

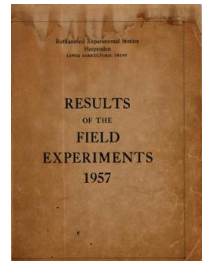
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Yields of the Field Experiments 1957

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57/R/CI/1 Grass - N Fertilizers - 2nd Year

Rothamsted Research

Rothamsted Research (1958) *57/R/CI/1 Grass - N Fertilizers - 2nd Year* ; Yields Of The Field Experiments 1957, pp 116 - 118 - DOI: <https://doi.org/10.23637/ERADOC-1-177>

57/Ci/1.1

GRASS

Rates and times of application of nitrogenous fertilizers - Long Hoos I, II, III, 1957, the second year.

Design: 4 randomized blocks of 16 plots each.

Area of each plot: 0.0076 acres. Area harvested: 0.0045 acres.

Treatments: None (2 plots per block) together with all combinations of:-

Materials and methods of application

Applied in one single dressing:

Formalized casein 12.2% N in 1956

" " 12.2% N in 1957

Casein 12.6% N in 1956 and 1957

Applied in 4 dressings of one quarter the single rate each:

Ammonium sulphate 21.0% N in 1957

" " 21.0% N in 1956 and 1957

Urea 43.5% N in 1956 and 1957

Calcium nitrate 15.5% N in 1956 and 1957

Rates of application

0.75; 1.5 cwt N per acre.

Basal dressing: 5 cwt compound fertilizer (10% P_2O_5 , 20% K_2O) per acre;
30 cwt ground chalk per acre.

Cultivations, etc.: Basal fertilizer applied: Dec 19, 1956. Single and first quarter dressings of nitrogen applied: Feb 21, 1957. Ground chalk applied: Apr 18. 2nd, 3rd and 4th quarter dressings of nitrogen applied: Apr 15, June 12, July 31. Cut: 4 times - Apr 15, June 12, July 31, Oct 11. Variety: New Zealand H1 Ryegrass.

Standard errors per plot. Dry matter:

1st cut: 1.60 cwt per acre or 9.6% (46 d.f.)

2nd cut: 1.64 cwt per acre or 9.3% (46 d.f.)

3rd cut: 0.48 cwt per acre or 8.3% (46 d.f.)

4th cut: 0.33 cwt per acre or 13.8% (46 d.f.)

Total of 4 cuts: 2.44 cwt per acre or 5.7% (46 d.f.)

57/Ci/1.2

Summary of Results

Dry Matter: cwt per acre

Level of N in fertilizer: cwt per acre	Fertilizer							Mean
	Single dressing			Divided dressing				
	1956&1957							
	1956 F	1957 F	1957 C	1957 A	1956 and A U	1957 N		
1st Cut								
(±0.80)								
None								6.0 (±0.57)
0.75	9.8	6.8	24.7	15.9	15.9	16.3	15.7	15.0 (±0.30)
1.50	13.9	9.2	31.2	21.2	24.0	26.1	25.4	21.6
Mean (±0.57)	11.9	8.0	28.0	18.5	19.9	21.2	20.6	16.7
Diff. (±1.13)	4.1	2.4	6.5	5.3	8.1	9.8	9.7	6.6 (±0.43)
2nd Cut								
(±0.82)								
None								10.4 (±0.58)
0.75	10.1	9.9	12.9	19.7	18.8	20.0	20.1	15.9 (±0.31)
1.50	10.3	11.4	24.0	29.1	23.9	25.0	26.2	21.4
Mean (±0.58)	10.2	10.6	18.5	24.4	21.3	22.5	23.1	17.6
Diff. (±1.16)	0.2	1.5	11.1	9.4	5.1	5.0	6.1	5.5 (±0.44)
3rd Cut								
(±0.24)								
None								2.9 (±0.17)
0.75	3.4	4.8	3.7	5.5	5.0	7.6	6.9	5.3 (±0.09)
1.50	3.9	6.8	4.4	8.2	7.6	10.0	10.6	7.4
Mean (±0.17)	3.6	5.8	4.0	6.8	6.3	8.8	8.8	5.8
Diff. (±0.34)	0.5	2.0	0.7	2.7	2.6	2.4	3.7	2.1 (±0.13)

57/Ci/1.3

Level of N in fertilizer: cwt per acre	Dry Matter: cwt per acre							Mean
	Fertilizer							
	Single dressing			Divided dressing				
	1956 & 1957							
	1956 F	1957 F	1957 C	1957 A	1956 and A U	1957 N		
4th Cut								
(±0.16)								
None								0.9 (±0.12)
0.75	0.9	3.1	1.0	1.9	2.1	2.2	2.3	1.9 (±0.06)
1.50	1.1	6.3	1.3	3.6	3.8	4.2	3.4	3.4
Mean (±0.12)	1.0	4.7	1.1	2.8	2.9	3.2	2.9	2.4
Diff. (±0.23)	0.2	3.2	0.3	1.7	1.7	2.0	1.1	1.5 (±0.09)

Total of 4 cuts								
(±1.22)								
None								20.2 (±0.86)
0.75	24.3	24.6	42.3	43.0	41.8	46.1	44.9	38.1 (±0.46)
1.50	29.2	33.6	61.0	62.1	59.2	65.3	65.7	53.7
Mean (±0.86)	26.7	29.1	51.6	52.5	50.5	55.7	55.3	42.7
Diff. (±1.73)	4.9	9.0	18.7	19.1	17.4	19.2	20.8	15.6 (±0.65)

Treatments		Mean dry matter % as cut:	
F = Formalized casein	12.2% N	1st cut:	23.4
C = Casein	12.6% N	2nd cut:	29.8
A = Ammonium sulphate	21.0% N	3rd cut:	28.8
U = Urea	43.5% N	4th cut:	24.2
N = Calcium nitrate	15.5% N	Total of 4 cuts:	26.6