

Fieldwork Activity: Water Infiltration Test

Water infiltration rates provide information on soil structure. Improved infiltration of rainfall and irrigation water helps to reduce soil erosion and the loss of nutrients from land to water. Follow this guide to conduct a simple drainpipe test to assess water infiltration into the soil.

Drainpipe Test

This test measures the rate at which water can infiltrate into soil. The presence of old root channels and worm activity can increase infiltration and indicate good soil structure.

You Will Need

- A length of pipe 10 cm in diameter and 20 cm long
- Hammer
- Stopwatch (often available on your phone)
- Ruler or tape measure
- Tape or permanent pen
- Further assessment of soil structure can be made using the resource 'How to Assess Soil Structure'.

Step-by-Step

1. Mark the pipe 10cm from the bottom (using a piece of tape or pen). Drive the pipe into the ground up to this mark using a hammer. A piece of wood larger than the diameter of the pipe can be used to ensure the pipe is hammered into the ground uniformly.
2. Pour in water (approximately 800 ml) to a depth of 10 cm.
3. Start the stopwatch immediately and measure the time the water takes to drain into the soil.
4. Repeat in several other locations, e.g. in a bed, a field margin or a gateway.
5. Take notes on each location, e.g. do you observe standing water? Is there any indication that this is a high-traffic area, etc.?



Image Credit: Dr Audrey Litterick - Earthcare Technical

In well-structured soil, water moves faster down the soil profile. For soil in good health, the water should drain away within 2 to 5 minutes for light or medium soils. A heavy clay soil with poor structure could take 20 minutes or longer.

Location	Location Description	Time
1		
2		
3		
4		
5		