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Numerical Results of the Field Experiments 1969

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

Rothamsted Research

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BARNFIELD

(69/R/BN/7)

Second year of new scheme, 1969.

For history, treatments, etc., see 'Details' 1967 and 'Results' 68/A/5.

Varieties in 1969: Potatoes: King Edward, sugar beet: Klein E, spring beans: Maris Bead.

Plot areas:

Potatoes and sugar beet (quarter plot):
0.0289 (Strip 1: Potatoes: 0.0193, sugar beet: 0.0217).
Area harvested: Potatoes, 0.0096, sugar beet: 0.0032.
Beans, Section 1 (half plot): 0.0723.
(Strips 1 and 8: 0.0475). Area harvested: 0.0362.
Section 2 (half plot): 0.0241.
(Strips 1 and 8: 0.0158). Area harvested: 0.0129.

Standard applications:

Potatoes: Weedkiller: Paraquat at 0.375 lb ion plus linuron at 0.75 lb in 37 gals. Fungicide: Mancozeb at 1.2 lb in 37 gals on three occasions. Insecticide: Demeton-s-methyl at 3.5 oz applied with second mancozeb spray.
Sugar beet: Weedkiller: Phenmedipham ('Betanal' at 5 pints in 20 gals) to strips 1 and 2 only. Insecticide: Demeton-s-methyl at 3.5 oz in 37 gals.
Beans: Weedkiller: Diquat ('Reglone' at 3 pints in 25 gals).
Insecticide: Demeton-s-methyl at 3.5 oz in 37 gals.

Cultivations, etc.: P, K, Na and Mg applied: 5 Dec, 1968. FYM applied: 6 Dec. All plots ploughed: 9 Dec.

Potatoes: 'Nitro-Chalk' applied: 8 Apr, 1969. Plots rotary cultivated, potatoes machine planted: 9 Apr. Weedkiller applied: 13 May. Grubbed: 18 June. Rotary ridged: 23 June. Fungicide applied: 15 July, 4 Aug, 21 Aug. Insecticide applied: 4 Aug. Haulm destroyed mechanically: 22 Sept. Lifted: 2 Oct.
Sugar beet: Seed drilled at 8 lb: 3 Apr, 1969. 'Nitro-Chalk' applied: 8 Apr. Weedkiller applied: 22 May. Singled: 27 May. Insecticide applied: 19 June. Lifted: 24 Oct.

Spring beans: Diquat applied: 24 Oct, 1968. Seed drilled at
200 lb: 24 Mar, 1969. Simazine applied to half plots at
1 lb in 20 gals: 27 Mar. Insecticide applied: 19 June.
Combine harvested: 10 Sept.

NOTE: Duplicate samples were taken for yield from all quarter plots
of sugar beet to obtain an estimate of within plot variance.

Plot No.	Yield (lb/acre)	Yield (lb/acre)	Yield (lb/acre)	Yield (lb/acre)
1	10.2	10.1	10.3	10.4
2	11.5	11.4	11.6	11.7
3	12.8	12.7	12.9	13.0
4	14.1	14.0	14.2	14.3
5	15.4	15.3	15.5	15.6
6	16.7	16.6	16.8	16.9
7	18.0	17.9	18.1	18.2
8	19.3	19.2	19.4	19.5
9	20.6	20.5	20.7	20.8
10	21.9	21.8	22.0	22.1
11	23.2	23.1	23.3	23.4
12	24.5	24.4	24.6	24.7
13	25.8	25.7	25.9	26.0
14	27.1	27.0	27.2	27.3
15	28.4	28.3	28.5	28.6
16	29.7	29.6	29.8	29.9
17	31.0	30.9	31.1	31.2
18	32.3	32.2	32.4	32.5
19	33.6	33.5	33.7	33.8
20	34.9	34.8	35.0	35.1

