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64/R/RG/B/11 Grazed Reference Plots

Rothamsted Research

Rothamsted Research (1965) *64/R/RG/B/11 Grazed Reference Plots ; Yields Of The Field Experiments 1964*, pp 133 - 136 - DOI: <https://doi.org/10.23637/ERADOC-1-160>

64/B/11.1

GRAZED REFERENCE PLOTS

(RG)

The effects of fertilisers on old grass, grazed and occasionally hayed - Highfield IX, 1959 - 1964.

Design: 4 randomised blocks of 14 plots each.

Area of each plot: 0.0079. Area harvested: 0.0002.

Treatments: All combinations of:-

1. Nitrogen*: None (N0), 1.5 cwt N as calcium nitrate (N1), 1.5 cwt N as sulphate of ammonia (A1).
2. Phosphate*: None (P0), 1.0 cwt P₂O₅ (P1), as granular superphosphate (G) (Blocks I and III) and as triple superphosphate (T) (Blocks II and IV).
3. Potash*: None (K0), 2.0 cwt K₂O (K1) as muriate of potash.

In addition 2 plots per block were manured as follows:-

N₂P₁K₁ and A₂P₁K₁ where N₂ and A₂ are 3 cwt N as calcium nitrate and sulphate of ammonia respectively.

Plots receiving sulphate of ammonia received also 7.5 (A1 plots) and 15 cwt (A2 plots) calcium carbonate in 1964.

* The rates have varied as follows:-

1959 and 1960: 1.0 (A1 and N1), 2.0 (A2 and N2) cwt N, 0.5 cwt P₂O₅ (P1), 1.0 cwt K₂O (K1).

1961: 4 cwt P₂O₅ (P1), 3.0 cwt K₂O (K1).

Basal dressing: None.

Cultivations, etc.:

1964: Ground chalk applied to appropriate plots: Nov 28, 1963.

P and K fertilisers applied: Dec 10. First N dressings applied:

Mar 20, 1964. Sample cuts taken 4 times: May 13, June 29,

Sept 1, Oct 27. N dressings applied after first 3 cuts.

From the beginning of the experiment the field was grazed extensively, with some quite short intervals, by sheep and cattle. In 1964 cages were placed on all plots to protect the sampling area from grazing. The cages were moved after each cut. The yields are estimated from these samples.

Standard errors per plot. Dry matter:

1st cut:	2.05 cwt or 12.4% (26 d.f.)
2nd cut:	2.93 cwt or 7.0% (26 d.f.)
3rd cut:	5.29 cwt or 15.4% (26 d.f.)
4th cut:	3.86 cwt or 42.5% (26 d.f.)
Total of 4 cuts:	8.15 cwt or 8.0% (26 d.f.)

64/B/11.2

SUMMARY OF RESULTS

DRY MATTER

		Granular	Triple	Mean
1ST CUT				
PK		(± 1.45)*		(± 1.03)
NO	00	8.0	11.4	9.7
N1	00	15.0	15.0	15.0
A1	00	14.0	15.8	14.9
NO	10	11.7	11.4	11.5
N1	10	19.3	17.7	18.5
A1	10	21.0	21.7	21.4
NO	01	13.4	12.6	13.0
N1	01	17.3	14.6	15.9
A1	01	17.7	19.5	18.6
NO	11	12.7	15.0	13.8
N1	11	22.6	21.2	21.9
A1	11	23.9	20.0	21.9
N2	11	20.8	17.4	19.1
A2	11	21.9	14.4	18.1
Mean		17.1	16.2	16.7
2ND CUT				
		(± 2.07)*		(± 1.46)
NO	00	29.6	31.4	30.5
N1	00	37.7	39.9	38.8
A1	00	40.4	40.8	40.6
NO	10	28.0	29.4	28.7
N1	10	42.8	49.2	46.0
A1	10	43.1	46.0	44.5
NO	01	34.3	35.5	34.9
N1	01	41.8	48.7	45.2
A1	01	40.3	48.2	44.2
NO	11	35.4	41.7	38.5
N1	11	48.5	49.2	48.8
A1	11	44.7	45.9	45.3
N2	11	52.0	54.5	53.2
A2	11	48.6	50.6	49.6
Mean		40.5	43.6	42.1

Mean D.M.%: 1st cut: 18.8
2nd cut: 21.1

*For use in vertical and interaction comparisons only.

64/B/11.3

DRY MATTER

		Granular	Triple	Mean
3RD CUT				
PK		$(\pm 3.74)^*$		(± 2.64)
NO	00	25.5	22.8	24.1
N1	00	32.2	33.8	33.0
A1	00	31.8	34.5	33.1
NO	10	24.6	23.2	23.8
N1	10	36.8	33.2	35.0
A1	10	26.2	35.9	31.0
NO	01	42.7	25.8	34.2
N1	01	34.2	35.7	34.9
A1	01	37.1	31.1	34.1
NO	11	34.4	30.4	32.4
N1	11	36.9	38.4	37.6
A1	11	35.5	42.5	39.0
N2	11	43.0	43.8	43.4
A2	11	44.5	46.7	45.6
Mean		34.7	34.1	34.4

4TH CUT

		$(\pm 2.73)^*$		(± 1.93)
NO	00	3.9	5.7	4.8
N1	00	10.6	13.1	11.8
A1	00	12.4	11.6	12.0
NO	10	4.4	9.0	6.7
N1	10	9.6	10.4	10.0
A1	10	6.9	15.0	10.9
NO	01	8.1	3.4	5.8
N1	01	9.2	10.7	10.0
A1	01	8.4	9.5	8.9
NO	11	5.0	3.0	4.0
N1	11	10.8	11.5	11.1
A1	11	10.8	14.2	12.5
N2	11	9.0	10.0	9.5
A2	11	11.3	7.9	9.6
Mean		8.6	9.6	9.1

Mean D.M.%: 3rd cut: 31.4
4th cut: 31.4

*For use in vertical and interaction comparisons only.

64/B/11.4

DRY MATTER

TOTAL OF 4 CUTS

		Granular	Triple	Mean
		(±5.76)*		(±4.08)
PK				
NO	00	67.0	71.2	69.1
N1	00	95.3	101.8	98.6
A1	00	98.6	102.6	100.6
NO	10	68.6	72.9	70.8
N1	10	108.4	110.4	109.4
A1	10	97.1	118.6	107.8
NO	01	98.4	77.2	87.8
N1	01	102.5	109.6	106.1
A1	01	103.4	108.2	105.8
NO	11	87.4	90.0	88.7
N1	11	118.8	120.2	119.5
A1	11	114.8	122.6	118.8
N2	11	124.7	125.6	125.2
A2	11	126.2	119.6	122.9
Mean		100.8	103.6	102.2

Mean D.M. %: 25.7

*For use in vertical and interaction comparisons only.