



THE LIVING BREATHING DIRT TEST AND MAP INITIATIVE

The Test: Common Ground Media, Inc. proposes that appropriate government, educational and other community organizations (e.g. The Natural Resources Conservation Service (USDA), PBS, The National Gardening Association, make the The Solvita Living Breathing Dirt Test widely available through their networks. Students, gardeners, citizen scientists, farmers and other dirt lovers will perform the test and share data by contributing to a soil map that posts the data results and related multi media presentations. The extent of the testing will be determined by the number participants reached through networks and the financial costs of making the tests available. The Solvita Living Breathing Dirt Test has been developed by Dr. William F Brinton working in collaboration with the USDA scientists Richard Haney and John F. Doran.

THE SCIENTIFIC EXPLANATION TO BE MADE AVAILABLE WITH THE TESTS:

The Solvita test of living breathing soils is based on firm scientific ground:

Soil respiration is an important aspect of soil-quality and an indicator of soil fertility. The size of the soil microbial biomass is reflected by the flush of CO₂ during incubation of a soil sample.

Test methods for CO₂ respiration employed in the laboratory vary considerably and to date the equipment and labor required have limited widespread adoption of these methodologies to reveal soil biological fertility.

The Solvita® system for soil CO₂ analysis is a new development of Woods End Laboratories in cooperation with USDA-ARS (projects in Arkansas and Texas).

Solvita is a simple and easy-to-use method to quantify soil microbial activity and has been shown to correlate closely with more sophisticated CO₂ respiration methods. It has also been shown to provide an accurate estimate of potential mineralizable N and P (the amount of nutrients released by natural turnover of soil organic matter).

Using CO₂ respiration to estimate mineralizable-N from the organic matter pool in the soil could help save costly and unnecessary N-fertilization, and helps protect the nation's water from pollution from fertilizer runoff. At the same

time such a test validates the significance of soil biological activity in sustaining the carbon and nitrogen cycle.

The Solvita CO2 test has been developed to provide a simple visual means to gauge biological soil fertility for farmers and gardeners, and in a more sophisticated form with a handheld digital color reader ("DCR") to quantify accurately the CO2 released. This process could become part of a national strategy to measure and compare values for various soils across climates, soil-types and management practices.

What We Can Do With Our Data: The Living Breathing Dirt Test Map Initiative

The Map: Using existing Google Earth interactive multi layered mapping capabilities test participants can post their test results, as well as photos, videos and comments to help raise soil awareness and help build communities of people interested in protecting our most underappreciated natural resource -- **soil.**

We propose mapping the results of the nationwide soil test with digital mapping tools. Google Earth Pro tools offer such possibilities with thematic mapping engine to visualize collected soil data and raise soil awareness. Participants will use the maps to illustrate how they are personally connected to their dirt.

The interactive maps will include virtual tours, educational mapping with multimedia and interactive elements. Participants will be encouraged to share stories, pictures, video, songs and artwork about the dirt they and their friends test. The mapping will also provide resources and information to help preserve and protect soils at both the local and national levels through links to outside resources all of which can help raise soil awareness.

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