



## Organic Farming Today's Need

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Organic farming is a modern and a sustainable form of agriculture that provides consumers fresh natural food farm products. The objectives are achieved by using techniques to improve crop yields without harming the nature. Organic farming is defined as a system that produces agricultural products without use of chemical fertilizers that maintain the integrity of organic agricultural products until they reach to the consumers. At the same time, it has played an important role in dealing with the environmental harms rooted in traditional agricultural techniques. Organic farming not only produces fine and healthy food products but also improves the fertility and quality of soil. (Isaacs 2012).



### Why organic farming today's need?

Through the chemical fertilizers increased the plant growth and vigor, hence meets the food security of the world, but the plant grown in this way does not developed good character such as good root system, shoot system and also nutritional characters also not take time to grow and mature properly. The deleterious effect of the chemical fertilizers will itself start from the manufacturing of these chemicals, whose products and byproducts are some toxic chemicals or gases like  $\text{NH}_4$ ,  $\text{CO}_2$ , and  $\text{CH}_4$  etc. which will cause air pollution.

Modern agriculture largely depends on the use of fossil fuels based inputs such as chemical fertilizers, pesticides, herbicides and labour saving but energy intensive farm machinery while, application of such high input technologies has undoubtedly increased production and labour



efficiency, there is a growing concern about the adverse effects on soil productivity and environmental quality.

The adverse effect of these synthetic chemicals on human health and environment can only be reduced or eliminated by adopting new agricultural technological practices such as shifting from chemical intensive agriculture which includes the use of organic inputs such as manure, biofertilizers, biopesticides, slow release fertilizer and nanofertilizers etc. which would improve the application efficiency as well as use efficiency of the fertilizers. Opting organic farming will create a healthy natural environment and ecosystem for the present as well as future generation.

The generally accepted organic rules prohibit the use of synthetic fertilizers, pesticides, growth regulators, livestock feed additives and stress on long term soil management. Use local resources for nutrient supply and control of pests and diseases restricting external inputs to the bare minimum.

It is soil-building mechanisms to keep soil alive. Keeping soil alive is the primary concern of organic farming. Plants can absorb nutrients only in the form of minerals irrespective of the source of manure.

### ❖ **Components of Organic farming**

There are several components' are as below

1. Organic manures
2. Farm Yard Manure (FYM)
3. Compost
4. Green manuring
5. Vermicomposting
6. Biofertilizers

#### • **Organic manures**



Organic manuring such as farm yard manure, biogas slurry, compost, straw and other crop residues, biofertilizers, green manure, and cover crops can substitute for inorganic fertilizers to maintain the environmental quality. The organic manures are derived from biological sources like plant, animal and human residues. These organic manures contain low amounts of plant nutrients but, organic matter, other than nutrients, present in large quantity hence; they are also called bulky organic manures.

#### • **Farm Yard Manure (FYM)**

Farmyard manure is decomposed mixture of cattle dung and urine with straw and litter used as bedding material and residues from the fodder fed to cattle. The waste material of cattle consisting of



dung and urine soaked in the refuse of the shed is collected daily and placed in trenches of about 6 m long, 2 m wide and 1 m deep. The material is allowed to decompose undisturbed for 3-4 months for anaerobic micro-organisms to complete fermentation become ready to apply after 3-4 months.

It having ability to improve the soil, increasing the water holding capacity of the soil and also stimulate activity of micro-organism that made plant food elements in the soil readily to crop.

- **Compost**



Composting is a process by which organic wastes are converted into organic fertilizers by means of biological activity under controlled conditions. It is an important technique for recycling organic (agricultural and industrial) wastes and for improving the quality and quantity of organic fertilizers.

- **Green manuring**



The practice of ploughing or turning into the soil undecomposed green plant tissue for the purpose of improving physical condition as well as fertility of soil is referred to as green manuring and the manures obtained by this method is known as green manures.

It helps in improving physical and chemical properties of soil. And it also act as source of food and energy to soil microbes and increases their population.

- **Vermicompost**

Vermicompost is stable fine granular organic matter when added into soil loosen the and provide passage to soil. The mucus attached to the cast being hygroscopic in nature improves WHC of the soil.

Earthworms effectively harness the beneficial soil micro-flora, destroy soil pathogens and convert organic wastes into valuable products known as cast which contains biofertilizers, vitamins, enzymes, antibiotics, growth hormones and proteinaceous worm biomass. Hence earthworms are called as 'artificial fertilizer factories'.



- **Biofertilizers**

It refers as the various inoculants or culture containing a specific micro-organism in concentrated form, which are derived either from nodules of plants root or from the soil of root zone and possess the unique ability to fix the atmospheric nitrogen either by symbiotically with the root of leguminous plant or non-symbiotically or transfer native soil nutrients from non usable form to usable form through biological process.

- **Crop rotation**

The practices of growing series of dissimilar type of crop in the same area in sequential seasons. Mitigate the buildup of a pathogen, weeds, pests that often occurs when one species is continuously cropped

- ❖ **Principle of organic farming**

- 1. Principle of health**

- ✓ Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible.
- ✓ Healthy soils produce healthy crops that foster the health of animals and people.
- ✓ Health is the wholeness and integrity of living systems.

- 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.

- 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.

- 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.
- ✓ This principle states that precaution and responsibility are the key concerns in management, development and technology choices in organic agriculture.

- ❖ **Key Features of Organic Farming**

As stated earlier, the fundamental features of organic farming are based on maintaining a natural system that includes: natural livestock and crop production through submission to an organic system plan; a detailed record-keeping system for all the products from the point of production to consumption; and use of buffer zones to prevent synthetic chemicals from accidentally contaminating the bordering conventional farms. Detailed discussions are listed below.

- **Natural Livestock and Poultry Production**

By natural production, it means raising livestock and poultry for the production of their products such as meat, eggs, and dairy by providing natural living conditions and feeds. Any forms of hormones, antibiotics, and medications are unacceptable, especially if used for promoting growth and productivity.



- **Natural Crop Production**

Natural crop production encompasses crop diversity and organic systems for enhancing crop fertility as well as controlling pests, weeds and diseases.

- **Organic Weed and Pest Control**

Weed and pest management is to be done without the use of synthetic herbicides or pesticides, respectively. Control measures should be through flame weeding, mechanical tillage, mulching, use of cover crops, crop rotation, mechanical tillage and hand weeding.

- **Soil Management**

Organic farming extensively relies on nourishing the soil naturally by using compost, natural mineral powders and green manure. Crop rotation, inter-cropping and minimal tillage are also used to improve soil fertility, structure, and water holding capacity in organic farming. As a result, it helps to support the soil microbial activities that transform and release soil nutrients.

- **Maintaining Ecological Balance**

Organic farming is modeled on living ecological systems. Organic farming methods must fit the ecological balances and cycles in nature. It should be practiced in a careful and responsible manner to benefit the present and future generations and the environment.

- **Maintaining Fairness**

Organic farming maintains fairness by maintaining equity and justice of the shared planet, both among humans and other living beings. Organic farming provides a good quality of life and helps in reducing poverty. Natural resources are judiciously used and preserved for future generations.

### **Conclusion**

This involves using techniques to achieve good crop yields without harming the natural environment or the people who live and work in it. An organic farmer produces vegetables, fruit, cereal crops, or livestock without the use of chemical fertilizers, pesticides, or herbicides. The popularity of organic food is growing dramatically as consumer seeks the organic foods that are thought to be healthier and safer. Thus, organic food perhaps ensures food safety from farm to plate. The organic farming process is more eco-friendly than conventional farming.

### **References**

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