

Permaculture Research: Soil Test Record Sheet

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This booklet should be used with the accompanying *Soil Tests Handbook* and *Soil Advice Booklet*, downloadable for free:

<https://www.permaculture.org.uk/research/soil-yield-and-biodiversity-tests-project>



The Permaculture Research: Soil Record Sheet.
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The Permaculture Association's vision is an abundant world in which we care for the earth, each-other and future generations, whilst living within nature's limits. Our mission is to empower people to design thriving communities across Britain, and contribute to permaculture worldwide.

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Site details

Name of site: _____ Name of person doing tests: _____

Location of soil test area within the site: _____

Current use of this area: _____

Other use/s of area in last five years: _____

Preliminary tests

1) Anaerobic conditions and pollution

The smell test

Sour, putrid or chemical smell		Do not proceed with tests
No smell		Proceed with tests
Earthy, sweet or fresh smell		Proceed with tests

2) Waterlogging and dryness

The squeeze test

Dry soil		Do not proceed with tests
Moist soil		Proceed with tests
Wet soil		Do not proceed with tests

Main Soil tests

1. Drainage

How long did it take, in minutes, for the water to completely drain away?

Quick draining soil (5 minutes or less) will not hold the water plants need in dry weather. Slow draining soil (15 minutes or more) may become waterlogged.

2. Earthworms

How many earthworms did you count?

The more earthworms, the better. They indicate a high level of soil biology. There is no 'ideal number', but 3 worms or more suggests your soil has a good level of soil life.

3. Top soil depth

How deep is your soil?

Very shallow (<15 cm)	
Shallow (15-30 cm)	
Moderately deep (30-60 cm)	
Deep (>60 cm)	

The deeper your soil the better. It holds more water and supports deep roots.

4. Soil texture

What texture is your soil?

5. Soil structure

The visual inspection test

Is your soil:

Soft	
Cloddy	
Platey	

Is there a pan in your soil? Yes/ no

Soft soil is good. Pans are undesirable, blocking root and water penetration.

The slaking and dispersal test

Record the state of slaking in the jar:

	After 2 hours	After 24 hours
None		
Partial		
Complete		

The slower the soil breaks up, the better; this indicates a high degree of organic matter which holds the soil together.

6. Soil pH

What is the pH of your soil?

A pH between 6 and 7 is best for most plants to grow.

7. Soil compaction

What is the bulk density score of your soil?

In sandy soil, a bulk density score below 1.6 is desirable, higher than 1.8 is a problem.

In silty soil, a bulk density score below 1.4 is desirable, higher than 1.6 is a problem.

In clay soil, a bulk density score below 1.1 is desirable, higher than 1.5 is a problem.