SUMMARY OF RESULTS

POTATOES

TOTAL TUBERS: TONS

SERIES

Strip	N	N	A	AC	C
1	0	-	10.72	9.70	-
	1	13.63	-	-	15.73
	2	-	22.42	17.75	-
2	3	20.23	-	-	19.76
	0	10.38	-	-	8.94
	1	-	16.85	14.41	-
4	2	17.96	-	-	16.64
	3	-	18.37	18.27	-
	0	-	4.20	4.04	-
5	1	10.41	-	-	8.90
	2	-	14.73	13.95	-
	3	16.42	-	-	17.17
6	0	-	3.33	4.35	-
	1	8.86	-	-	9.58
	2	-	13.12	13.34	-
7	3	14.97	-	-	15.11
	0	4.45	-	-	4.36
	1	-	6.64	8.05	-
8	2	11.48	-	-	12.96
	3	-	14.09	14.83	-
	0	4.17	-	-	5.38
9	1	-	7.92	9.73	-
	2	13.61	-	-	12.36
	3	-	13.62	13.92	-
10	0	3.65	-	-	4.40
	1	-	5.73	6.18	-
	2	6.62	-	-	8.05
11	3	-	6.61	8.15	-
	0	-	-	-	-

POTATOES

% WARE

SERIES

Strip	N	N	A	AC	C
1	0	-	83.2	85.4	-
	1	88.8	-	-	89.8
	2	-	93.1	91.1	-
2	3	95.5	-	-	91.7
	0	81.0	-	-	81.4
	1	-	90.8	87.4	-
4	2	93.3	-	-	90.5
	3	-	93.0	93.1	-
	0	-	74.7	73.9	-
5	1	90.1	-	-	84.4
	2	-	90.1	87.4	-
	3	93.3	-	-	91.5
6	0	-	76.0	76.2	-
	1	86.6	-	-	88.2
	2	-	91.7	90.3	-
7	3	96.1	-	-	93.1
	0	72.7	-	-	79.8
	1	-	86.1	85.7	-
8	2	92.3	-	-	91.2
	3	-	91.5	91.8	-
	0	78.3	-	-	77.8
8	1	-	93.0	87.6	-
	2	90.6	-	-	92.3
	3	-	92.6	93.3	-
8	0	70.5	-	-	74.2
	1	-	84.3	84.1	-
	2	84.1	-	-	87.5
	3	-	86.1	90.0	-

SUGAR BEET
 ROOTS (WASHED): TONS
 SERIES

Strip	N	N	A	AC	C
1	0	8.16	-	-	7.26
	1	-	19.27	15.49	-
	2	19.17	-	-	18.34
2	3	-	18.86	17.47	-
	0	-	5.90	6.98	-
	1	18.06	-	-	12.05
4	2	-	18.79	15.94	-
	3	18.82	-	-	17.57
	0	4.98	-	-	6.23
5	1	-	9.86	12.43	-
	2	14.06	-	-	16.43
	3	-	16.84	17.64	-
6	0	4.70	-	-	5.00
	1	-	9.24	11.88	-
	2	13.06	-	-	13.72
7	3	-	12.47	13.93	-
	0	-	3.06	4.35	-
	1	7.81	-	-	11.15
8	2	-	12.92	16.53	-
	3	13.65	-	-	16.84
	0	-	3.02	5.02	-
9	1	8.44	-	-	11.29
	2	-	13.68	15.52	-
	3	14.06	-	-	13.68
8	0	-	3.16	5.49	-
	1	6.53	-	-	9.83
	2	-	9.27	13.68	-
	3	10.80	-	-	12.08
9	0	-	-	3.87	-
	1	-	-	9.69	-
	2	-	-	11.63	-
	3	-	-	14.38	-

