

Soil Microbial Diversity and Its Vitality Value

- Vitalize Agriculture, Vitalize Local People -

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1. What is good soil growing really good food?

Improper and abuse of chemicals and soil-borne diseases by their pollution are killing soil gradually. On the other hand, many farmers are making enriched soils which are appropriate for each product by unbelievable repeats of challenges. Soil is growing life. We think that soil growing diverse and active lives in itself is the “Good soil” for the future era. We are advocating a new index “Soil Microbial Diversity*Vitality Value: SMDVV” to find the “Good soil”.

2. SMDVV

The SMDVV is the numerical index calculated by integration of functional diversity, organic substances degradation speed, and rapidity of the ignition of the degradation in soil microbial community tested. The most novel point of this technology is enabling scientific evaluation of biological richness of soil that used to almost impossible.

Soil suspension diluted with the phosphate buffer solution (pH 7.0) is delivered into 96 small wells containing 95 different carbon sources on plastic plate (GN2 microplate provided by the BIOLOG inc. USA), and is incubated under 25 C darkness condition. During 48 hours incubation, fully automatic laboratory robot, the OMNILOG-PM provided by the BIOLOG inc. observes optically with the CCD imaging device every 15 minutes in its incubator box, and converts the coloring level of the soil suspension of each well to numerical index showing intensity of degrading reaction in each carbon source by the soil microbial community. Different soil microbe has different pattern in the carbon source utilization activity, various and densely colored well, therefore, means that the soil suspension tested has highly diverse, active, and balanced (less inhibition in carbon source utilization activity among each component) microbial community. We have discovered soil that has higher level of the SMDVV is more suppressive against the soil-borne diseases. The SMDVV also has positive correlation to physical hardness of the soil, therefore, soils having higher SMDVV is softer and promoting to growth of plant root system than the lower SMDVV soils.



3. Take notice of the “SOIL mark” !

Products grown on the “powerful soils” that have high SMDVVs are proofed their right agriculture with the “SOIL mark”. The environmentally safe agriculture is aiming sustainable and circulatable production without excess stress to natural environment surrounding agriculture. It is necessary to satisfy profitability not to end the environmentally safe agriculture unrealistic idealism. Not to finish the farmers intensive soil-making effort in vain, please purchase the products proofed with the “SOIL mark”.



Purchasing is voting for the farmers who do the right agriculture. Your right purchase can change agriculture and nature of the world.