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Numerical Results of the Field Experiments 1969

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69/S/RN/1 - Rotation 1 - Wheat, Beans, Sugar Beet & Barley

Rothamsted Research

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SAXMUNDHAM

ROTATION I 1969

(69/S/RN/1)

For history, treatments, rotations and results etc. see 'Details' 1967 and 68/A/9.

Area harvested:

New treatments

Grain: Barley, wheat and beans:	0.0230
Straw: Barley and wheat:	0.0069
Sugar beet:	0.0096

Old treatments

Barley, wheat and beans:	0.0014
Sugar beet:	0.0021

The nitrogen to sugar beet, wheat and barley continues to be applied at 1.0 cwt N in spring to all plots receiving N (except the FYM plots - 0.5 cwt N), but the second dressing of 0.5 cwt N to N2 plots is top-dressed in summer at a time decided after considering periodical tissue analyses. For sugar beet, plots previously receiving treatments N2P2 and N2PlK now receive treatment N3P2 and N3PlK - a further top-dressing of 0.5 cwt N is given later in the year.

Cultivations, etc.:-

Sugar beet: FYM applied: 17 Oct, 1968. Ploughed: 18 Oct. P, K and bonemeal applied: 20 Mar, 1969. 'Nitro-Chalk' applied: 29 Mar. Seed drilled: 10 Apr. Sprayed with pyrazon ('Pyramin' at 3 lb in 20 gals): 11 Apr. Singled: 28 May - 3 June. Sprayed with demeton-s-methyl at 7 oz in 25 gals: 21 June and 24 July. Second dressing of 'Nitro-Chalk' applied to N2 and N3 plots: 3 July. Third dressing of 'Nitro-Chalk' applied to N3 plots: 20 Aug. Lifted: 7 Oct. Variety: Klein E.

Barley: FYM applied: 17 Oct, 1968. Ploughed: 18 - 24 Oct. Bonemeal applied: 10 Mar, 1969. P and K applied: 11 Mar. Seed drilled at 150 lb: 25 Mar. 'Nitro-Chalk' applied: 29 Mar. Sprayed with mecoprop at 36 oz and 2,4-D at 9 oz in 25 gals: 23 May. Second dressing of 'Nitro-Chalk' applied to N2 plots: 3 June. Combine harvested: 21 Aug. Variety: Sultan.

Spring beans: FYM applied: 17 Oct, 1968. Ploughed: 23 Oct.
 Bonemeal applied: 10 Mar, 1969. P and K applied: 11 Mar.
 Seed drilled at 240 lb: 24 Mar. Sprayed with simazine at
 1 lb in 23 gals: 27 Mar. 'Nitro-Chalk' applied: 29 Mar.
 Sprayed with demeton-s-methyl at 7 oz in 25 gals: 21 June.
 Combine harvested: 13 Sept. Variety: Maris Bead.
 Winter wheat: FYM applied: 23 Sept, 1968. Ploughed: 26 Sept -
 5 Oct. P, K and bonemeal applied: 16 Oct. Seed drilled:
 22 Oct. 'Nitro-Chalk' applied: 29 Mar, 1969. Sprayed with
 mecoprop at 42 oz and 2,4-D at 10.5 oz in 25 gals: 12 May.
 Second dressing of 'Nitro-Chalk' applied to N2 plots:
 28 May. Combine harvested: 21 Aug. Variety: Cappelle.

Erratum to 'Results 68' A/9.

68/A/9.1 Area harvested New Treatments
 Barley should read 0.0230 not 0.0257.

68/A/9.3 Amend Barley grain yields to read in order,

34.3
 11.8
 35.1
 38.4
 35.7
 32.2
 30.9
 29.7
 42.6
 37.5

Mean 32.8

SUMMARY OF RESULTS

NEW TREATMENTS

Treatment 1999 - 1965	Treatment from 1966	SUGAR BEET		BARLEY		SPRING BEANS		WINTER WHEAT	
		Sugar %	Total sugar	Grain	Straw	Grain	Straw	Grain	Straw
D	DN1	15.49	58.9	23.2	12.2	13.8	28.6	26.1	
B	B	4.83	18.5	6.4	1.8	8.1	10.0	5.0	
N	N2P2*	17.39	62.7	30.4	16.1	13.2	32.1	17.3	
P	N1P1	15.47	59.7	20.5	8.9	12.0	27.0	18.1	
K	N1P2K	12.89	51.4	17.6	9.5	14.0	28.8	21.6	
-	N1P2	15.51	59.2	23.3	10.5	13.7	25.3	17.9	
PK	N1P1K	15.86	63.1	20.9	8.7	15.2	28.4	25.1	
NK	N2P2K	17.46	67.2	28.6	14.0	15.3	35.1	19.7	
NP	N2P1	18.66	70.3	28.5	13.6	14.9	29.6	14.1	
NPK	N2P1K*	18.68	68.4	29.6	9.0	17.8	30.8	19.9	
Mean		15.22	57.9	22.9	10.4	13.8	27.6	18.5	
Mean D.M. %:				78.0	85.2	79.6	78.9	86.4	

* For sugar beet N3 not N2.

OLD TREATMENTS

Plot No	Treatment 1899-1969	SUGAR BEET		BARLEY		SPRING BEANS		WINTER WHEAT	
		Roots	Tops	Grain	Straw	Grain	Straw	Grain	Straw
1	D	11.83	5.62	19.0	14.6	18.9	10.6	17.3	
2	B	5.56	3.73	9.7	9.5	7.0	9.8	13.5	
3	N	1.52	2.02	8.5	9.0	12.5	9.9	14.3	
4	P	5.39	1.89	8.7	8.7	15.2	8.7	12.1	
5	K	0.84	0.61	6.2	6.2	10.1	5.9	8.9	
6	-	0.57	0.43	6.6	5.6	16.4	3.9	6.2	
7	PK	4.46	1.72	9.1	8.6	16.1	6.5	10.1	
8	NK	0.42	0.49	8.8	8.3	19.5	7.4	11.9	
9	NP	6.37	2.43	13.4	12.5	13.7	11.9	17.9	
10	NPK	4.59	3.13	10.8	10.4	14.3	16.7	24.6	
Mean		4.16	2.21	10.1	9.3	14.4	9.1	13.7	
Mean D.M. %:				83.7	81.5	85.4	84.5	86.4	