

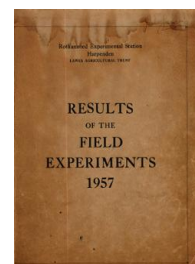
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1957

[Full Table of Content](#)



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 F	1957 F	1956 & 1957 C	1957 A	1956 and 1957 A	U	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& 1957	1957	1956 and 1957	U	N	
	F	F	C	A	A	U	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