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71/R/CS/41 Cultivations and Soil Invertebrates - Old Grass, New Grass

Rothamsted Research

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71/R/CS/41

CULTIVATIONS AND SOIL INVERTEBRATES

Object: To study the effects of cultivation on yields of pasture and on populations of soil animals - Road Piece.

The third year, old grass, new grass.

For previous years see 69/R/CS/41(t) and 70/R/CS/41(t).

Whole plot dimensions: 6.40 x 7.32. Area harvested: 0.00074.

Cultivations, etc.: Basal PK applied: 19 Oct, 1970. AMR plots ploughed: 23 Oct. SMR and SFR plots ploughed: 16 Feb, 1971. All plots rolled: 4 Mar. Basal NK applied: 26 Mar. Discd AMR and SMR plots 4 times, SFR plots twice, harrowed, seed hand sown at 22.4 kg and covered in with weeder: 7 Apr. Sown plots rolled: 8 Apr. SFR, SMR and AMR plots topped: 22 June. SFR, SMR and AMR plots cut once: 13 Sept, other plots 3 times: 20 May, 8 July, 13 Sept. NK applied to all plots except SFR, SMR and AMR: 26 May, 15 July, 16 Sept and to SFR, SMR and AMR plots: 16 Sept only. Seeds mixture for 1971: 1.68 kg British certified Aberystwyth S48 Timothy, 3.36 kg British certified Aberystwyth S215 Meadow Fescue, 0.56 kg New Zealand Grassland Huia certified motherseed big white clover.

NOTE: Soil cores were taken for total fauna on 23 Feb, 24 Mar, 10 May, 19 May, 25 June, 13 Aug, 3 Nov. Quadrats (61 cm square) were sampled on each plot for earthworms on 14 Apr, 10 May, 14 Oct.

Standard errors per plot. Dry matter, tonnes/hectare:

1st cut:	0.629 or 14.6% (12 d.f.)
2nd cut:	0.447 or 13.8% (12 d.f.)
3rd cut:	0.450 or 17.8% (21 d.f.)
Total of 3 cuts:	1.029 or 10.6% (12 d.f.)

71/R/CS/41

SUMMARY OF RESULTS

DRY MATTER: TONNES/HECTARE

	O*	SF	SM	AM	Mean	SFR	SMR	AMR	Mean
	(±0.222)		(±0.314)						
1st cut	4.35	4.46	4.54	3.78	4.29				
	(±0.158)		(±0.224)						
2nd cut	2.89	3.46	3.52	3.43	3.24				
	(±0.159)		(±0.225)				(±0.225)		
3rd cut	2.20	1.80	2.49	2.08	2.14	2.92	3.32	3.21	2.53**
	(±0.364)		(±0.515)						
Total of 3 cuts	9.43	9.72	10.56	9.30	9.69				

Mean D.M. %: 1st cut: 20.0
 2nd cut: 20.9
 3rd cut: 26.4
 Total of 3 cuts: 22.4

* Duplicated level

** General mean