



茨城大学
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Evaluating of agriculture sustainability depending on comparing organic and conventional farming system in Bali, Indonesia

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Introduction

Q:

Why do we need sustainable agriculture?

A:

Agriculture is very important to human life, the most common agriculture system being used is conventional cropping system. However, some people and farmer respect for personal health and environment, so they started to use of organic matter for the agriculture. Sustainability agriculture is a system by using the organic matter to produce healthy product and good for environment .

Objectives

1. Analyze the importance and necessary to keep up sustainability agriculture.
2. Analyze the benefit and the problem on using organic cropping system.
3. Attempt to spread the organic cropping system throughout the farming members.

Q:

What is the most important to keep up sustainable agriculture?

A:

Recycle-based farming

circulate, manure and pesticide used for agriculture. Waste appearing at stock raising and agriculture, home is used by fertilizer

Characteristic of conventional farming

Conventional farming uses chemical

Fungicide



Insecticide

Chemical fertilizer

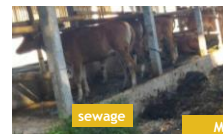
Caused some issue

contamination to the water, atmosphere, and soil environment

Characteristic of organic farming

Organic farming uses no chemical

Using cattle manure



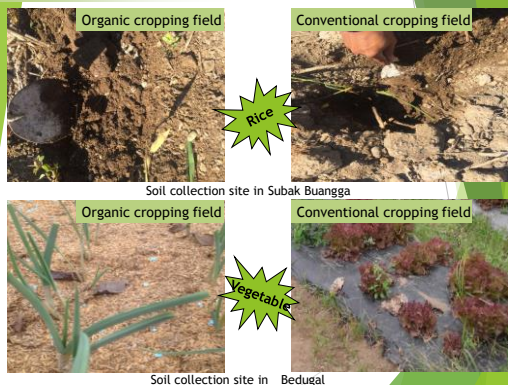
sucrose

calcium

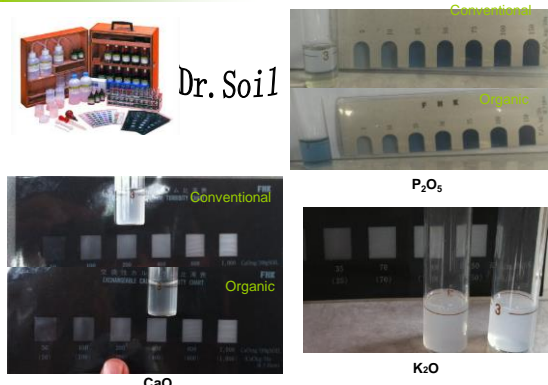


Using spicy spray to prevention of rats

Materials and Methods



Materials and Methods



Comparison of the data by using Dr. Soil

In rice field

	NO ₃	P ₂ O ₅	CaO	K ₂ O	pH
Organic farm	1	25	400	150	6,5
Conventional farm	1	5	200	100	7

In vegetable field

	NO ₃	P ₂ O ₅	CaO	K ₂ O	pH
Organic farm	no detection	150	1000	150	7
Conventional farm	5	150	100	35	7

Q: Why are there some difference between soil of organic field and conventional field?

➤Soluble inorganic fertilizers first go into the soil solution, mainly as ions that either bind to soil particles or stay in the solution. Some of the nutrient elements such as N,P,K in solution may leach out due to rain or irrigation.

➤Organic fertilizers require microbial activity to break N,P,K down in the soil so they are released more slowly for plant use.

Organic soil can strage more N, P ,K than conventional soil.

As for calcium (CaO) content

In organic farming, fertilization using natural material as crop residues. It contains so many calcium. And then in the organic farms, the farmers add natural calcium such as dolomit to make the organic fertilizer.



Property of organic production

Good points

Government is providing subsidies.
The government bears the 90% expense of fertilizer.
Much Stable and higher price than conventional productions

Inside quality is good as a result of using cattle manure for fertilization and controlling the weed and insects by hand-pulling

	Organic rice	Conventional rise
Price	5000 rp/kg	4000 rp/kg
Yield	6-7 ton/ha	6-7 ton/ha

Problems

Need more workers than conventional farming system
More difficult and inconvenient to operate
Appearance looks not good like conventional farming productions

conclusion

- Organic farming is more beneficial than conventional farming for not only personal healthy, but on environment and sustainability agriculture also.
- Spreading organic farming system to society is the most important task.



How to spread organic farming in Bali?

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Diffusion of Technical guidance

Most of farming members are exceed to 50 years old and just get elementary education so that they can not know the details of organic farming

Definitions of organic farming for producer and consumer

