

#30minworms

Improving our understanding of soil health together



Co-created method to assess earthworm populations

92 % people reported it took 30 - 60 minutes

Online portal to share and compare results

Tried and tested on 4000 hectares

www. **uksoils** .org

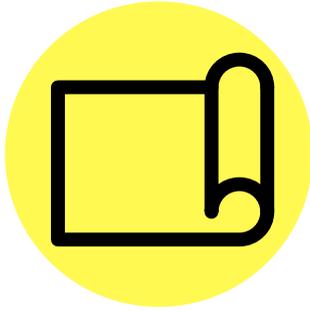
Method

Safety information: This is an outdoor activity, digging holes can be strenuous, cover open wounds before handling soils, and wash your hands after the assessment.

Equipment



Spade & ruler



Mat



Pot for worms



Bottle water



Record keeping

Procedure

5 soil pits per field using standard W shape field sampling

- 1) At each soil pit spot, check the soil surface for the presence of middens (key shown) and tick/cross on the results sheet
- 2) Dig out a 20 cm x 20 cm x 20 cm soil pit and place soil on mat (30 sec). 20 cm = 8 inches)
- 3) Hand-sort soil (5-minutes), placing each whole earthworm into the pot. Note if pencil size vertical burrows are present and tick/cross on the results sheet
- 4) Count the total number (adults and juveniles) of earthworms and note down
- 5) Select the adult earthworms (usually only a few) and return juveniles to soil pit. Only adults have a saddle - the reproductive ring near the head. *Top tip: a saddle can be more obvious on the underside of the earthworm.*
- 6) Count the number of each type of adult earthworm (key shown) and note down. *Top tip: take a photo for your records.*
- 7) Return worms to the soil pit and back fill with soil
- 8) Repeat steps 1 - 7, until 5 soil pits per field have been assessed

Data Table

Field name: Field Size (ha): Date:.....

Crop: Was straw retained? YES/NO

Tillage ? PLOUGH/MINTILL/NOTILL/Other.....

Cover crop prior? YES/NO

Manure/compost etc. this year?YES/NO

System: Conventional/Organic/Other.....

	1	2	3	4	5
Large vertical burrows or middens present?					
Total number of juvenile AND adult worms					
Total number of adult surface worms					
Total number of adult topsoil worms					
Total number of adult deep burrowers					

Middens and vertical burrows



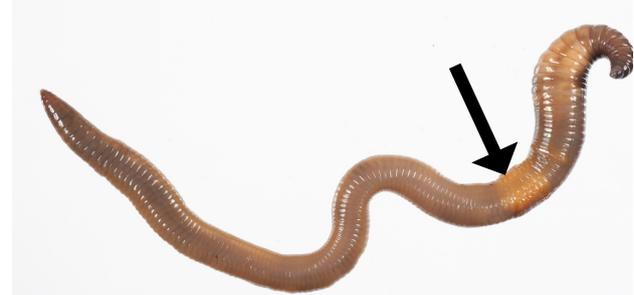
Pencil size vertical burrow with root



Midden made by a deep burrowing earthworm. This is a pile of straw or stones overlying a permanent burrow.



Adult earthworms: Look for the saddle



If there is no obvious saddle, it is a juvenile earthworm which cannot be identified

Three types of earthworms in farmland soils:

Surface worms



Small (matchstick, < 8cm)
Red colour
Often fast moving
Found in leaf litter layer

Topsoil worms



Small - Medium in size
Pink, grey, green or mottled yellow colours
Most common type of worm in farmland soils
Found in topsoil

Deep burrowers



Large (pencil, > 8cm)
Red or black head
Large vertical burrows/
middens indicate presence

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