ROTHAMSTED RESEARCH

Numerical Results of the Field Experiments 1969

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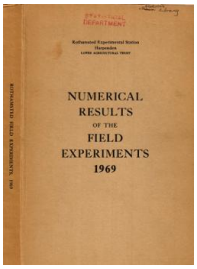

69/R/BN/5 - Arable Reference Plots - Old Grass, Barley, Ley, Potatoes, Wheat & Kale

Rothamsted Research

Rothamsted Research (1970) *69/R/BN/5 - Arable Reference Plots - Old Grass, Barley, Ley, Potatoes, Wheat & Kale ;* Numerical Results Of The Field Experiments 1969, pp 78 - 81 **- DOI: https://doi.org/10.23637/ERADOC-1-96**

ARABLE REFERENCE PLOTS

(69/R/RN/5)

Rothamsted Great Field IV 1969.

For details of previous years' results and for rates of fertilisers etc., see 'Results' 58/Bc/1, 59/Bc/1, 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 wheat: Balancing Mg applied to half plots, plots dug by hand, P, K, Mg, Ca and S applied: 2 Oct, 1968. Seed drilled: 4 Oct. First N dressing applied (excluding additional plots): 8 Apr, 1969. Second half: 25 Apr. All N applied to additional plots: 28 Apr. Trace element spray applied: 12 May. Harvested: 11 Aug.

Kale: FYM applied, plots dug by hand: 4 Nov, 1968. P, K, Mg, Ca and S applied: 4 Mar, 1969. First half N applied to additional plots, all N to remainder, plots rotary cultivated, seed drilled: 8 Apr. Second N dressing applied to additional plots: 10 June. Trace element spray applied: 27 June. Sprayed with dimethoate ('Rogor 20 W' at 1.5 lb in 40 gals): 2 July. Sprayed with dimethoate ('Rogor E' at 15 fl oz in 40 gals): 16 July. Sprayed with DDT at 5 oz in 40 gals: 19 Sept. Harvested: 27 Oct.

Barley: Dug by hand: 5 Nov, 1968. P, K, Mg, Ca and S applied: 4 Mar, 1969. N applied, plots rotary cultivated, seed drilled: 28 Mar. Trace element spray applied: 22 May. Harvested: Additional plots - 11 Aug, remainder - 19 Aug.

Grass - clover ley: Undersown in barley: 4 Apr, 1968. P, K, Mg, Ca and S applied: 4 Mar, 1969. N applied: 11 Mar. Trace element spray applied: 25 Apr. Cut four times: 25 Oct, 1968, 5 June, 1969, 25 July, 25 Sept.

Potatoes: FYM applied, plots dug by hand: 6 Nov, 1968. P, K, Mg, Ca and S applied: 4 Mar, 1969. First N dressing applied to additional plots, all N to remaining plots, all plots rotary cultivated, Mg applied to half plots, potatoes planted: 17 Apr. Second N dressing applied to additional plots: 10 June. Earthed up: 10 June, additional plots: 13 June. Original plots sprayed with malathion at 12 oz in 50 gals, additional plots with dimethoate plus fentin hydroxide and maneb ('Rogor 20 W' at 1.5 lb

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plus 'Fennite' at 1 lb in 40 gals): 12 June. Trace element spray applied: 27 June. Original plots sprayed with dimethoate plus fentin hydroxide and maneb ('Rogor 20 W' at 1.5 lb plus 'Fennite' at 1 lb in 40 gals): 2 July. All plots sprayed with dimethoate plus fentin hydroxide and maneb ('Rogor 20 W' at 1.5 lb plus 'Fennite' at 1 lb in 40 gals): 16 July. All plots sprayed with fentin hydroxide and maneb ('Fennite' at 1.5 lb in 40 gals): 21 Aug. Lifted: Plots of main experiment with neither K nor FYM and no fertiliser plots of additional plots: 3 Sept, remainder: 19 Sept.

Permanent grass: FYM, P and K applied: 4 Mar, 1969. N applied: 11 Mar, 21 May, 8 Aug. Cut three times: 21 May, 8 Aug, 23 Oct.

