

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/R/BN/7 Barnfield - Beans, Sugar Beet, Potatoes

Rothamsted Research

Rothamsted Research (1972) *71/R/BN/7 Barnfield - Beans, Sugar Beet, Potatoes* ; Yields Of The Field Experiments 1971, pp 30 - 38 - DOI: <https://doi.org/10.23637/ERADOC-1-97>

71/R/BN/7

BARNFIELD

Object: Originally studied the effects of organic and inorganic manures on continuous roots. The experiment has been modified to study effects on a four-course rotation and on continuous beans.

The fourth year of new scheme, beans, sugar beet, potatoes.

For previous years see 'Details' 1967, 68/A/5(t), 69/R/BN/7 and 70/R/BN/7(t).

Plot dimensions and areas harvested:

Potatoes and sugar beet (quarter plot): 4.27 x 28.5.
 (Strip 1: 2.74 x 28.5). Area harvested: Potatoes - 0.00390,
 sugar beet, roots - 0.00130, tops - 0.00065.
 Beans, Section 1 (half plot): 10.7 x 27.4.
 (Strips 1 and 8: 7.01 x 27.4). Area harvested: 0.00878.
 Section 2 (half plot): 10.7 x 19.5.
 (Strips 1 and 8: 7.01 x 19.5). Area harvested: 0.00624.

Continuous spring beans: Fresh simazine was applied only to the quarter plots which tested simazine residues (1967 - 69) in 1970. There were thus three combinations:-

	1967	1968	1969	1970	1971
(1)	+	-	-	-	-
(2)	+	+	+	-	+
(3)	+	+	+	+	-

+ = simazine, - = no simazine (mechanical cultivation as needed).

On Section 1 treatment (1) was duplicated, Section 2 had only treatments (1) and (3).

Standard applications:

Spring beans: Weedkiller: Paraquat at 0.84 kg ion in 225 l.
 Insecticide: Demeton-s-methyl at 245 g in 438 l.
 Potatoes: Weedkillers: Paraquat at 0.28 kg ion in 225 l. Linuron at 1.68 kg in 427 l. Fungicide: Mancozeb at 1.35 kg in 438 l.
 Sugar beet: Weedkiller: Paraquat at 0.28 kg ion in 225 l.
 Insecticide: Demeton-s-methyl at 245 g in 438 l.

Cultivations, etc.: P, K, Na and Mg applied*: 15 Oct, 1970. FYM applied, all plots ploughed: 19 Oct.

Spring beans: Paraquat applied: 11 Sept, 1970. Seed drilled at 224 kg: 4 Mar, 1971. Simazine applied to appropriate quarter plots at 1.12 kg in 225 l: 10 Mar. Insecticide applied: 1 July. Combine harvested: 2 Sept. Variety: Maris Bead.

71/R/BN/7

Potatoes: Paraquat applied: 19 Sept, 1970. N applied: 31 Mar, 1971. All plots rotary cultivated, strips 1 and 2 twice, potatoes machine planted: 2 Apr. Linuron applied: 15 Apr. Grubbed: 4 June. Rotary ridged: 5 June. Fungicide applied: 23 June, 13 Aug. Haulm destroyed mechanically: 8 Sept. Sprayed with undiluted BOV at 169 l: 17 Sept. Lifted: 23 Sept. Variety: King Edward.

Sugar beet: Paraquat applied: 19 Sept, 1970. N applied: 31 Mar, 1971. Seed drilled at 5.6 kg: 2 Apr. Singled: 1 June. Insecticide applied: 25 June. Lifted: 3 Nov. Variety: Klein E.

* All plots of Strip 5 received extra fertiliser in error - 5.6 kg P.

Erratum to 70/R/BN/7, p.35. Cultivations to spring beans: 'Simazine applied to half plots' should be 'Simazine applied to appropriate sub plots.....', simazine was applied to one quarter plot per strip on Section 1 and one half plot on Section 2.

