



Soil Health Test Package

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Australian farmers manage approximately **60% of the Australian landscape** and witness firsthand the role soil health plays in driving the productivity, profitability and sustainability of Australian farm businesses.

The ability to measure and monitor the soil's key biological, chemical and physical characteristics is essential to understanding and improving soil health. To do this, farmers need scientifically verified soil testing to benchmark their soil health and guide decision making.

For over 50 years, Nutrient Advantage® has been Australia's leading provider of nutrient analysis and expertise, helping farmers cost-effectively manage their input requirements.

Now, a new soil health package has been added to the Nutrient Advantage testing service to help farmers better measure and

manage their soil health, and empower them to make decisions that boost their productivity today while safeguarding the sustainability of their businesses into the future.

The first in a series of soil health tests, the new package comprises four test components:

- Total Carbon & Total Nitrogen & C:N ratio (combustion)
- Aggregate Slaking & Dispersion (Loveday & Pyle)
- Active (labile) Carbon (0.033M KMnO₄)
- Microbial Respiration (1 day Solvita CO₂ burst)

It is recommended the tests be repeated every two to three years at the same time of year. Using the *Health1* code, they can be ordered as a standalone package for \$80, or added to any existing Nutrient Advantage test order for \$70.

To order or find out more, visit www.soilhealthtesting.com.au or call 1800 803 453.



About the soil health package



Total carbon

Total carbon is the sum of three carbon forms: organic, elemental and inorganic. Total organic carbon influences many soil characteristics including colour, nutrient holding capacity, nutrient turnover and stability, which in turn influences water relations, aeration and workability.



Total nitrogen

Nitrogen presents in soil in two forms – inorganic, as mineral nitrogen, and organic, such as soil organic matter, microorganisms and plant residues. Total Nitrogen is a measure of all nitrogen present in the soil.



C:N ratio

Microbes use carbon and nitrogen as a food source. The carbon to nitrogen (C:N) ratio measures how many units of carbon are present for every unit of nitrogen. Soil microorganisms have a C:N ratio near 8:1, and their capacity to release plant-available nitrogen is influenced by this ratio. The C:N ratio determines how long it takes for organic matter to break down and whether nutrients (N and S) will be immobilised or mineralised.



Aggregate slaking & dispersion

Aggregate slaking and dispersion tests the response of a soil aggregate to water.

The test identifies sodic and dispersive soils with structural instability, and it is used to determine if a soil will slake (fall apart), set hard or crust. Each of these three things will increase erosion potential, nutrient run off, block macropores and reduce air and water movement into and through the soil.

Well-aggregated and stable soils are more likely to maintain their structure in response to physical stress such as tillage, precipitation and compaction.



Labile (active) carbon

Labile carbon is a fraction of the organic carbon pool that breaks down relatively quickly (<5 years). It is the major food source for soil microbes, acting to supply and recycle nitrogen, and is involved in the formation of soil aggregates. Labile carbon levels respond quickly to crop management practice changes, and it is a useful indicator of management impacts on organic matter and soil health.



Microbial respiration (activity estimation)

The microbial respiration test measures the amount of CO₂ released from soil microbes after the soil has been dried and re-wetted over a 24-hour period. This test provides an indication of the potential aerobic microbial activity from the soil's microbial biomass.

Microbial activity affects the nutrient cycling rate, soil aggregation and organic matter formation, disease suppression and stimulation of plant growth.



Learn more at soilhealthtesting.com.au