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Numerical Results of the Field Experiments 1969

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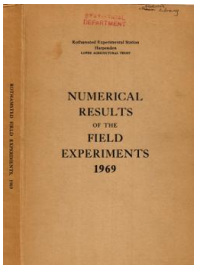

69/R/G/1 - Anhydrous & Aqueous Ammonia - Grass

Rothamsted Research

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GRASS

(69/R/G/1)

Anhydrous and aqueous ammonia, Appletree 1969.

Design: 3 randomised blocks of 26 plots.

Area of each plot: 0.0092. Area harvested: 0.0054.

Treatments: None (N0) (2 plots per block) and all combinations of:-

1. Nitrogen fertiliser and time of application:
   - Applied in autumn:
     - Injected anhydrous ammonia (14 Nov) — IAA
     - Injected aqueous ammonia (13 Nov) — IQA
   - Applied in spring:
     - Injected anhydrous ammonia (28 Mar) — IAS
     - Injected aqueous ammonia (24 Mar) — IQS
   - Broadcast 'Nitro-Chalk':
     - Applied in 3 equal dressings — BD
     - Applied as single dressing — BS
2. N: 1 (N1), 2 (N2), 3 (N3), 4 (N4) cwt (total for the season).

Standard applications: 8.25 cwt (0:14:28) in winter. Weedkiller: Applied to block I and spot-sprayed on docks and nettles in blocks II and III - 2,4-D ('Dicotox' at 6 pints in 40 gals).

Cultivations, etc.: Basal PK compound applied: 15 Nov, 1968. 'Nitro-Chalk' applied (treatment BS and first dressing of BD): 24 Mar, 1969. Weedkiller applied: 28 Apr. Cut 3 times: 4 June, 6 Aug, 15 Oct. 'Nitro-Chalk' applied after first 2 cuts for BD treatment.

NOTES: (1) Grass samples were taken to determine dry matter and percentage of N, P and K. Percentage of Mg was determined in some samples.

(2) Growth of grass in summer showed that the anhydrous ammonia injector did not function properly in autumn and yields from this treatment have been omitted.

Standard errors per plot. Grass, dry matter, cwt.

1st cut:	2.40 or 6.2% (38 d.f.)
2nd cut:	2.36 or 9.1% (38 d.f.)
3rd cut:	0.82 or 14.4% (38 d.f.)
Total of 3 cuts:	3.34 or 4.7% (38 d.f.)

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SUMMARY OF RESULTS

DRY MATTER: CWT

	IQA	IAS	IQS	BD	BS	Mean
			1ST CUT			
			(±1.38)			(±0.62)
N1	41.2	37.0	40.6	33.9	39.5	38.5
N2	38.6	36.9	39.0	39.4	39.0	38.6
N3	42.6	38.2	40.5	39.4	37.6	39.7
N4	40.9	37.1	40.2	40.9	37.0	39.2
Mean (±0.69)	40.8	37.3	40.1	38.4	38.3	39.0

NO: 19.8 (±0.98)

General mean (Excl IAA): 37.3

Mean D.M. %: 15.0
(All plots)

2ND CUT

			(±1.36)			(±0.61)
N1	14.9	18.5	17.9	23.2	16.0	18.1
N2	24.8	21.2	27.5	29.3	28.8	26.3
N3	28.7	23.1	31.4	31.9	31.5	29.3
N4	27.5	30.5	30.2	27.1	32.3	29.5
Mean (±0.68)	24.0	23.3	26.7	27.9	27.1	25.8

NO: 10.9 (±0.96)

General mean (Excl IAA): 24.4

Mean D.M. %: 21.8
(All plots)