



IIT KHARAGPUR



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CERTIFICATION COURSES

Organic Farming for Sustainable Agricultural Production

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Lecture 05: Organic Farming Concepts and Principles (Contd.)

What is Organic Farming System?

Ecological Agriculture:

- Encompass the entire complex of physical, economic, social and cultural conditions which affect the growth and development of organic system. It matches the crop, soil and climate of a region for gaining economy and efficiency of input
- It reduces the pressure on land, water and biodiversity without adverse effect on agricultural production and nutritive value of food and maximising ecological production efficiency. Ecological balance is attained by use of organic inputs like compost, vermicompost, botanical and microbial pesticides and beneficial organisms.



Biodynamic Farming:

- A method of organic farming that emphasizes the holistic development and interrelationships of the soil, plants and animals as a self-sustaining system.
- It is based on systematic and synergistic harnessing energies from Cosmos; Mother Earth, Plants and Cow.



Panchagavya Farming:

➤It is a special bio enhancer prepared from five products obtained from cow dung, urine, milk, curd and ghee. These are suitably mixed, incubated and used.

➤The preparation is rich in nutrients, auxins, gibberellins, and microbial fauna and acts as tonic to enrich the soil, induce plant vigour with quality production



Rishi Krishi:

In this system, rhizosphere soils beneath Banyan tree (*Ficus bengalensis*) is spread over the area and Amritpani, special bioinoculants prepared from cow dung, cow ghee, and honey is utilized for seed / seedling treatment, enrichment of soil by over head sprinkling and through irrigation water.

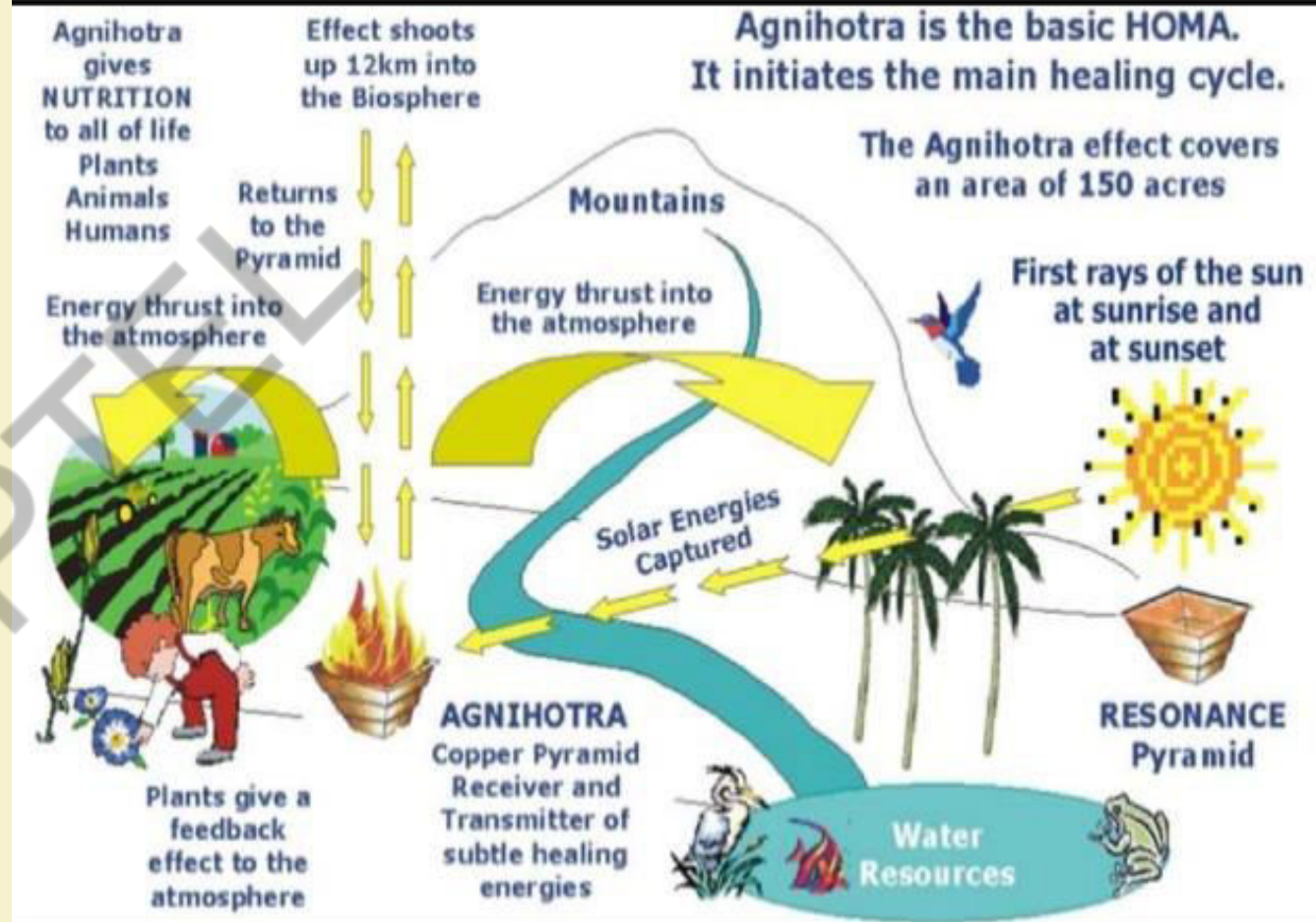
Natural Farming:

It consists of use of Bijamrut (cow dung, urine, lime, virgin soil) for seed/set/seedling treatment, followed by regular use of Jivamrut (cow dung, urine, jaggery, pulse flour, virgin soil) through irrigation water, coupled with mulching and proper soil aeration.

