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Yields of the Field Experiments 1974

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

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74/R/CS/41

CULTIVATIONS AND SOIL INVERTEBRATES

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

Sponsor: C.A. Edwards.

The sixth year, old grass, new grass.

For previous years see 69/R/CS/41(t), 70/R/CS/41(t) and 71-73/R/CS/41.

Design: 4 blocks of 8 plots randomisation restricted.

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

Treatments: Cultivations and reseeded:	CULTIVATION
No treatments to old grass (two plots per block)	O
Grass ploughed up:-	
In spring 1969, reseeded after fewest cultivations needed to produce a seedbed	SF
In spring 1969, reseeded after many seedbed cultivations	SM
In autumn 1969, reseeded spring 1970 after many seedbed cultivations	AM
Every spring since 1969, reseeded each year after fewest cultivations needed to produce a seedbed	SFR
Every spring since 1969, reseeded each year after many seedbed cultivations	SMR
Every autumn since 1969, reseeded every following spring after many seedbed cultivations	AMR

Seeds mixture for 1974: 8.8 kg S215 Meadow Fescue, 5.4 kg Contessa Meadow Fescue, 2.0 kg Nina certified Wild White Clover, 5.4 kg S48 Timothy, 0.8 kg Old Pasture Wild White Clover. Mixture sown at 22 kg.

Basal applications: Manures: (0:14:28) at 540 kg in autumn, (25:0:16) at 440 kg in spring, (25:0:16) at 220 kg after each cut except the last.

74/R/CS/41

Cultivations, etc.: - AMR plots ploughed: 19 Sept, 1973. Basal PK applied: 14 Dec. SMR and SFR plots ploughed: 26 Feb, 1974. Basal NK applied: 5 Mar. Disced AMR and SMR plots four times, SFR plots twice: 9 Apr. Disced all plots to be sown: 10 Apr. Disced, seed sown and harrowed all plots to be sown: 11 Apr. AMR, SMR and SFR plots cut twice: 29 July, 4 Dec. Other plots cut three times: 29 May, 29 July, 4 Dec. NK applied to all plots except AMR, SMR and SFR: 4 June, and to all plots: 5 Aug.

NOTE: Soil cores were taken for total fauna and quadrats were sampled on each plot for earthworms.

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

1st cut:	0.368	or	8.1%	(13 d.f.)
2nd cut:	0.458	or	19.1%	(22 d.f.)
3rd cut:	0.376	or	17.4%	(22 d.f.)
Total of 3 cuts:	0.680	or	9.2%	(22 d.f.)

74/R/CS/41

TABLES OF MEANS

DRY MATTER: TONNES/HECTARE

	CULTIVIN					CULTIVIN			
	O	SF	SM	AM	Mean	SFR	SMR	AMR	Mean
1st cut	4.61	4.18	4.26	4.96	4.52				
2nd cut	2.24	2.63	3.26	3.41	2.88	1.90	1.82	1.72	2.40**
3rd cut	2.00	1.70	1.89	1.67	1.82	2.37	2.52	3.12	2.16**
Total of 3 cuts	8.86	8.51	9.41	10.04	9.20	4.28	4.34	4.84	7.39**

STANDARD ERRORS OF DIFFERENCES

CULTIVIN

	O v any of remainder	Between remainder
1st cut	0.225	0.260
2nd cut	0.281	0.324
3rd cut	0.230	0.266
Total of 3 cuts	0.416	0.481

Mean D.M. %	1st cut:	24.7
	2nd cut:	22.0
	3rd cut:	23.7
	Total of 3 cuts:	23.5

** Grand mean