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Yields of the Field Experiments 1967

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67/R/EAB/C/32 IbdU - Grass

Rothamsted Research

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67/c/32.1

GRASS

(EAB)

The effect of granule size on the rate of release of N from IBDU (Iso-butyridene di-urea), Fosters O and E I, 1967.

Design: 3 randomised blocks of 18 plots.

Area of each plot: 0.0009. Area harvested: 0.0005.

Treatments: None (0) (3 plots per block), and all combinations of:-

1. N fertiliser:

Ammonium nitrate (prilled)

IBDU powder

IBDU, small granules (0.5 - 0.8 mm)

IBDU, medium granules (0.8 - 1.5 mm)

IBDU, large granules (1.5 - 2.4 mm)

2. Levels of N: 100 lb (N1), 200 lb (N2), 300 lb (N3).

A
P
S
M
L

Basal application: 4 cwt (0:14:28).

Cultivations, etc.: Ploughed: Nov 8, 1966. Rotary cultivated, fertilisers applied, seed drilled at 30 lb: Mar 29. Cut four times: June 21, July 21, Sept 5 and Nov 11. Variety: S22 Italian ryegrass. Previous crops: Potatoes 1965, barley 1966.

NOTE: % N in grass was determined and N uptakes calculated.

Standard errors per plot. Dry matter:

1st cut	4.21 or 24.6% (34 d.f.)
2nd cut:	1.81 or 8.7% (34 d.f.)
3rd cut:	2.72 or 18.3% (34 d.f.)
4th cut:	0.96 or 16.3% (34 d.f.)
Total of 4 cuts:	7.64 or 13.0% (34 d.f.)

67/c/32.2

SUMMARY OF RESULTS

DRY MATTER

	O	A	P	S	M	L	Mean
1ST CUT							
	(±2.43)						(±1.09)
N1		20.2	18.8	18.7	15.0	8.2	16.2
N2		24.9	22.6	22.1	20.1	13.6	20.7
N3		23.1	24.0	22.5	22.3	17.2	21.8
Mean (±1.40)	5.1	22.7	21.8	21.1	19.1	13.0	17.2*
2ND CUT							
	(±1.05)						(±0.47)
N1		22.4	20.4	21.0	17.4	14.5	19.2
N2		28.4	24.4	25.2	22.5	19.6	24.0
N3		25.4	27.2	27.4	24.4	22.5	25.4
Mean (±0.60)	10.3	25.4	24.0	24.5	21.4	18.9	20.8*

* General mean

Mean D.M. %: 1st cut: 21.3
2nd cut: 22.4

67/C/32.3

DRY MATTER

	O	A	P	S	M	L	Mean
3RD CUT							
				(±1.57)			(±0.70)
N1		9.4	12.5	12.6	10.1	11.6	11.2
N2		17.3	17.9	18.1	17.5	14.0	17.0
N3		24.8	21.1	20.8	21.5	16.2	20.9
Mean (±0.91)	7.2	17.2	17.2	17.2	16.4	13.9	14.8*
4TH CUT							
				(±0.55)			(±0.25)
N1		2.5	4.0	4.5	4.7	4.8	4.1
N2		3.9	5.9	7.5	8.6	7.9	6.8
N3		7.3	8.3	9.0	11.6	9.4	9.1
Mean (±0.32)	2.0	4.6	6.1	7.0	8.3	7.4	5.9*

* General mean

Mean D.M. %: 3rd cut: 24.2
4th cut: 20.8

67/C/32.4

DRY MATTER							
	O	A	P	S	M	L	Mean
TOTAL OF 4 CUTS							
	(±4.41)						(±1.97)
N1		54.5	55.7	56.9	47.2	39.0	50.7
N2		74.5	70.8	72.7	68.7	55.2	68.4
N3		80.6	80.7	79.7	79.8	65.4	77.2
Mean (±2.55)	24.6	69.9	69.1	69.8	65.3	53.2	58.6*

* General mean

Mean D.M. %: 22.2