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80/R/CS/247 Organic Matter and Earthworm Inoculation

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80/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 first year, w. wheat.

Design: 3 randomised blocks of 9 plots.

Whole plot dimensions: 7.85 x 7.62.

Treatments: All combinations of:

1. WORMINOC Earthworms and inoculation method:
 - NONE None
 - Earthworms (*Lumbricus terrestris*) applied at 16,700 per hectare: 21 Nov, 1979
 - EVEN Evenly spaced throughout
 - CONC Concentrated in metre squares, 100 earthworms per square metre

2. ORG MATT Forms of organic matter:
 - NONE None
 - STR Straw at 4.7 t
 - STR+FYM Straw at 4.7 t plus farmyard manure at 40 t

Basal application: Manures: (10:23:23) at 250 kg, combine drilled.
'Nitro-Chalk' at 560 kg. Weedkillers: Paraquat at 0.56 kg ion in 220 l applied twice. Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.5 l) in 250 l. Insecticide: Demeton-s-methyl at 0.24 kg in 250 l.

Seed: Flanders, sown at 200 kg.

Cultivations, etc.: - Preceding barley straw burned: 7 Sept, 1979. Paraquat applied: 6 Oct. Disc harrowed twice: 8 Oct. Paraquat applied: 18 Oct. Direct drilled: 19 Oct. FYM applied: 3 Jan, 1980. Straw applied: 15 Jan. N applied: 11 Apr. 'Brittox' applied: 7 May. Insecticide applied: 24 June. Combine harvested: 22 Aug. Previous crops: S. wheat 1978, s. barley 1979.

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GRAIN TONNES/HECTARE

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

ORG MATT WORMINOC	NONE	STR	STR+FYM	MEAN
NONE	7.16	6.74	6.37	6.76
EVEN	7.25	6.47	6.34	6.69
CONC	7.16	6.66	6.42	6.75
MEAN	7.19	6.62	6.38	6.73

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

TABLE	WORMINOC	ORG MATT	WORMINOC ORG MATT
SED	0.120	0.120	0.208

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	0.255	3.8
GRAIN MEAN DM%	83.8		
PLOT AREA HARVESTED	0.00240		