Homa Organic Farming

- Agnihotra is the basic fire in Homa Therapy.
- It is the science of Healing the Atmosphere through pyramid fires to eliminate Pollution and Contamination and it should be practised exactly at Sunrise and Sunset time only.
- This farming neutralizes the negative energies and positive energies in the atmosphere. It is powerful bio-food for the plants that are rich in macro, micronutrients and rich in microbial population.

HOW DOES IT WORK?



Principle of Organic Farming

- Cyclical Principle
- Precautionary Principle
- Nearness Principle



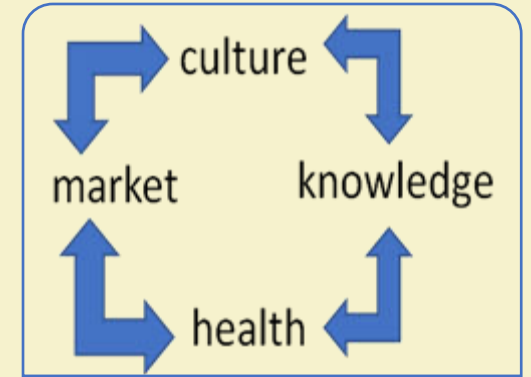
CYCLICAL

1



PRECAUTIONARY

2



NEARNESS

3

Principle of Organic Farming

Cyclical:

Collaboration with Nature should be promoted through the establishment and build-up of a cyclical principle that ensures versatility, diversity and harmony, and the re-cycling and use of renewable resources.

Precautionary:

Known and well-functioning technologies are better than risky technologies. It is better to prevent damage than to depend on our ability to cure the damage.

Nearness:

Transparency and co-operation in food production can be improved by nearness. For example, using experience-based knowledge and local interests concerning the development of cultural and social values.

IFOAM Principles for Organic Agriculture (2006)

Principle 1- Health

To sustain and enhance the health of soil, plant, animal, humans and planet as one and indivisible.

Principle 2- Ecology

To base organic farming on living ecological systems and cycles, work with them, emulate them and help sustain them

Principle 3- Fairness

Organic agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities

Principle 4- Care

Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment



Principles of Organic Farming

- **Conversion of land** from conventional management to organic management.
- **Management** of the entire surrounding system to ensure biodiversity and sustainability of the system
- Crop production with the use of **alternative sources of nutrients** such as crop rotation, residue management, organic manures and biological inputs.
- **Better plant protection** practices by physical, cultural and by biological control system
- **Maintenance of live stock** with organic concept and make them an integral part of the entire system.

Main Issues for Organic Farming

- **Standard**
- **Inspection Certification**
- **Accreditation**
- **Input**
- **Market (Export/Domestic)**

Standards

- **Globally** 61 standards available (IFOAM (International Federation of Organic Agriculture and Movement) CODEX, EU (European Unit), Demeter, Japanese Agricultural Standard (JAS), Naturland, etc.
- **Indian Standard:** NPOP (National Programme for Organic Production); APEDA (Agricultural and Process Food Products Export Development Authority)
- **Certification Agencies in India** – 11 nos.
Ecocert (G) (Aurangabad), Skal (N) (Bangalore), IMO (S) (Bangalore), SGS (S) (Gurgaon), Naturland (G) (Gurgaon), Lacon (G) (Cochin), Indocert (S) (Cochin), APOF (Bangalore), ISCOP (India Society for Certification of Organic Products, Coimbatore), Bioinspectra(S)(Cochin), IRFT Mumbai
- **Accreditation**
National Accreditation Board
- **Limitation** : High cost, poor inspection performance

Conversion from Conventional to Organic Farming

Conversion from conventional to organic production includes all crop production and all animal husbandry to be converted to organic management over a period of time

Principles:

Conversion period provides a time frame to start establishing organic management, building soil fertility and developing a viable sustainable agro ecosystem.

Recommended:

The whole farm including all crop production and all animal husbandry has to be converted to organic management over a period of time. Depending on level of farm enterprise, knowledge and experience of the farmers and eco-logical and financial situation.

Required:

For full organic certification, a conversion period of 36 months (24 months as transition and last 12 months as organic) is required with approval by certification body and the product can be sold with organic description.

Prohibited:

Once land has been converted to organic production its conversion should not be reversed.

Government Initiative (As facilitator)

- **NPOP programme (2000), National Standard, Accreditation, Certification; Organic export through Ministry of Commerce, APEDA.**
- **Development of Organic Farming Technology package by ICAR**
- **Setting up of vermiculture hatchery, Biofertilizer plant, Fruit/Vegetable compost plant**
- **Human Resource Development through training and field demonstration**
- **Quality testing and input production technology**
- **Market development, publicity etc.**