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Yields of the Field Experiments 1965

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65/W/C/32 K and Protein Synthesis - Grass

Rothamsted Research

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65/C/32.1

GRASS

Effect of K on protein synthesis - Woburn Stackyard Series C 1965.

Design: 4 randomised blocks of 10 plots.

Area of each plot: 0.0138. Area harvested: 1st, 2nd and 4th cuts - 0.0008, 3rd cut - 0.0007.

Treatments: All combinations of:-

1. Species: Cocksfoot S37 (C), Meadow Fescue S215 (M).
2. Levels of K: None (K0), 60 (K1), 120 (K2), 180 (K3), 240 lb K (K4) as muriate of potash.

Basal applications: 0.3 cwt N as 'Nitro-Chalk', 0.5 cwt P as granular superphosphate rotary cultivated into seedbed. 100 lb N as ammonium nitrate in spring and after every cut except the last.

Cultivations, etc.: Chisel ploughed: Sept 7, 1964. Basal superphosphate and 'Nitro-Chalk' applied, seed sown at 25 lb: Sept 17. Ammonium nitrate and first half dressing of K applied: Apr 1, 1965. Second half dressing of K applied: May 21. Cut four times: May 21, July 2, Aug 11 and Oct 11. Ammonium nitrate applied after first 3 cuts. Previous crops: Fallow 1963 and 1964.

NOTE: After each cut samples were analysed for total N and protein N and for K.

Standard errors per plot. Dry matter:

1st cut:	1.92 or 8.7% (27 d.f.)
2nd cut:	1.97 or 8.7% (27 d.f.)
3rd cut:	1.46 or 6.4% (27 d.f.)
4th cut:	1.44 or 6.5% (27 d.f.)
Total of 4 cuts:	3.47 or 3.9% (27 d.f.)

65/G/32.2

SUMMARY OF RESULTS

DRY MATTER

	K0	K1	K2	K3	K4	Mean
1ST CUT						
	(±0.96)					(±0.43)
C	20.3	21.3	23.6	21.9	21.6	21.7
M	21.9	22.7	22.5	21.7	22.9	22.3
Mean (±0.68)	21.1	22.0	23.0	21.8	22.3	22.0
2ND CUT						
	(±0.99)					(±0.44)
C	23.6	22.3	24.2	23.4	24.3	23.6
M	22.3	24.6	23.1	20.1	19.6	21.9
Mean (±0.70)	22.9	23.4	23.7	21.8	21.9	22.7
3RD CUT						
	(±0.73)					(±0.33)
C	21.7	21.4	23.1	22.5	23.6	22.4
M	22.1	23.5	23.3	22.9	23.3	23.0
Mean (±0.51)	21.9	22.4	23.2	22.7	23.4	22.7

Mean D.M. %: 1st cut: 20.1
 2nd cut: 25.2
 3rd cut: 21.6

65/C/32.3

DRY MATTER						
	K0	K1	K2	K3	K4	Mean
4TH CUT						
	(±0.72)					(±0.32)
C	21.6	22.1	21.7	22.3	23.9	22.3
M	21.3	22.5	21.0	20.9	22.2	21.6
Mean (±0.51)	21.5	22.3	21.3	21.6	23.1	21.9
TOTAL OF 4 CUTS						
	(±1.74)					(±0.78)
C	87.2	87.0	92.6	90.0	93.4	90.1
M	87.6	93.3	89.9	85.6	88.0	88.9
Mean (±1.23)	87.4	90.1	91.2	87.8	90.7	89.5
Mean D.M. %: 4th cut: 18.6						
Total of 4 cuts: 21.4						