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Numerical Results of the Field Experiments 1969

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69/R/CS/41 - Cultivations & Soil Invertebrates - Grass

Rothamsted Research

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GRASS

(69/R/CS/41)

Cultivations and soil invertebrates, Road Piece 1969, the first year.

Design: 4 blocks of 8 plots, randomisation restricted.

Area of each plot: 0.0116. Area harvested: 0.0018.

Treatments: All combinations of:-

1. Cultivations: None (O) duplicate plots unploughed, fewest (F), most (M) cultivations necessary to produce seedbed for sowing new ley.
2. Annual treatment: Treatments repeated (R), treatments not repeated (O), annually.

NOTE: (1) The experiment was sited on land which had been in grass (mainly grazed) since 1945. Grazing has now ceased.

Basal applications: 4 cwt (0:14:28) and 3.5 cwt (25:0:16). 200 lb (25:0:16) after each cut except the last.

Cultivations, etc.: Basal PK applied: 4 Mar, 1969. Basal NK applied, F and M plots ploughed: 5 Mar. All plots rolled: 6 Mar. M plots disced four times, F plots twice: 11 Apr. F and M plots disced and harrowed: 15 Apr. F and M plots rolled, seed sown at 20 lb and covered in with weeder: 16 Apr. All plots rolled: 18 Apr. Cut F and M plots once: 18 Sept, other plots 3 times: 5 June, 17 July, 18 Sept. NK applied to all plots except F and M: 6 June, 22 July, F and M plots: 22 July only. Seeds mixture: 6 lb Meadow Fescue S215, 4 lb Meadow Fescue S53, 4 lb Timothy S48, 1.5 lb white clover S100, 0.5 lb wild white clover English old pasture.

NOTE: (2) Soil cores were taken from each plot on the following dates:- 7 Mar, 1969 for leatherjackets (Tipulidae spp) and wireworms (Agriotes spp). 22 May, 7 July, 8 Aug, 11 Sept and 4 Dec for soil fauna. Quadrats (2 feet square) were sampled on each plot for earthworms on 16 Apr.

Standard error per plot. Dry matter, cwt:
3rd cut: 3.08 or 18.0% (21 d.f.)

SUMMARY OF RESULTS

DRY MATTER: CWT

1st cut*	0	29.6
2nd cut*	0	18.4
3rd cut	0	14.3 (±0.77)
F		19.0
M		20.4 (±1.09)
Mean		17.0
Total of 3 cuts	0	62.4

* F and M plots not harvested

Mean D.M. %: 1st cut: 17.2
 2nd cut: 21.6
 3rd cut: 20.9

NOTE: For 1969 the repeated treatments are not applicable.