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

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81/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 second year, w. wheat.

For previous year see 80/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 (81) Forms of organic matter, cumulative for 1980 & 1981 crops:

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 for both years

Basal applications: Manures: Chalk at 7.5 t. (10:23:23) at 250 kg, combine drilled. 'Nitro-Chalk' at 560 kg. Weedkillers: Paraquat at 0.84 kg ion in 250 l, applied twice. Isoproturon at 2.1 l with mecoprop at 3.2 l in 250 l. Fungicides: Prochloraz at 0.4 l in 250 l applied with maneb at 1.2 kg and zineb at 0.13 kg.

Seed: Flanders, sown at 180 kg.

Cultivations, etc.: - Paraquat applied: 1 Sept, 1980. Chalk applied: 2 Sept. Paraquat applied: 30 Sept. Seed sown: 7 Oct. Test FYM and straw applied: 11 Nov. N applied: 15 Apr, 1981. Isoproturon and mecoprop applied: 22 Apr. Fungicides applied: 22 June. Combine harvested: 24 Aug.

NOTE: Plots were sampled for earthworms in November.

81/R/CS/247

GRAIN TONNES/HECTARE

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

ORG MATT(81) WORMINOC(80)	NONE	STR	STR+FYM	MEAN
NONE	6.38	6.36	6.11	6.28
EVEN	6.57	5.82	6.14	6.18
CONC	6.44	6.07	6.16	6.22
MEAN	6.46	6.08	6.14	6.23

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

TABLE	WORMINOC(80)	ORG MATT(81)	WORMINOC(80) ORG MATT(81)
SED	0.170	0.170	0.295

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	0.361	5.8

GRAIN MEAN DM% 81.1

PLOT AREA HARVESTED 0.00244