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## Numerical Results of the Field Experiments 1968

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### 68/DF/2 Nitrogen and Damage to Sward by Ammonia-injectors - Grass

#### Rothamsted Research

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68/Df/2.1

GRASS

(RG 201)

Nitrogen and damage to sward by ammonia-injectors - Parklands 1968.

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 (IO), 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 applications: 900 lb (0:14:28) applied in winter.

Cultivations, etc.: Autumn injector slits made - 'aqua': 8 Nov, 1967, 'anhydrous': 21 Nov. Basal PK compound applied: 23 Jan, 1968.

Spring injector slits made - 'aqua': 12 Mar, 'anhydrous': 14 Mar. 'Nitro-Chalk' applied: 15 Mar. Cut three times: 22 May, 9 July, 14 Sept. 'Nitro-Chalk' applied after first two cuts. Previous crop: Grassland for at least 35 years.

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

Standard errors per plot.

Dry matter:

1st cut:	1.73 or 5.2% (4 d.f.)
2nd cut:	2.72 or 10.4% (4 d.f.)
3rd cut:	5.38 or 23.4% (4 d.f.)
Total of 3 cuts:	8.01 or 9.8% (4 d.f.)

68/Df/2.2

SUMMARY OF RESULTS

DRY MATTER

	IA	IQ	N1	N2	N3	Mean
	1ST CUT					
	(±1.00)			(±1.22)		(±0.71)
A	33.0	33.0	29.3	34.7	35.1	33.0
S	30.8	34.6	31.8	33.9	32.4	32.7
				(±1.22)		(±0.71)
	0		28.9	35.9	34.2	33.0
	IA		28.8	34.7	32.1	31.9
	IQ		32.2	33.8	35.4	33.8
Mean (±0.71)			30.0	34.8	33.9	32.9

	2ND CUT					
	(±1.57)			(±1.92)		(±1.11)
A	25.4	25.9	26.3	24.7	25.9	25.6
S	26.2	26.6	27.5	25.3	26.5	26.4
				(±1.92)		(±1.11)
	0		26.8	26.5	26.2	26.5
	IA		25.5	25.1	26.9	25.8
	IQ		28.3	24.9	25.5	26.3
Mean (±1.11)			26.9	25.5	26.2	26.2

Mean D.M. %: 1st cut: 15.2  
 2nd cut: 15.8

68/Df/2.3

		DRY MATTER					
		IA	IQ	N1	N2	N3	Mean
		3RD CUT					
		(±3.11)			(±3.81)		(±2.20)
A		20.3	24.3	23.3	20.3	23.4	22.3
	S	22.9	26.6	27.1	25.5	21.7	24.8
					(±3.81)		(±2.20)
		□		25.2	17.7	22.4	21.8
		IA		25.3	19.2	20.3	21.6
		IQ		25.1	26.6	24.8	25.5
Mean (±2.20)				25.2	21.2	22.5	23.0
		TOTAL OF 3 CUTS'					
		(±4.62)			(±5.66)		(±3.27)
A		78.7	83.2	78.8	79.7	84.4	81.0
	S	79.9	87.9	86.4	84.7	80.7	83.9
					(±5.66)		(±3.27)
		□		80.9	80.2	82.7	81.3
		IA		79.6	79.1	79.3	79.3
		IQ		85.7	85.3	85.8	85.6
Mean (±3.27)				82.0	81.5	82.6	82.0

Mean D.M. %: 3rd cut: 17.7  
 Total of 3 cuts: 16.2

TABLE 1

Summary of the 1990-1991 and 1991-1992 seasons

Year	1990-1991		1991-1992		Total
	Area	Value	Area	Value	
1990-1991	10,000	100,000	10,000	100,000	20,000
1991-1992	10,000	100,000	10,000	100,000	20,000
Total	20,000	200,000	20,000	200,000	40,000

(Values are in thousands of dollars)