



Soil test kits

What is a soil test kit?

Field soil test kits can be used to assess soil physical and chemical characteristics in the field.

Why use a soil test kit?

Soil kits can allow in-field real-time evaluation of selected soil properties. For example, assessment of pH and electrical conductivity (EC) provides a very quick and useful assessment of soil fertility. Interpretation for some soil factors (e.g., P or K levels), however, can be difficult due to the lack of a clear relationship with crop growth.



NRCS soil test kit

Use of soil test kits

The table below shows the soil property and its relationship to soil health.

Note: Some properties (e.g., soil nutrient levels) are often of limited value because the values cannot be related to crop response. Having said that, all soil test values can be useful for comparing absolute values between fields.

Table. Soil properties and their general interpretation.

Soil Property	Relationship to Soil Health
pH	Soil pH gives a very good estimate of relative nutrient availability. Best general range for crops is 6-7.5
Electrical conductivity (EC)	Useful when related to general crop salinity tolerances. Soils with EC more than 4 dS/m are considered saline.
Soil organic matter (SOM)	Increased SOM improves soil fertility, structure, nutrient retention and can reduce soil erosion (due to improved water infiltration)
Soil depth	Tells about potential rooting depth and available moisture
Bulk density	Tells about possible compaction and plow pan existence
Water holding capacity and water content	Tells about water availability and soil workability
Water infiltration rate	Tells about water movement and potential runoff and erosion
Extractable N, P and K	Indicates plant available nutrients – Results can be difficult to relate to crop growth and response [#] .
Soil respiration.	Microbial activity measure

*Table based on <http://soils.usda.gov/sqi/assessment/assessment.html>

[#] Many results are relative and therefore do not indicate how much of a nutrient is needed to overcome a possible deficiency.

Prepared by Mark Bell, Nick Madden and Maria Paz Santibanez © 2012.

For more information visit: www.ip.ucdavis.edu

Copyright © UC Regents Davis campus, 2012. All Rights Reserved.