SUGAR BEET

SUGAR %

SERIES

Strip	N	N	A	AC	C
1	0	18.5	-	-	18.2
	1	-	19.2	19.4	-
	2	19.4	-	-	19.1
2	3	-	19.5	19.8	-
	0	-	18.8	18.4	-
	1	19.2	-	-	19.0
4	2	-	19.7	19.7	-
	3	19.6	-	-	19.7
	0	19.0	-	-	19.0
5	1	-	19.6	19.6	-
	2	20.0	-	-	19.8
	3	-	20.8	20.1	-
6	0	19.0	-	-	18.1
	1	-	18.9	18.9	-
	2	19.7	-	-	19.4
7	3	-	18.9	18.4	-
	0	-	18.8	18.4	-
	1	19.0	-	-	19.6
8	2	-	20.9	19.7	-
	3	19.5	-	-	20.0
	0	-	18.8	18.7	-
9	1	19.5	-	-	19.3
	2	-	19.5	19.5	-
	3	19.2	-	-	19.3
8	0	-	17.9	18.6	-
	1	19.6	-	-	19.1
	2	-	19.5	19.1	-
	3	18.9	-	-	19.0
9	0	-	17.7	-	-
	1	-	19.6	-	-
	2	-	20.3	-	-
	3	-	20.1	-	-

SUGAR BEET
TOTAL SUGAR: CWT
SERIES

Strip	N	N	A	AC	C
1	0	30.2	-	-	26.4
	1	-	73.9	59.7	-
	2	74.3	-	-	69.8
2	3	-	73.4	69.1	-
	0	-	22.1	25.8	-
	1	69.4	-	-	46.0
4	2	-	74.0	62.8	-
	3	73.6	-	-	69.4
	0	18.9	-	-	23.6
5	1	-	38.7	48.8	-
	2	56.2	-	-	65.0
	3	-	69.9	71.0	-
6	0	17.8	-	-	18.1
	1	-	34.8	44.8	-
	2	51.4	-	-	53.3
7	3	-	47.0	51.2	-
	0	-	11.5	16.0	-
	1	29.6	-	-	43.7
8	2	-	53.8	65.0	-
	3	53.3	-	-	67.3
	0	-	11.3	18.7	-
9	1	33.0	-	-	43.6
	2	-	53.4	60.5	-
	3	54.2	-	-	52.9
8	0	-	11.3	20.4	-
	1	25.6	-	-	37.6
	2	-	36.1	52.3	-
9	3	40.9	-	-	45.9
	0	-	13.7	-	-
	1	-	38.0	-	-
9	2	-	47.2	-	-
	3	-	57.7	-	-

SUGAR BEET

TOPS: TONS

Strip	SERIES				
	N	N	A	AC	C
1	0	3.19	-	-	2.64
	1	-	9.03	5.97	-
	2	9.58	-	-	9.31
2	3	-	9.45	9.45	-
	0	-	2.22	2.64	-
	1	7.64	-	-	3.89
4	2	-	10.00	5.97	-
	3	9.17	-	-	6.53
	0	1.94	-	-	1.94
5	1	-	2.64	4.03	-
	2	4.86	-	-	5.97
	3	-	6.39	8.20	-
6	0	1.57	-	-	1.76
	1	-	2.78	4.44	-
	2	4.86	-	-	5.97
7	3	-	6.39	7.78	-
	0	-	1.04	1.57	-
	1	2.64	-	-	3.47
8	2	-	4.44	6.25	-
	3	5.14	-	-	7.22
	0	-	1.46	2.22	-
9	1	3.19	-	-	4.58
	2	-	5.70	7.64	-
	3	8.06	-	-	7.78
8	0	-	1.32	2.13	-
	1	2.32	-	-	3.75
	2	-	4.44	6.67	-
9	3	7.36	-	-	6.39
	0	-	-	1.39	-
	1	-	-	2.92	-
9	2	-	-	5.00	-
	3	-	-	6.39	-

BEANS			
Strip	O	H	Mean
GRAIN: CWT			
1	18.0	17.2	17.6
2	22.1	21.0	21.6
4	23.7	12.8	18.2
5	23.9	12.4	18.2
6	22.8	14.3	18.5
7	21.7	10.9	16.3
8	19.2	6.5	12.8
Mean	21.6	13.6	17.6
STRAW: CWT			
1	9.8	7.6	8.7
2	9.9	10.4	10.2
4	11.1	6.2	8.7
5	10.7	4.1	7.4
6	9.3	5.2	7.3
7	8.8	4.8	6.8
8	6.5	2.1	4.3
Mean	9.5	5.8	7.6

Mean D.M. %: Grain: 82.8
 Straw: 73.0