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Yields of the Field Experiments 1954

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54/R/CE/1 Lucerne - Fertilizer Placement

Rothamsted Research

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54/Ce/1.1

LUCERNE

Fertilizer placement and potash top dressings - Highfield, 5 1954 - the 3rd year.

System of replication: 8 randomised blocks of 8 plots each, a high order interaction being confounded with block differences. After first cut, plots split into two for potash top dressing.

Area of each plot: 0.0136 acre. Area of each sub plot: 0.0068 acre.

Treatments, applied 1952: All combinations of:-

P₂O₅: None; 1.0 cwt per acre applied as superphosphate.

K₂O: None; 1.0 cwt per acre applied as muriate of potash.

Method of placement: Broadcast on seedbed; Ploughed in 10".

Starter: None; 2 cwt granular superphosphate per acre placed beneath seed.

Applied 1954 to sub plots (after 1st cut):-

None; 1.0 cwt K₂O per acre as muriate of potash.

Basal dressing: None.

Cultivations, etc.: 1st cut: June 8. Applied potash top dressing: June 18. 2nd cut: Aug 15. 3rd cut: Nov 3.

Standard errors per plot. Dry Matter:

1st cut, whole plot:	2.89 cwt per acre or 12.6%	(42 d.f.)
2nd cut, whole plot:	2.10 cwt per acre or 10.1%	(42 d.f.)
2nd cut, sub plot:	2.18 cwt per acre or 10.5%	(48 d.f.)
3rd cut, whole plot:	1.19 cwt per acre or 20.2%	(42 d.f.)
3rd cut, sub plot:	0.83 cwt per acre or 14.1%	(48 d.f.)
Total of 3 cuts, whole plot:	4.35 cwt per acre or 8.8%	(42 d.f.)

Note: For previous year's results see 53/Cg/1 and 52/Cf/1.

54/Ce/1.2

Summary of Results

Dry Matter: cwt per acre

Treatments applied 1952

	No ferti- lizer	Superphosphate		Muriate of Potash		Superphosphate and Muriate of Potash		Mean
		Broad- cast	Ploughed in	Broad- cast	Ploughed in	Broad- cast	Ploughed in	
1st cut								
Mean (±1.02)	21.8 ⁽¹⁾	22.2	21.8	23.4	23.5	24.3	24.3	22.9
Starter None	(±1.02) 21.3			(±1.44) 25.1	23.3	24.0	24.7	22.8
Super	22.3	21.7	23.9	21.7	23.7	24.6	23.9	23.0
Difference (±2.04)	+1.0 ⁽²⁾	-1.0	+4.1	-3.4	+0.4	+0.6	-0.8	+0.2 ⁽¹⁾
				(1) ±0.72				
				(2) ±1.44				
2nd cut								
Mean (±0.74)	20.2 ⁽¹⁾	18.7	19.0	22.8	21.5	22.8	21.2	20.8
Starter None	(±0.74) 20.1			(±1.05) 22.0	22.0	21.9	21.0	20.9
Super	20.3	17.8	17.5	23.6	20.9	23.7	21.3	20.7
Difference (±1.49)	+0.2 ⁽²⁾	-1.8	-3.0	+1.6	-1.1	+1.8	+0.3	-0.2 ⁽¹⁾
K ₂ O ⁺ : cwt per acre	(±0.65) [*]			(±0.92) [*]				
None	19.0	16.6	18.9	20.1	20.2	21.5	19.7	19.4
1.0	21.5	20.9	19.1	25.5	22.8	24.1	22.6	22.2
Difference (±1.09)	+2.5 ⁽³⁾	+4.3	+0.2	+5.4	+2.6	+2.6	+2.9	+2.8 ⁽⁴⁾
				(1) ±0.53	(3) ±0.77			
				(2) ±1.05	(4) ±0.38			

* for use in comparisons other than vertical.

+ applied June 1954.

54/Oe/1.3

Dry Matter: cwt per acre

Treatments applied 1952

	No ferti- lizer	Superphosphate		Muriate of Potash		Superphosphate and Muriate of Potash		Mean
		Broad- cast	Ploughed in	Broad- cast	Ploughed in	Broad- cast	Ploughed in	
3rd cut								
Mean (± 0.42)	5.2 ⁽¹⁾	4.7	5.4	7.0	6.6	6.3	6.8	5.9
Starter	(± 0.42)			(± 0.60)				
None	4.9	5.4	5.3	6.0	6.3	6.2	7.0	5.8
Super	5.4	4.0	5.5	8.1	6.8	6.4	6.5	6.0
Difference (± 0.84)	+0.5 ⁽²⁾	-1.4	+0.2	+2.1	+0.5	+0.2	-0.5	+0.2 ⁽¹⁾
K ₂ O ⁺ : cwt per acre	(± 0.33) [*]			(± 0.47) [*]				
None	4.2	3.2	4.6	6.1	5.2	5.3	5.9	4.8
1.0	6.2	6.1	6.2	8.0	8.0	7.3	7.7	7.0
Difference (± 0.42)	+2.0 ⁽³⁾	+2.9	+1.6	+1.9	+2.8	+2.0	+1.8	+2.2 ⁽⁴⁾
				(1) ± 0.30	(3) ± 0.29			
				(2) ± 0.60	(4) ± 0.15			
Total of 3 cuts								
Mean (± 1.54)	47.2 ⁽¹⁾	45.6	46.3	53.2	51.6	53.4	52.2	49.6
Starter	(± 1.54)			(± 2.18)				
None	46.3	47.7	45.6	53.1	51.7	52.2	52.8	49.5
Super	48.1	43.5	46.9	53.4	51.4	54.7	51.7	49.7
Difference (± 3.08)	+1.8 ⁽²⁾	-4.2	+1.3	+0.3	-0.3	+2.5	-1.1	+0.2 ⁽¹⁾
				(1) ± 1.09				
				(2) ± 2.18				

* for use in comparisons other than vertical

+ applied June 1954.