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Numerical Results of the Field Experiments 1969

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69/R/CS/43 - Aqua Ammonia - Grass

Rothamsted Research

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GRAZED GRASS

(69/R/CS/43)

Aqua ammonia, Highfield IX 1969, the first year.

Design: 4 randomised blocks of 9 plots.

Area of each plot: 0.0161. Area harvested: 0.0002.

Treatments: None (NO) and all combinations of:-

1. Nitrogen: Injected aqueous ammonia in a single annual dressing. (I)
Broadcast 'Nitro-Chalk' in 6 equal dressings between March and September. (B)
2. Total annual rates of N: 1.0 (N1), 2.0 (N2), 3.0 (N3), 4.0 (N4) cwt.

NOTE: (1) Yields are calculated from sample cuts taken by rotary mower from under a wire netting cage (1 yard square), placed on each plot at the beginning of the grazing season. After each cut the cage is moved to a new area trimmed with the rotary mower.

Basal applications: 10 cwt (0:20:20).

Cultivations, etc.: Basal PK applied: 5 Mar, 1969. Aqueous ammonia injected: 12 Mar. 'Nitro-Chalk' applied, sample cages placed: 21 Mar. Sample cuts taken: 5 May, 2 June, 25 June, 5 Aug, 4 Sept, 29 Oct. 'Nitro-Chalk' applied after first 5 cuts.

NOTES: (2) Visual estimates were made of the percentage surface area within each cage covered by clover leaves immediately before cutting.

(3) The percentage of N in the dry grass was calculated.

Standard errors per plot. Dry matter, cwt:

1st cut:	3.21 or 18.0% (21 d.f.)
2nd cut:	1.99 or 7.5% (21 d.f.)
3rd cut:	2.40 or 11.7% (21 d.f.)
4th cut:	2.56 or 9.1% (21 d.f.)
5th cut:	1.99 or 13.0% (21 d.f.)
6th cut:	1.70 or 16.4% (21 d.f.)
Total of 6 cuts:	6.21 or 5.2% (21 d.f.)

SUMMARY OF RESULTS

DRY MATTER: CWT

	N1	N2	N3	N4	Mean
1ST CUT					
	(±1.61)				(±0.80)
I	17.8	17.8	16.9	17.9	17.6
B	14.9	18.4	17.9	21.4	18.1
Mean (±1.14)	16.3	18.1	17.4	19.7	17.9
General mean:	17.4				
NO:	13.8				
2ND CUT					
	(±1.00)				(±0.50)
I	24.0	26.9	27.4	27.6	26.5
B	25.5	25.9	27.7	28.7	26.9
Mean (±0.70)	24.8	26.4	27.5	28.1	26.7
General mean:	25.7				
NO:	17.7				
3RD CUT					
	(±1.20)				(±0.60)
I	19.2	20.8	23.3	22.7	21.5
B	14.8	19.4	21.7	21.7	19.4
Mean (±0.85)	17.0	20.1	22.5	22.2	20.4
General mean:	19.7				
NO:	13.6				
Mean D.M. %: 1st cut: 20.2					
2nd cut: 14.7					
3rd cut: 16.3					

DRY MATTER: CWT

	N1	N2	N3	N4	Mean
4TH CUT					
	(±1.28)				(±0.64)
I	23.5	26.5	28.5	31.9	27.6
B	25.9	28.8	29.8	29.4	28.5
Mean (±0.90)	24.7	27.6	29.1	30.6	28.0

General mean: 27.4

NO: 22.2

5TH CUT

	(±0.99)				(±0.50)
I	12.9	11.7	15.2	16.3	14.0
B	15.9	17.4	17.4	15.2	16.5
Mean (±0.70)	14.4	14.5	16.3	15.8	15.2

General mean: 14.8

NO: 10.8

6TH CUT

	(±0.85)				(±0.43)
I	8.8	9.0	10.2	10.7	9.7
B	8.6	11.2	12.9	11.6	11.1
Mean (±0.60)	8.7	10.1	11.6	11.2	10.4

General mean: 9.9

NO: 6.4

Mean D.M. %: 4th cut: 17.7
 5th cut: 22.4
 6th cut: 32.6

DRY MATTER: CWT					
	N1	N2	N3	N4	Mean
TOTAL OF 6 CUTS					
	(±3.10)				(±1.55)
I	106.1	112.6	121.5	127.1	116.8
B	105.6	121.0	127.4	128.0	120.5
Mean (±2.20)	105.9	116.8	124.4	127.6	118.7

General mean: 114.9
 NO: 84.6

Mean D.M. %: 20.7