

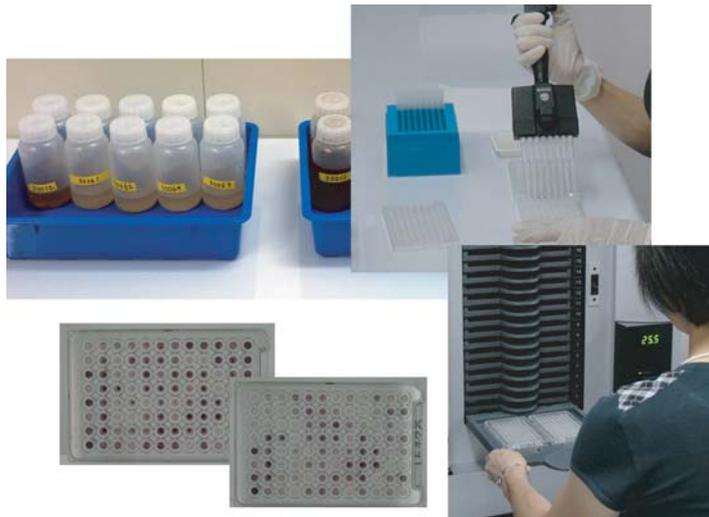
A new index for right agriculture, "Soil Microbial Diversity*Vitality Value (SMDVV)"

The "Good soil" maker promoting project focusing on biodiversity in soil microbial community

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.

This technology was developed by Dr. Kazunari Yokoyama of the independent administrative institution National Agriculture and Food Research Organization (NARO) and the researchers of Gifu, Niigata, Ishikawa, and Nagano prefecture in 2007.

The most novel point of this technology is enabling scientific evaluation of biological richness of soil that used to be almost impossible.



Method of the SMDVV measurement

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.

The SMDVV can be an index integrating the biological diversity, strength of degradation reaction, and balance of conformation of soil microbial community functionally.

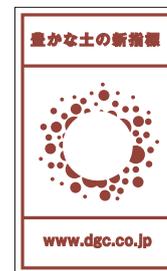
International patent pending No. PCT/JP2010/051329

Take notice of the "SOIL mark"!

We visualize ecological richness of agricultural soil grown by farmer's intensive effort for soil making by outstanding technology to measure diversity and activity of microbial community numerically. Furthermore, Products grown on the "powerful soils" that have high BDVVs are proofed their right agriculture with the "SOIL mark".

To aim Win-Win-Win relation between agriculture, nature and economy

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 at 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.



Soil Microbial Diversity Project

What is good soil?

What is richness of soil?

The "Good soil" maker promoting project focusing on biodiversity in soil microbial community

What is "Good soil"?

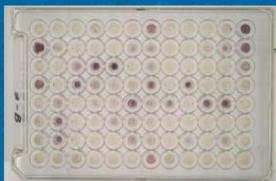
Improper and abuse of chemicals and soil-borne diseases by their pollution are killing soil gradually. On the other hand, many farmers are making enriched soils which are appropriate for each product by unbelievable repeats of challenges.

What is good soil? What is richness of soil?

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)

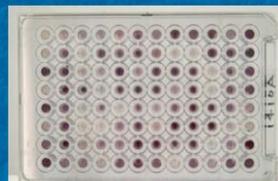
Comparison of the SDVV

Biologically poor



256,395(SMDVV)
chemical fertilizer

Biologically rich



1,576,605(SMDVV)
organic compost

Comparison of the MSDVV in rice paddy fields (1).

Site	SMDVV
Organic agriculture for 8 years #1	1,092,095
Organic agriculture for 8 years #2	1,086,078
Organic agriculture for 6 years	917,846
Conventional agriculture but changing to organic for 2 years	724,817

Comparison of the MSDVV in rice paddy fields (2).

Site	SMDVV
Organic agriculture for 10 years	1,371,983
Conventional agriculture	634,099

Comparison of the physical hardness and MSDVV of tea tree.

		Organic for 30 years	Organic for 5 years	Conventional
Physical hardness of soil				
Depth	5cm	12	7	6
	10cm	10	13	13
	15cm	12	17	15
	20cm	17	20	19
	25cm	19	17	18
	30cm	17	16	16
SMDVV				
		1,363,414	1,108,226	946,853