TL/R/BN/7

SUMMARY OF RESULTS

POTATOES

TOTAL TUBERS: TONNES/HECTARE

Strip	N	N	A	AC	C
1	0	22.8	-	-	19.4
	1	-	34.4	22.0	-
	2	45.5	-	-	31.0
2	3	-	31.6	31.9	-
	0	-	15.8	18.4	-
	1	34.0	-	-	33.0
4	2	-	30.5	37.3	-
	3	44.1	-	-	48.7
	0	11.9	-	-	15.4
5	1	-	22.8	24.0	-
	2	27.6	-	-	33.2
	3	-	32.7	37.0	-
6	0	10.2	-	-	9.3
	1	-	8.9	8.8	-
	2	16.0	-	-	15.4
7	3	-	8.6	9.3	-
	0	-	11.0	12.8	-
	1	18.4	-	-	19.7
8	2	-	23.1	30.6	-
	3	29.6	-	-	29.8
	0	-	9.1	9.7	-
9	1	11.3	-	-	12.7
	2	-	7.9	8.5	-
	3	18.7	-	-	15.8
8	0	-	5.8	6.3	-
	1	9.3	-	-	9.8
	2	-	6.4	6.8	-
9	3	17.7	-	-	7.3
	0	-	-	8.4	-
	1	-	-	17.8	-
9	2	-	-	24.3	-
	3	-	-	29.7	-

71/R/BN/7

POTATOES

% WARE: 3.81 CM (1.5 INCH) RIDDLE

Strip	N	N	A	AC	C
1	0	65.5	-	-	68.4
	1	-	78.5	64.7	-
	2	80.3	-	-	68.5
	3	-	67.5	61.9	-
2	0	-	62.0	61.9	-
	1	77.3	-	-	67.6
	2	-	71.7	65.7	-
	3	73.7	-	-	70.9
4	0	74.3	-	-	57.4
	1	-	70.3	64.4	-
	2	77.2	-	-	73.5
	3	-	72.5	70.1	-
5	0	73.3	-	-	60.2
	1	-	42.0	45.8	-
	2	73.2	-	-	65.4
	3	-	43.2	46.1	-
6	0	-	63.3	61.3	-
	1	76.6	-	-	70.1
	2	-	68.4	74.1	-
	3	87.3	-	-	81.6
7	0	-	61.0	64.5	-
	1	50.0	-	-	60.9
	2	-	37.9	53.2	-
	3	77.0	-	-	65.6
8	0	-	56.6	59.4	-
	1	78.0	-	-	64.0
	2	-	71.7	45.1	-
	3	85.1	-	-	60.0
9	0		71.3		
	1		82.1		
	2		85.0		
	3		77.0		

71/R/BN/7

SUGAR BEET

CLEAN BEET: TONNES/HECTARE

Strip	N	N	A	AC	C
1	0	-	34.2	30.9	-
	1	35.4	-	-	48.3
	2	-	49.7	49.1	-
	3	51.8	-	-	44.9
2	0	32.2	-	-	27.4
	1	-	43.7	41.7	-
	2	48.8	-	-	50.0
	3	-	50.9	54.1	-
4	0	-	26.1	25.7	-
	1	32.3	-	-	31.1
	2	-	38.8	35.9	-
	3	49.5	-	-	47.9
5	0	-	28.8	32.8	-
	1	25.4	-	-	29.3
	2	-	36.5	35.4	-
	3	34.2	-	-	43.0
6	0	22.4	-	-	26.8
	1	-	26.8	30.1	-
	2	34.4	-	-	41.4
	3	-	43.4	46.9	-
7	0	11.1	-	-	16.6
	1	-	28.9	32.8	-
	2	36.6	-	-	39.3
	3	-	41.9	42.2	-
8	0	21.5	-	-	18.8
	1	-	21.1	25.4	-
	2	28.5	-	-	33.3
	3	-	30.4	27.2	-

