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Yields of the Field Experiments 1975

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75/ R/CS/41 - Cultivations & Soil Invertebrates - Old Grass, New Grass

Rothamsted Research

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75/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 seventh year, old grass, new grass.

For previous years see 69/R/CS/41(t), 70/R/CS/41(t) and 71-74/R/CS/41.

Design: 4 blocks of 8 plots randomisation restricted.

Whole plot dimensions: 6.40 x 7.32.

Treatments: Cultivations and reseeding:

	CULTIVTN
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 1975: 6.7 kg S215 Meadow Fescue, 4.5 kg Contessa Meadow Fescue, 4.5 kg S48 Timothy, 1.7 kg Nina certified Wild White Clover, 0.6 kg Old Pasture Wild White Clover. Mixture sown at 24 kg.

Basal applications: Manures: (0:14:28) at 500 kg in winter, (25:0:16) at 440 kg in spring, (25:0:16) at 220 kg after each cut except the last.

Cultivations, etc.: Basal PK applied: 15 Jan, 1975. AMR plots ploughed: 24 Jan. Basal NK applied: 5 Mar. SMR and SFR plots ploughed: 19 Mar. Disced AMR and SMR plots six times, SFR plots three times: 5 May. Power harrowed all plots to be sown: 6 May. Seed sown: 9 May. AMR, SMR, SFR plots topped: 14 July. Other plots cut three times: 28 May, 31 July, 7 Nov. NK applied to all plots except AMR, SMR, SFR: 16 June, and to all plots: 18 Aug.

NOTE: Soil cores were taken to assess total fauna on 7 May, 16 Oct, and quadrats were sampled on each plot for earthworms on 29 May, 16 Oct.

75/R/CS/41

1ST CUT (28/5/75) DRY MATTER TONNES/HECTARE

*** TABLES OF MEANS ***

CULTIVTN	O	SF	SM	AM	MEAN
	4.67	4.45	4.19	4.75	4.55

*** STANDARD ERRORS OF DIFFERENCES OF MEANS ***

TABLE	CULTIVTN
SED	0.231(1) 0.267(2)

(1) O V ANY REMAINDER
(2) ANY OF REMAINDER

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	13	0.378	8.3

1ST CUT MEAN DM% 18.3

2ND CUT (31/7/75) DRY MATTER TONNES/HECTARE

*** TABLES OF MEANS ***

CULTIVTN	O	SF	SM	AM	MEAN
	0.99	1.52	2.04	1.90	1.49

*** STANDARD ERRORS OF DIFFERENCES OF MEANS ***

TABLE	CULTIVTN
SED	0.254(1) 0.293(2)

(1) O V ANY REMAINDER
(2) ANY OF REMAINDER

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	13	0.414	27.9

2ND CUT MEAN DM% 31.2

75/R/CS/41

3RD CUT (7/11/75) DRY MATTER TONNES/HECTARE

*** TABLES OF MEANS ***

CULTIVTN	0	SF	SM	AM	MEAN
	0.73	0.73	0.79	0.69	0.74

*** STANDARD ERRORS OF DIFFERENCES OF MEANS ***

TABLE	CULTIVTN
-----	-----
SED	0.116(1)
	0.134(2)

(1) O V ANY REMAINDER

(2) ANY OF REMAINDER

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	13	0.190	25.6

3RD CUT MEAN DM% 24.2

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

*** TABLES OF MEANS ***

CULTIVTN	0	SF	SM	AM	MEAN
	6.39	6.74	7.01	7.3	6.73

*** STANDARD ERRORS OF DIFFERENCES OF MEANS ***

TABLE	CULTIVTN
-----	-----
SED	0.410(1)
	0.473(2)

(1) O V ANY OF REMAINDER

(2) ANY OF REMAINDER

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	13	0.669	9.9

TOTAL OF 3 CUTS MEAN DM% 24.5

PLOT AREA HARVESTED 0.00074

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