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Yields of the Field Experiments 1983

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Rothamsted Research

Rothamsted Research (1984) *83/R/CS/247 Organic Matter and Earthworm Inoculation - W. Wheat ;* Yields Of The Field Experiments 1983, pp 149 - 150 **- DOI: https://doi.org/10.23637/ERADOC-1-44**

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83/R/CS/247

ORGANIC MATTER AND EARTHWORM INOCULATION

Object: To study methods of inoculating earthworms into arable soil and the influence of organic materials on subsequent multiplication and spread - Hoosfield.

Sponsor: C.A. Edwards.

The fourth year, w. wheat.

For previous years see 80-82/R/CS/247.

Design: 3 randomised blocks of 9 plots.

Whole plot dimensions: 7.85 x 7.62.

Treatments: All combinations of:-

1. WORMINOC(80) Earthworms and inoculation method for 1980 crop only:

NONE	None
	Earthworms (Lumbricus terrestris) applied at 16,700 per hectare in November 1979:
EVEN	Evenly spaced throughout
CONC	Concentrated in metre squares, 100 earthworms per square metre

2. ORG MATT(83) Forms of organic matter:

NONE	None
STR	Straw at 6.50 t for 1980, 3.25 t for 1981 and 1982
STR+FYM	Straw at 6.50 t for 1980, 3.25 t for 1981 and 1982 plus farmyard manure at 40 t in each year including 1983

Basal applications: Manures: (5:14:30) at 340 kg, combine drilled. 'Nitro-Chalk' at 280 kg followed by 630 kg. Weedkillers: Glyphosate at 1.4 kg in 250 l. Paraquat at 0.84 kg ion in 250 l. Mecoprop, bromoxynil and ioxynil (as 'Brittox' at 3.5 l) with isoproturon at 2.1 kg in 250 l applied with the fungicide. Fungicide: Prochloraz at 0.40 kg.

Seed: Avalon, sown at 200 kg.

Cultivations, etc.:- Glyphosate applied: 10 Sept, 1982. Paraquat applied: 25 Oct. Seed direct drilled: 1 Nov. Spring-tine cultivated: 4 Nov. FYM treatment applied: 23 Dec. First N applied: 16 Mar, 1983. Second N applied: 14 Apr. 'Brittox', isoproturon and the fungicide applied: 16 Apr. Combine harvested: 11 Aug.

NOTE: Soil was sampled for earthworms in November.

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83/R/CS/247

GRAIN TONNES/HECTARE

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

ORG MATT(83) WORMINOC(80)	NONE	STR	STR+FYM	MEAN
NONE	6.89	7.25	6.78	6.97
EVEN	7.08	6.57	7.01	6.89
CONC	6.74	6.62	6.92	6.76
MEAN	6.90	6.81	6.90	6.87

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

TABLE	WORMINOC(80)	ORG MATT(83)	WORMINOC(80) ORG MATT(83)
SED	0.154	0.154	0.266

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	0.326	4.7

GRAIN MEAN DM% 87.3

PLOT AREA HARVESTED 0.00238

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