71/R/BN/7

SUGAR BEET

SUGAR %

Strip	N	N	A	AC	C
1	0	-	18.3	18.0	-
	1	18.2	-	-	17.5
	2	-	17.4	18.4	-
	3	17.4	-	-	17.2
2	0	18.3	-	-	18.2
	1	-	18.1	18.5	-
	2	18.2	-	-	18.6
	3	-	18.4	18.1	-
4	0	-	18.7	18.4	-
	1	19.1	-	-	18.9
	2	-	19.2	19.0	-
	3	18.4	-	-	18.5
5	0	-	18.9	18.5	-
	1	18.3	-	-	18.7
	2	-	18.8	18.5	-
	3	17.5	-	-	18.1
6	0	18.3	-	-	18.3
	1	-	19.4	18.8	-
	2	18.6	-	-	19.0
	3	-	18.7	18.5	-
7	0	18.7	-	-	18.2
	1	-	18.0	19.1	-
	2	18.2	-	-	19.1
	3	-	18.6	18.6	-
8	0	18.6	-	-	18.2
	1	-	19.2	19.0	-
	2	18.3	-	-	17.9
	3	-	17.4	16.8	-

71/R/BN/7

SUGAR BEET

TOTAL SUGAR: TONNES/HECTARE

Strip	N	N	A	AC	C
1	0	-	6.26	5.55	-
	1	6.47	-	-	8.42
	2	-	8.65	9.03	-
	3	9.02	-	-	7.72
2	0	5.90	-	-	4.98
	1	-	7.92	7.72	-
	2	8.90	-	-	9.27
	3	-	9.35	9.79	-
4	0	-	4.90	4.73	-
	1	6.15	-	-	5.89
	2	-	7.46	6.81	-
	3	9.11	-	-	8.86
5	0	-	5.45	6.07	-
	1	4.66	-	-	5.48
	2	-	6.85	6.55	-
	3	6.00	-	-	7.76
6	0	4.09	-	-	4.90
	1	-	5.19	5.65	-
	2	6.40	-	-	7.87
	3	-	8.11	8.69	-
7	0	2.09	-	-	3.03
	1	-	5.19	6.26	-
	2	6.65	-	-	7.50
	3	-	7.80	7.83	-
8	0	4.00	-	-	3.43
	1	-	4.04	4.84	-
	2	5.21	-	-	5.97
	3	-	5.29	4.57	-

71/R/BN/7

SUGAR BEET

TOPS: TONNES/HECTARE

Strip	N	N	A	AC	C
1	0	-	14.0	13.3	-
	1	16.7	-	-	24.4
	2	-	32.1	25.8	-
2	3	32.8	-	-	32.1
	0	18.8	-	-	11.9
	1	-	18.1	15.3	-
4	2	27.2	-	-	22.3
	3	-	27.2	30.7	-
	0	-	4.2	4.9	-
5	1	7.0	-	-	7.0
	2	-	10.5	16.7	-
	3	18.8	-	-	24.4
6	0	-	4.9	5.6	-
	1	7.7	-	-	10.5
	2	-	16.0	18.8	-
7	3	23.0	-	-	20.2
	0	3.5	-	-	2.8
	1	-	6.3	8.4	-
8	2	12.6	-	-	16.0
	3	-	14.0	17.4	-
	0	3.5	-	-	5.6
9	1	-	8.4	9.1	-
	2	15.3	-	-	13.3
	3	-	15.3	18.1	-
10	0	4.9	-	-	4.9
	1	-	9.1	10.5	-
	2	15.3	-	-	18.1
11	3	-	22.3	22.3	-

71/R/BN/7

BEANS

SIMAZINE

Strip	1967*	1967-70	1967-69 & 1971	Mean
GRAIN: TONNES/HECTARE				
1	1.25	1.40	1.65	1.39
2	1.41	0.99	0.68	1.13
4	1.52	1.26	0.39	1.17
5	1.86	1.43	0.43	1.40
6	1.73	1.46	0.54	1.37
7	1.69	1.98	0.28	1.41
8	1.34	0.80	0.34	0.95
Mean	1.54	1.33	0.62	1.26

STRAW: TONNES/HECTARE				
1	0.91	1.59	1.14	1.13
2	1.41	1.52	1.07	1.35
4	1.51	1.27	0.31	1.15
5	1.69	1.05	0.23	1.17
6	1.52	1.18	0.39	1.15
7	0.90	1.66	1.39	1.21
8	0.93	0.41	0.20	0.62
Mean	1.27	1.24	0.67	1.11

Mean D.M. %: Grain: 82.1
Straw: 77.8

* Duplicated treatment