

What is sustainable agriculture?

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- Achieves the integration of natural biological cycles and controls,
- Protects and renews soil fertility and the natural resource base,
- Optimizes the management and use of on-farm resources,
- Reduces the use of nonrenewable resources and purchased production inputs,
- Provides an adequate and dependable farm income,
- Promotes opportunity in family farming and farm communities, and
- Minimizes adverse impacts on health, safety, wildlife, water quality and the environment

Healthy and safely food production

Improvement of modern agricultural system

Reduction of agrochemicals and chemical fertilizers



Protects and renews soil fertility and the natural resource base



Appropriate farm management



Achieves the integration of natural biological cycles



Adequate and dependable farm income



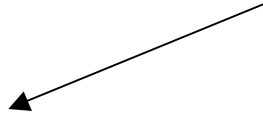
Opportunity in the farm-city communities

Our concept of sustainable agriculture (By T. Ishii, 2004)

Organic matter



Decomposition



Humus



Harm (Growth inhibition)

Organic matter with heavy metals

Remain in the soil

High C/N ratio of organic matter

Inducement of nitrogen starvation

Unfermented or raw organic matter

Inducement of white or purple root rot

Production of non-gaseous plant growth inhibitors

Production of gaseous plant growth inhibitors
such as ethylene

Profits (Improvement)

Physical properties

Aggregate structure

Soil aeration

Soil drainage

Preservation of minerals

Chemical properties

Supply of minerals

Plant growth stimulant-like substances

Chelating agents

High ion exchange capacity

High buffer action

Biological properties

Stimulation of useful soil microorganisms

Effect of organic matter application to the soil (by T. Ishii, 2004)