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Yields of the Field Experiments 1956

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56/R/CI/1 Grass - N Fertilizers

Rothamsted Research

Rothamsted Research (1957) *56/R/CI/1 Grass - N Fertilizers* ; Yields Of The Field Experiments 1956, pp 114 - 115 - DOI: <https://doi.org/10.23637/ERADOC-1-176>

56/Ci/1.1

GRASS

Rates and times of application of nitrogenous fertilizers - Long Hoos
1, 2, 3, 1956.

Design: 4 randomized blocks of 16 plots each.

Area of each plot: 0.0075 acres. Area harvested: 0.0045 acres.

Treatments: None (4 plots per block) together with all combinations of:-

Materials and methods of application

Applied in one single dressing

Formalized casein 12.2% N

Casein 12.6% N

Ammonium sulphate 21.0% N

applied in 3 dressings of one third the single rate each

Ammonium sulphate 21.0% N

Urea 43.5% N

Calcium nitrate 15.5% N

Rates of application

0.75; 1.5 cwt N per acre.

Basal dressing: 5 cwt compound granular fertilizer (10% P_2O_5 , 20% K_2O)
per acre.

Cultivations, etc.: Ploughed: Sept 19, 1955. Basal fertilizer
applied, single dressings and first partial dressings of nitrogen
applied, seed drilled at 50 lb per acre: Apr 10, 1956. Sprayed
with MCPA, 3 pints in 40 gallons per acre: May 22. Second and
third partial dressings applied: July 11, Aug 10. Cut: three
times - July 10, Aug 9, Oct 23. Variety: New Zealand H1 Ryegrass.
Previous crop: Wheat.

Note: The ryegrass seed was sown in drills 7" apart and cross drilled.

Standard errors per plot. Grass dry matter:

1st cut	1.51 cwt per acre or 15.2% (48 d.f.)	}	*
2nd cut	1.22 cwt per acre or 10.6% (46 d.f.)		
3rd cut	1.40 cwt per acre or 9.3% (48 d.f.)		
Total of 3 cuts	2.47 cwt per acre or 6.8% (48 d.f.)		

*2 missing values.

56/Ci/1.2

Summary of Results

Dry Matter: cwt per acre

Level of N in fertilizer: cwt per acre	Fertilizer						Mean
	Single dressing			Repeated dressing			
	F	C	A	A	U	N	
1st Cut (±0.75)							
None							2.8 (±0.38)
0.75	3.4	17.2	16.7	8.4	8.2	9.0	10.5 (±0.31)
1.50	4.1	19.9	20.2	10.8	13.1	16.6	14.1 (±0.31)
Mean (±0.53)	3.7	18.6	18.5	9.6	10.7	12.8	9.9
Diff. (±1.07)	0.7	2.7	3.5	2.4	4.9	7.6	3.6 (±0.44)
2nd Cut (±0.61)							
None							3.4 (±0.30)
0.75	9.6	8.5	10.2*	14.3*	12.8	12.8	11.4 (±0.25)
1.50	15.2	15.5	16.5	19.6	16.9	18.5	17.0 (±0.25)
Mean (±0.43)	12.4	12.0	13.3	16.9	14.9	15.7	11.5
Diff. (±0.86)	5.6	7.0	6.3	5.3	4.1	5.7	5.6 (±0.35)
3rd Cut (±0.70)							
None							4.9 (±0.35)
0.75	16.6	8.4	8.9	18.2	20.6	17.6	15.1 (±0.29)
1.50	25.8	13.4	15.5	26.7	26.0	23.0	21.7 (±0.29)
Mean (±0.49)	21.2	10.9	12.2	22.5	23.3	20.3	15.0
Diff. (±0.99)	9.2	5.0	6.6	8.5	5.4	5.4	6.6 (±0.40)
Total of 3 cuts (±1.24)							
None							11.2 (±0.62)
0.75	29.7	34.2	35.8	41.0	41.6	39.5	37.0 (±0.50)
1.50	45.1	48.8	52.2	57.1	56.0	58.1	52.9 (±0.50)
Mean (±0.87)	37.4	41.5	44.0	49.0	48.8	48.8	36.5
Diff. (±1.75)	15.4	14.6	16.4	16.1	14.4	18.6	15.9 (±0.71)

*Includes 1 estimated value.

Treatments

F = Formalized casein 12.2% N
 C = Casein 12.6% N
 A = Ammonium sulphate 21.0% N
 U = Urea 43.5% N
 N = Calcium nitrate 15.5% N

Mean dry matter % as cut:

1st cut: 20.1
 2nd cut: 21.2
 3rd cut: 19.9
 Total of 3 cuts: 20.4