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Lecture -17 &18

Organic farming, principles and its scope in India



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- As per the definition of the USDA study team on organic farming is as follows:
- “Organic farming is a system which avoids or largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives etc) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection”.



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Objectives of organic farming

- The objectives of organic agriculture are been expressed in the standard document of the International Federation of Organic Agriculture Movement (IFOAM) as follows:
 - To produce food of high nutritional quality in sufficient quantity
 - To work with natural systems rather than seeking to dominate them
 - To encourage and enhance the biological cycles within farming system involving microorganism



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- To maintain and increase the long term fertility of soils
- To use , as far as possible , renewable resources in locally organized agricultural systems
- To work, as much as possible, within a closed system with regard to organic matter and nutrient elements.
- To give all livestock, conditions of life that allow them to perform all aspects of their innate behavior



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- To avoid all forms of pollution that may result from agricultural techniques.
- To maintain the genetic diversity of the agricultural system and its surroundings, including a safe working environment
- To consider the wider social and ecological impact of the farming system



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Principles of organic farming

- The International Federation for Organic Agriculture Movement's (IFOAM) definition of Organic agriculture is based on:
 - The principle of health
 - The principle of ecology
 - The principle of fairness and
 - The principle of care



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1. Principle of health

- *Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible.*
- This principle points out that the health of individuals and communities cannot be separated from the health of ecosystems - healthy soils produce healthy crops that foster the health of animals and people.
- Health is the wholeness and integrity of living systems. It is not simply the absence of illness, but the maintenance of physical, mental, social and ecological well-being. Immunity, resilience and regeneration are key characteristics of health.



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2. Principle of ecology

- *Organic Agriculture should be based on living ecological systems and cycles, work with them emulate them and help sustain them.*
- This principle roots organic agriculture within living ecological systems. It states that production is to be based on ecological processes, and recycling. Nourishment and well-being are achieved through the ecology of the specific production environment.



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3.Principle of fairness

- *Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities.*
- Fairness is characterized by equity, respect, justice and stewardship of the shared world, both among people and in their relations to other living beings.



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4. Principle of 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.*
- Organic agriculture is a living and dynamic system that responds to internal and external demands and conditions. Practitioners of organic agriculture can enhance efficiency and increase productivity, but this should not be at the risk of jeopardizing health and well-being.



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Components of organic farming

- Nutrient management
- Weed management
- Pest management



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Advantages of organic farming

- Organic manures produce optimal conditions in the soil for high yields and good quality crops.
- They supply all the nutrients required by the plants (NPK, secondary and micronutrients)
- They improve plant growth and physiological activities of plants
- They improve the soil physical properties such as granulation and good tilth, giving good aeration, easy rot penetration and improved water holding capacity.



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- They improve the soil chemical properties such as supply and retention of soil nutrients and promote favorable chemical reactions.
- They reduce the need for purchased inputs.
- Most of the organic manures are wastes or byproducts which on accumulation may lead to pollution by way of utilizing them for organic farming, pollution is minimized.
- Organic manures are considered as complete plant food. Organic matter restores the pH of the soil which may become acids due to continuous application of chemical fertilizers.



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- Organically grown resistant to disease and insects and hence only a few chemical sprays or other protective treatments are provided.
- There is an increasing consumer demand for agricultural products which are free of toxic chemical residues.
- Organic farming helps to avoid chain reaction in the environment from chemical spray and dusts.
- Organic farming helps to prevent environmental degradation and can be used to regenerate degraded areas.
- Since the basis aim is diversification of crops, much more secure income can be obtained than when they rely on only one crop or



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Barriers/ Limitations

- Initially there may be some barriers which inhibit the farmers from adopting organic farming.
- Land resources can move freely from organic farming to conventionally farming, they do not move freely in the reverse direction.
- In changing over to organic farming an initial crop loss generally occurs, particularly if it is rapid.
- Biological controls may have been weakened or destroyed by chemicals, which may take three or four years to build up.



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Thank You