.00	7.20	8.16	7.32
Mean		6.79	7.31	7.57	7.68	7.23

* Duplicated treatment

71/S/RN/2

SUGAR BEET

Plot	Treatment 1966 and 1967	1971				Mean
		PO*	P1	P2	P3	
TOPS: TONNES/HECTARE						
1	PO	26.2	38.4	51.3	37.5	35.9
2	PO	39.8	40.2	38.4	45.9	40.8
3	PO	41.7	44.1	42.9	43.6	42.8
4	D	43.5	45.9	40.5	40.5	42.8
5	DP1	47.8	51.1	41.4	41.1	45.8
6	P1	46.3	43.2	49.1	50.0	47.0
7	P2	43.1	46.3	45.0	47.9	45.1
8	PO	50.2	41.4	47.7	48.6	47.6
Mean		42.3	43.8	44.5	44.4	43.5

PLANT NUMBER: THOUSANDS/HECTARE						
1	PO	80.7	98.7	88.7	101.7	90.1
2	PO	92.2	90.7	99.7	91.7	93.3
3	PO	94.7	100.7	97.7	99.7	97.5
4	D	87.7	82.7	86.7	99.7	88.9
5	DP1	95.7	90.7	84.7	92.7	91.9
6	P1	91.7	90.7	95.7	101.7	94.3
7	P2	84.2	87.7	96.7	76.7	85.9
8	PO	97.2	89.7	90.7	91.7	93.3
Mean		90.5	91.4	92.6	94.4	91.9

* Duplicated treatment

71/S/RN/2

BARLEY AFTER POTATOES

Plot	Treatment 1966 and 1967	1970				Mean
		PO*	P1	P2	P3	
GRAIN: TONNES/HECTARE						
1	PO	2.40	4.13	3.68	4.27	3.37
2	PO	4.00	4.32	5.00	4.83	4.43
3	PO	4.40	4.51	4.52	4.60	4.49
4	D	4.82	4.79	4.62	4.76	4.76
5	DP1	5.02	5.07	4.76	4.01	4.78
6	P1	5.06	4.82	4.58	4.90	4.89
7	P2	5.00	5.07	4.49	5.16	4.94
8	PO	4.87	4.82	4.94	4.71	4.84
Mean		4.44	4.69	4.57	4.65	4.56

STRAW: TONNES/HECTARE						
1	PO	2.82	4.42	4.97	4.90	3.99
2	PO	4.95	5.01	5.91	5.89	5.34
3	PO	5.28	5.17	5.06	5.71	5.30
4	D	5.93	5.45	5.75	6.00	5.81
5	DP1	5.65	6.04	5.42	5.48	5.65
6	P1	5.89	5.48	5.50	5.77	5.70
7	P2	5.73	5.46	5.32	5.57	5.56
8	PO	5.44	5.34	5.47	5.25	5.39
Mean		5.21	5.29	5.42	5.57	5.34

Mean D.M. %: Grain: 75.4
Straw: 51.4

* Duplicated treatment

71/S/RN/2

BARLEY AFTER SUGAR BEET

Plot	Treatment 1966 and 1967	1970				Mean
		PO*	P1	P2	P3	
GRAIN: TONNES/HECTARE						
1	PO	1.42	2.80	4.02	4.21	2.77
2	PO	3.76	4.35	4.11	4.22	4.04
3	PO	4.58	4.51	3.56	4.09	4.27
4	D	4.60	4.64	4.98	4.55	4.67
5	DP1	4.77	4.20	5.34	4.65	4.74
6	P1	4.79	4.74	4.98	4.57	4.78
7	P2	4.81	4.81	4.38	4.62	4.69
8	PO	4.41	4.10	5.11	4.78	4.56
Mean		4.14	4.27	4.56	4.46	4.32

STRAW: TONNES/HECTARE						
1	PO	2.18	3.49	3.99	4.91	3.35
2	PO	4.38	5.15	4.22	4.92	4.61
3	PO	4.73	4.69	5.82	4.50	4.89
4	D	5.49	5.07	5.83	5.16	5.41
5	DP1	5.19	5.00	5.69	5.19	5.25
6	P1	5.22	5.09	5.56	4.72	5.16
7	P2	5.02	5.19	5.10	5.08	5.08
8	PO	4.97	4.66	5.32	4.81	4.94
Mean		4.65	4.79	5.19	4.91	4.84

Mean D.M. %: Grain: 74.6
Straw: 53.5

* Duplicated treatment