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82/R/CS/247 Organic Matter and Earthworm Inoculation - W. Wheat

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82/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 third year, w. wheat.

For previous years see 80-81/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 (<i>Lumbricus terrestris</i>) 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(82) Forms of organic matter:

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

Basal applications: Manures: (10:23:23) at 250 kg, combine drilled.
'Nitro-Chalk' at 670 kg. Weedkillers: Glyphosate at 1.4 kg in 250 l.
Mecoprop, bromoxynil and ioxynil (as 'Brittox' at 3.5 l) with isoproturon at 2.0 kg in 250 l.

Seed: Avalon, sown at 200 kg.

Cultivations, etc.: - Glyphosate applied: 23 Sept, 1981. Seed direct drilled: 7 Oct. FYM applied: 2 Dec. Mecoprop, bromoxynil, ioxynil and isoproturon applied: 14 Apr, 1982. N applied: 17 Apr. Combine harvested: 20 Aug.

NOTE: Plots were sampled for earthworms in November.

82/R/CS/247

GRAIN TONNES/HECTARE

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

ORG MATT(82) WORMINOC(80)	NONE	STR	STR+FYM	MEAN
NONE	6.11	5.59	5.32	5.67
EVEN	5.09	5.82	5.77	5.56
CONC	5.40	6.13	5.36	5.63
MEAN	5.54	5.85	5.48	5.62

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

TABLE	WORMINOC(80)	ORG MATT(82)	WORMINOC(80) ORG MATT(82)
SED	0.331	0.331	0.573

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	0.702	12.5

GRAIN MEAN DM% 81.6

PLOT AREA HARVESTED 0.00240