Yields of the Field Experiments 1967
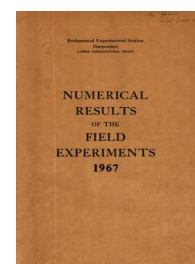
67/R/RG201/DF/2 Grass - N and Damage

Rothamsted Research

67/Df/2.1

GRASS

(RG 201)

Nitrogen and damage to sward by ammonia-injectors, Bones Close 1967.

Design: 1 randomised block of 18 plots.

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

Treatments: All combinations of:-
1. Mechanical damage by injector: None (O), damage by 'Anhydrous' injector (Ia), by 'Aqua' injector (Iq).
2. Time of damage: In autumn (A), in spring (S).
3. Nitrogen per cut: 0.3 (N1), 0.6 (N2), 1.0 (N3) cwt as 'Nitro-Chalk' broadcast by hand.

Basal application: 900 lb (0:14:28) applied in winter.

Cultivations, etc.: Autumn injector slits made - 'Aqua': Nov 7, 1966, 'Anhydrous': Nov 14. Basal PK compound applied: Nov 22. Spring injector slits made - 'Anhydrous': Mar 7, 1967, 'Aqua': Mar 8. 'Nitro-Chalk' applied: Mar 22. Cut three times: June 1, July 20, Oct 12. 'Nitro-Chalk' applied after first two cuts.

NOTE: Grass samples were taken for dry matter and percentage of N.

Standard errors per plot (estimated from the 3-factor interaction).
Dry matter:
1st cut: 2.42 or 5.0% (4 d.f.)
2nd cut: 3.26 or 14.4% (4 d.f.)
3rd cut: 0.83 or 5.7% (4 d.f.)
Total of 3 cuts: 3.89 or 4.5% (4 d.f.)

67/Df/2.2

SUMMARY OF RESULTS

DRY MATTER

	IA	IQ	N1	N2	N3	Mean
			1ST CUT			
	(±1.40)			(±1.71)		(±0.99)
A	50.0	53.3	50.7	46.3	58.0	51.7
S	48.3	44.6	43.7	47.7	47.9	46.4
				(±1.71)		(±0.99)
		O	43.8	47.5	54.0	48.4
		IA	50.4	46.6	50.4	49.1
		IQ	43.9	47.4	55.5	48.9
Mean (±0.99)			46.1	47.2	53.3	48.8

Mean D.M. %: 15.8

67/Df/2.3

DRY MATTER

	IA	IQ	N1	N2	N3	Mean
			2ND CUT			
	(±1.88)			(±2.31)		(±1.33)
A	23.2	22.3	18.2	24.2	25.8	22.8
S	22.4	22.1	16.9	24.0	25.8	22.3
				(±2.31)		(±1.33)
		O	19.3	23.2	25.8	22.8
		IA	18.0	23.8	26.5	22.8
		IQ	17.1	24.4	25.2	22.2
Mean (±1.33)			18.2	23.8	25.8	22.6

Mean D.M. %: 24.0

67/Df/2.4

DRY MATTER

	IA	IQ	N1	N2	N3	Mean
			3RD CUT			
	(±0.48)			(±0.59)		(±0.34)
A	15.0	13.7	9.4	15.6	18.1	14.3
S	14.3	15.7	10.1	16.4	18.6	15.0
				(±0.59)		(±0.34)
		O	9.5	15.6	18.2	14.4
		IA	9.9	15.7	18.3	14.6
		IQ	9.5	16.3	18.4	14.7
Mean (±0.34)			9.6	15.9	18.3	14.6

Mean D.M.%: 18.8

67/Df/2.5

DRY MATTER

	IA	IQ	N1	N2	N3	Mean
			TOTAL OF 3 CUTS			
	(±2.25)			(±2.75)		(±1.59)
A	88.2	89.3	78.3	86.1	101.9	88.8
S	85.0	82.5	70.7	88.1	92.4	83.7
				(±2.75)		(±1.59)
		O	72.6	86.4	98.0	85.7
		IA	78.4	86.1	95.3	86.6
		IQ	70.6	88.1	99.1	85.9
Mean (±1.59)			73.9	86.9	97.4	86.0

Mean D.M. %: 19.5