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# Yields of the Field Experiments 1981

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## 81/R/CS/130 Effects of Earthworm Inoculation - Ley

### Rothamsted Research

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81/R/CS/130

EFFECTS OF EARTHWORM INOCULATION

Object: To study the effects of different species of earthworms on yield and other characteristics of grass - Fosters O & E.

Sponsor: J.R. Lofty.

The eighth year, 1ey.

For previous years see 74-80/R/CS/130.

Design: 3 randomised blocks of 4 plots.

Whole plot dimensions: 8.53 x 9.14.

Treatments: Inoculation with earthworm species in 1974, 1975 and 1979:

WORMSPEC

NONE	None
ALLOLOBO	Allolobophora longa at 15,000 per hectare in 1974; 5,000 in 1975; 96,000 in 1979
LUMBRICU	Lumbricus terrestris at 5,000 per hectare in 1974 and 1975; 96,000 in 1979
SIX SPEC	Six species - A. caliginosa, A. chlorotica, A. longa, A. rosea, L. rubellus, L. terrestris at a total of 35,000 per hectare in 1974, 12,000 in 1975, none in 1979

NOTES: (1) The experiment was ploughed in error in July 1976 and resown in autumn 1976.

(2) Earthworms for the 1979 crop were applied on 1 Dec, 1978 to one block only. Applications to other blocks have been postponed.

Basal applications: Manures: (0:14:28) at 500 kg. (25:0:16) at 440 kg in spring, (25:0:16) at 220 kg after the first two cuts.

Seed: Grass and clover mixture sown August 1973, ploughed in error in June 1976 and resown September 1976.

Cultivations, etc.: - PK applied: 18 Nov, 1980. NK applied: 20 Mar, 1981, 5 June, 11 Aug. Cut: 4 June, 5 Aug, 3 Nov.

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1ST CUT (4/6/81) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

WORMSPEC	NONE	ALLOLOBO	LUMBRICU	SIX SPEC	MEAN
	5.03	5.20	5.04	5.81	5.27

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

TABLE	WORMSPEC
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SED	0.560

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

STRATUM	DF	SE	CV%
BLOCK.WP	6	0.686	13.0

1ST CUT MEAN DM% 20.3

2ND CUT(5/8/81) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

WORMSPEC	NONE	ALLOLOBO	LUMBRICU	SIX SPEC	MEAN
	2.19	2.06	2.45	2.45	2.29

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

TABLE	WORMSPEC
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SED	0.288

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

STRATUM	DF	SE	CV%
BLOCK.WP	6	0.353	15.4

2ND CUT MEAN DM% 28.8

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3RD CUT(3/11/81) DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

WORMSPEC	NONE	ALLOLOBO	LUMBRICU	SIX SPEC	MEAN
	1.15	1.17	1.24	0.99	1.14

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

TABLE	WORMSPEC
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SED	0.153

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

STRATUM	DF	SE	CV%
BLOCK.WP	6	0.188	16.5

3RD CUT MEAN DM% 29.7

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

WORMSPEC	NONE	ALLOLOBO	LUMBRICU	SIX SPEC	MEAN
	8.37	8.43	8.73	9.25	8.70

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

TABLE	WORMSPEC
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SED	0.682

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

STRATUM	DF	SE	CV%
BLOCK.WP	6	0.836	9.6

TOTAL OF 3 CUTS MEAN DM% 26.3

PLOT AREA HARVESTED 0.00046