SOIL COLOUR

DEFINITION

Soil color is often the most visually apparent property of soil. While color itself does not influence the behavior or practical use of soils, it does indicate important information about the soil organic matter content, mineralogy, moisture, and drainage.

TEST

The most accurate way of measuring a soil's organic matter content is a lab test (Loss of Ignition test). However, in the absence of access to a lab, the soil color test can give a general indication.

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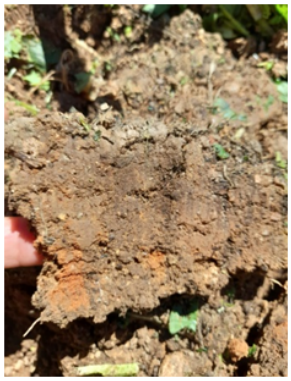
FIELD

- **Material :** Spade, zip bag to carry samples (and for further lab analysis)
- **Time needed:** 20 minutes
- **Procedure:**

1. Take a moist soil sample from an uncultivated/undisturbed area, place it in a bag and label it as 'reference sample'
2. Take a moist soil sample from the area you want to study, place it in a bag and label it with '(code of the zone) sample' (also include a number, in case you are doing multiple surveys within the same zone)
3. Using the three photographs below, compare the relative change in soil colour between a handful of soil from the 'reference sample' and another handful of soil from the zone you are monitoring.
4. Record the scores in your table below and take photographs for record
5. Repeat the process at all zones you wish to monitor



Example from a dry fig orchard in South Portugal.

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RESULTS

How to score soil color:

- **Good condition (2 points):** The topsoil is dark colored. The color of the topsoil is not very different from that under the fence line.
- **Moderate condition (1 point):** The color of the topsoil is paler than that under the fence line but the color difference is not striking.
- **Poor condition (0 points):** The color of the soil is much paler than that under the fenceline.

Sample	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Site						
Date						
Score						

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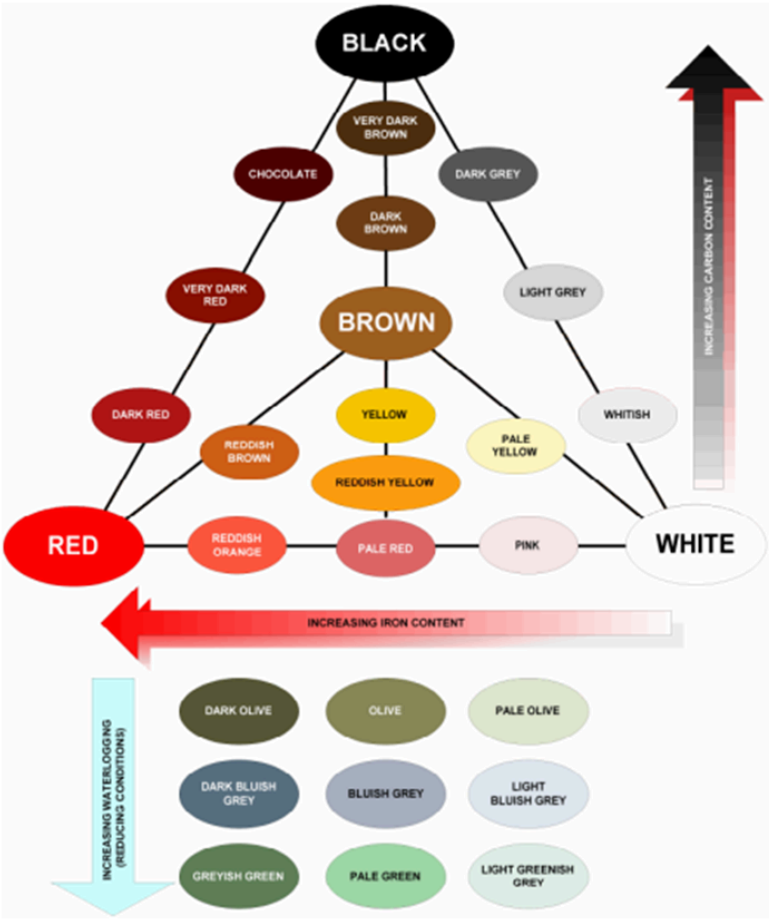
INTERPRETATION

Soil color is the indicator that shows how the organic matter and carbon content of soil changes over time, with particular land-use and/or restoration interventions.

Thus, a change in the color can give a general indication of a change in organic matter under a particular land use or management.



Colour triangle showing relationships between soil colours and influencing factors/conditions

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HOW TO IMPROVE SOIL COLOUR

The main objective to make your soil healthier is to improve organic matter content of your soil.

It is important to understand that organic matter is a crucial storehouse for nutrients and a major contributor to aggregate formation and stability, playing a central role in ecosystem functioning for all soil types (sandy, clay, loamy and all the ones in between). Soil Organic matter influences fertility and associated (primary or crop) productivity and hydrology (infiltration/runoff rates and flood regimes). It prevents erosion on shallow soils, especially by providing protection against flooding and run-off (soil cover, plant).

You can:

- ☐ Add a thick layer of rotted manure, mulch or compost to the soil surface. Even a 5 cm layer added each year will soon significantly increase your soil depth.
- ☐ Consider bringing in additional top soil from another site or from another part of your site.