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Numerical Results of the Field Experiments 1969

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69/W/RN/6 - Arable Reference Plots - Old Grass, Fruit, Sugar Beet, Barley, Ley, Potatoes & Oats

Rothamsted Research

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ARABLE REFERENCE PLOTS

(69/W/RN/6)

Woburn Stackyard Series C 1969.

For details of previous years' results and for rates of fertilisers, etc., see 'Results' 60/B/3, 61/B/2, 62/B/2, 63/B/2, 64/B/2, 65/B/2, 66/B/2, 67/B/2, 68/B/3.

NOTE: The barley seed used was dressed with the fungicide ethirimol (Trade names - 'PP 149' or 'Milstem').

Cultivations, etc.:-

Winter oats: Balancing Mg applied to half plots, plots dug by hand: 30 Sept, 1968. P and K applied: 1 Oct. Seed drilled: 21 Oct. First N dressing applied: 26 Mar, 1969. Second N dressing applied: 2 May. Harvested: 7 Aug.

Sugar beet: FYM applied, plots dug by hand: 25 Nov, 1968. P and K applied: 3 Mar, 1969. First N dressing applied, plots rotary cultivated, Mg applied to half plots, seed drilled: 11 Apr. Singled, second N dressing applied: 29 May. Sprayed with malathion at 12 oz in 50 gals: 12 June. Sprayed twice with dimethoate ('Rogor 20 W' at 1.5 lb in 50 gals): 2 July, 16 July. Harvested: 2 Oct.

Barley: Balancing Mg applied to half plots: 10 Oct, 1968. Plots dug by hand: 25 Nov. P and K applied: 3 Mar, 1969. First N dressing applied, plots rotary cultivated, seed drilled: 26 Mar. Second N dressing applied: 9 May. Harvested: 19 Aug.

Grass-clover ley: Undersown in barley: 12 Mar, 1968. P and K applied: 3 Mar, 1969. N applied: 26 Mar. Cut four times: 1 Nov, 1968, 11 June, 1969, 30 July, 6 Oct.

Potatoes: FYM applied, plots dug by hand: 26 Nov, 1968. P and K applied: 3 Mar, 1969. First N dressing applied, plots rotary cultivated, Mg applied to half plots, potatoes planted: 16 Apr. Second N dressing applied: 29 May. Earthed up: 11 June. Sprayed with malathion at 12 oz in 50 gals: 12 June. Sprayed twice with dimethoate plus fentin hydroxide and maneb ('Rogor 20 W' at 1.5 lb and 'Fennite' at 1 lb in 40 gals): 2 July, 16 July. Lifted plots with neither K nor FYM, remaining plots sprayed with fentin hydroxide and maneb ('Fennite' at 1.5 lb in 40 gals): 21 Aug. Remaining plots harvested: 29 Sept.

Permanent grass: FYM, P and K applied: 3 Mar, 1969. N dressings applied: 26 Mar, 22 May, 30 July. Cut three times: 22 May, 30 July, 23 Oct.

- NOTES: (1) Samples were taken for determination of dry matter for each crop and the percentage of N, P and K.
- (2) The percentage of sugar in the sugar beet roots was determined.
- (3) The percentage of Mg in sugar beet tops and in potato tubers was determined.
- (4) Surface soil samples were taken from each block for determination of soil pH.

SUMMARY OF RESULTS
STACKYARD SERIES C (W)

Treatment	OATS		SUGAR BEET		BARLEY	
	GRAIN	STRAW	ROOTS	TOPS	GRAIN	STRAW
None	16.8	13.6	6.48	4.55	15.9	12.2
N1	33.1	31.3	8.02	7.33	23.4	27.5
P	14.4	13.3	6.94	4.01	15.5	15.5
N1P	34.4	34.8	6.18	6.71	18.4	21.5
K	13.3	16.5	7.87	4.24	15.2	19.9
N1K	34.1	36.7	10.34	7.64	31.3	40.6
PK	14.0	14.9	8.80	5.09	18.4	17.6
N1PK	30.9	34.8	13.74	8.95	34.2	42.9
N2PK	42.1	53.4	13.43	10.80	36.5	44.5
D	19.8	20.0	11.88	7.87	23.9	27.4
N1PKD	39.6	52.7	15.12	9.57	38.7	44.0
N2PKD	42.5	61.5	15.59	13.20	38.5	56.5
Mean D.M. %:	84.3	62.2			79.8	71.0

STACKYARD SERIES C (W)

Treatment	LEY: DRY MATTER					POTATOES TOTAL TUBERS	PERMANENT GRASS: DRY MATTER			
	1st cut	2nd cut	3rd cut	4th cut	Total of 4 cuts		1st cut	2nd cut	3rd cut	Total of 3 cuts
None	6.4	18.9	8.6	4.6	38.5	3.81	11.4	5.3	5.8	22.5
N1	5.4	34.9	6.0	4.4	50.7	4.03	15.1	15.8	12.2	43.1
P	7.2	21.8	5.5	3.7	38.2	3.15	10.1	5.5	4.6	20.2
N1P	5.1	31.0	4.1	3.4	43.6	3.88	15.8	14.6	12.3	42.7
K	11.9	14.6	10.7	5.6	42.8	10.11	12.7	7.1	4.8	24.6
N1K	10.1	25.5	11.0	6.3	52.9	13.50	22.4	18.3	13.7	54.4
PK	10.0	14.7	7.3	5.0	37.0	9.57	13.2	5.8	5.3	24.3
N1PK	9.3	29.6	7.6	4.2	50.7	13.04	26.7	18.0	15.6	60.3
N2PK	9.9	36.7	8.4	5.1	60.1	15.46	26.4	18.9	18.1	63.4
D	11.0	17.6	10.3	5.0	43.9	15.44	18.8	10.0	6.7	35.5
N1PKD	12.9	27.5	8.9	5.9	55.2	19.14	30.5	16.3	17.5	64.3
N2PKD	11.2	48.9	9.4	6.1	75.6	23.54	36.2	18.1	17.8	72.1
Mean D.M. %:	13.2	25.6	29.1	38.3	26.6		21.3	35.5	23.3	26.7