NOTES: (1) Yields of dry matter were obtained for each crop.
(2) The percentages of N, P and K and, on additional plots of N, P, K, Mg, Ca and S were measured for each crop.
(3) The percentage of Mg was measured in potato tubers on the main experiment.
(4) The percentage of K in potato leaves was measured.

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SUMMARY OF RESULTS

GREAT FIELD IV (R): ORIGINAL PLOTS

Treatment	WINTER WHEAT: GRAIN	STRAW	KALE: TOTAL WEIGHT	BARLEY: GRAIN	STRAW	LEY: DRY MATTER 1st cut	2nd cut	3rd cut	4th cut	Total of 4 cuts	POTATOES: TOTAL TUBERS	PERMANENT GRASS: DRY MATTER 1st cut	2nd cut	3rd cut	Total of 3 cuts
0	33.9	42.4	8.34	28.9	24.8	3.7	22.1	13.1	12.1	51.0	4.35	8.6	14.9	3.5	27.0
N1	36.1	53.8	9.55	33.1	25.6	3.9	31.3	9.9	5.2	50.3	6.16	10.6	16.9	7.5	35.0
P	33.4	46.1	14.76	36.4	30.5	4.4	25.4	14.2	6.7	50.7	9.30	10.2	12.5	4.0	26.7
N1P	26.2	44.5	14.76	44.7	41.6	4.7	28.6	7.9	2.2	43.4	5.35	24.1	20.9	6.3	51.3
K	31.2	49.4	6.94	37.9	29.1	7.7	16.7	23.6	7.3	55.3	10.42	13.5	15.1	4.7	33.3
N1K	39.2	54.5	9.38	39.8	36.8	6.4	25.3	22.9	8.0	62.6	14.32	21.0	22.5	8.2	51.7
PK	35.6	57.8	11.11	39.8	32.9	10.3	16.9	39.6	14.1	80.9	13.45	13.0	19.9	3.5	36.4
N1PK	46.4	78.6	14.93	51.8	46.9	6.0	42.1	27.3	20.4	95.8	17.00	23.5	24.1	6.8	54.4
N2PK	51.3	81.5	21.18	60.7	57.8	3.8	52.6	21.5	19.5	97.4	20.72	30.8	31.5	9.6	71.9
D	41.2	62.1	13.54	46.6	41.2	11.5	32.3	46.9	21.2	111.9	16.85	32.2	19.0	4.0	55.2
N1PKD	52.8	87.4	17.88	61.2	62.5	4.6	43.8	20.2	21.6	90.2	21.72	35.3	27.5	8.2	71.0
N2PKD	58.4	87.9	24.31	57.4	62.1	2.9	53.7	18.9	14.7	90.2	22.92	36.8	36.4	11.5	84.7
Mean D.M. %:	85.7	77.7		80.6	59.2	14.9	21.3	28.0	22.6	21.7		19.5	30.1	35.9	28.5

GREAT FIELD IV (R): ADDITIONAL PLOTS

Treatment	WINTER WHEAT: GRAIN	WINTER WHEAT: STRAW	KALE: TOTAL WEIGHT	BARLEY: GRAIN	BARLEY: STRAW	LEY: DRY MATTER 1st cut	2nd cut	3rd cut	4th cut	Total of 4 cuts	POTATOES: TOTAL TUBERS
None	42.4	48.8	10.24	22.9	18.2	5.9	28.4	14.5	9.5	58.3	5.17
N2PK	61.6	81.6	21.70	63.9	63.5	3.2	45.0	18.1	14.7	81.0	17.02
N2 PK Mg Ca	54.0	74.8	21.18	57.6	54.9	2.6	49.8	16.5	12.3	81.2	15.19
N2 PK Mg S	59.8	76.2	24.31	60.4	58.6	2.6	47.8	16.5	11.9	78.8	16.24
N2 PK Ca S	57.6	78.5	22.22	56.1	53.9	2.0	50.2	18.3	22.1	92.6	16.32
N2 PK Mg Ca S	53.6	76.9	21.18	61.4	58.8	3.4	52.6	16.9	16.5	89.4	16.50
N2 PK Mg Ca S TE	55.4	70.8	21.53	59.1	59.3	3.0	47.4	21.7	18.9	91.0	14.93
Mean D.M. %:	86.0	82.6		84.5	74.0	14.8	21.3	27.0	21.8	21.2	