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72/R/CS/41 Cultivations and Soil Invertebrates - New Grass

Rothamsted Research

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72/R/CS/41

CULTIVATIONS AND SOIL INVERTEBRATES

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

Sponsor: C.A. Edwards.

The fourth year, old grass, new grass.

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

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

Seeds mixture for 1972: 1.7 kg British Certified Aberystwyth S215
Meadow Fescue, 1.1 kg British Certified Aberystwyth S53
Meadow Fescue, 1.1 kg British Certified Aberystwyth S48
Timothy, 0.42 kg British Uncertified Aberystwyth S100
White Clover, 0.14 kg English Old Pasture Wild White Clover.
Mixture sown at 22 kg.

Cultivations, etc.: - Basal PK applied: 15 Nov, 1971. AMR plots ploughed: 22 Nov. SMR and SFR plots ploughed: 2 Mar, 1972. Basal NK applied: 13 Mar. Discd AMR and SMR plots four times, SFR plots twice, harrowed and rolled all plots for sowing: 24 Apr. Seed hand sown and harrowed in: 25 Apr. Sown plots rolled: 27 Apr. SFR, SMR and AMR plots sprayed with MCPB at 2.2 kg in 220 l. SFR, SMR and AMR plots topped: 18 July. SFR, SMR and AMR plots cut once: 11 Sept, other plots three times: 23 May, 19 July, 11 Sept. NK applied to all plots, except SFR, SMR and AMR: 25 May and to all plots: 25 July.

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:	0.672 or 11.1% (13 d.f.)
2nd cut:	0.416 or 15.7% (13 d.f.)
3rd cut:	0.316 or 21.4% (22 d.f.)
Total of 3 cuts:	0.851 or 8.6% (13 d.f.)

72/R/CS/41

TABLES OF MEANS

DRY MATTER: TONNES/HECTARE

	CULTIVATION					CULTIVATION			
	O*	SF	SM	AM	Mean	SFR	SMR	AMR	Mean
1ST CUT	5.82	5.81	5.94	6.85	6.05				
2ND CUT	2.53	2.56	2.69	2.91	2.64				
3RD CUT	1.23	1.11	1.01	1.25	1.17	2.11	2.01	1.82	1.47**
TOTAL OF 3 CUTS	9.58	9.38	9.73	11.01	9.86				

STANDARD ERRORS OF DIFFERENCES
CULTIVATION

	Excluding O	O v any of remainder
1ST CUT	0.336	0.412
2ND CUT	0.294	0.254
3RD CUT	0.223	0.193
TOTAL OF 3 CUTS	0.603	0.508

Mean D.M. %: 1st cut: 17.1
 2nd cut: 24.8
 3rd cut: 30.2
 Total of 3 cuts: 24.0

* Duplicated level

** Grand mean