

Organic Farming

What is Organic Farming?

The introduction of chemicals in farming got many delirious at the sight of what they could accomplish. Yields exploded. At the start, the soil was healthy. Any damage brought about by chemical fertilizers was hardly noticeable. Pests had not developed resistance to the chemicals. The technology spread across the world as it was considered the revolution in agriculture. Flash forward to today, and many people are marveling at organic farming again. This is after learning that conventional farming methods come with a host of problems including health related diseases like cancer, pollution, degradation of soil and water, and impact on domestic animals.

Organic farming is a technique, which involves cultivation of plants and rearing of animals in natural ways. This process involves the use of biological materials, avoiding synthetic substances to maintain soil fertility and ecological balance thereby minimizing pollution and wastage. In other words, organic farming is a farming method that involves growing and nurturing crops without the use of synthetic based fertilizers and pesticides. Also, no genetically modified organisms are permitted.

It relies on ecologically balanced agricultural principles like crop rotation, green manure, organic waste, biological pest control, mineral and rock additives. Organic farming make use of pesticides and fertilizers if they are considered natural and avoids the use of various petrochemical fertilizers and pesticides.

International Federation of Organic Agriculture Movements (IFOAM), an international organization established in 1972 for organic farming organizations defines goal of organic farming as:

“Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved...”



Differences Between Organic and Conventional Farming Methods

In conventional farming method, before seeds are sown, the farmer will have to treat or fumigate his farm using harsh chemicals to exterminate any naturally existing fungicides. He will fertilize the soil using petroleum based fertilizers. On the flip side, the organic farmer will prepare and enrich his land before sowing by sprinkling natural based fertilizers such as manure, bone meal or shellfish fertilizer.

Before planting seeds, the organic farmer will soak the seeds in fungicides and pesticides to keep insects and pests at bay. Chemical are also incorporated in the irrigation water to prevent insects from stealing the planted seeds. On the other hand, the organic farmer will not soak his seeds in any chemical solution nor irrigate the newly planted seeds using water with added chemicals. In fact, he will not even irrigate with council water, which is normally chlorinated to kill any bacteria. He will depend on natural rain or harvest and stored rainwater to use during dry months.

When the seeds have sprung up, and it's time to get rid of weeds, the conventional farmer will use weedicide to exterminate weeds. The organic farmer will not use such chemicals to get rid of the weed problem. Instead, he will physically weed out the farm, although it's very labor intensive. Better still, the organic farmer can use a flame weeder to exterminate weeds or use animals to eat away the weeds.

When it comes to consumption, it's a no-brainer that anyone consuming products from the conventional farmer will absorb the pesticide and weedicide residues into the body, which could lead to developing dangerous diseases like cancer. People understand that health is important to them and that's why they are going organic in record numbers today.

Reasons For Organic Farming

The population of the planet is skyrocketing and providing food for the world is becoming extremely difficult. The need of the hour is sustainable cultivation and production of food for all. The Green Revolution and its chemical based technology are losing its appeal as dividends are falling and returns are unsustainable. Pollution and climate change are other negative externalities caused by use of fossil fuel based chemicals.

In spite of our diet choices, organic food is the best choice you'll ever make, and this means embracing organic farming methods. Here are the reasons why we need to take up organic farming methods:

1. To accrue the benefits of nutrients

Foods from organic farms are loaded with nutrients such as vitamins, enzymes, minerals and other micro-nutrients compared to those from conventional farms. This is because organic farms are managed and nourished using sustainable practices. In fact, some past researchers collected and tested vegetables, fruits, and grains from both organic farms and conventional farms.

The conclusion was that food items from organic farms had way more nutrients than those sourced from commercial or conventional farms. The study went further to substantiate that five servings of these fruits and vegetables from organic farms offered sufficient allowance of vitamin C. However, the same quantity of fruits and vegetable did not offer the same sufficient allowance.

2. Stay away from GMOs

Statistics show that genetically modified foods (GMOs) are contaminating natural foods sources at real scary pace, manifesting grave effects beyond our comprehension. What makes them a great threat is they are not even labeled. So, sticking to organic foods sourced from veritable sources is the only way to mitigate these grave effects of GMOs.

3. Natural and better taste

Those that have tasted organically farmed foods would attest to the fact that they have a natural and better taste. The natural and superior taste stems from the well balanced and nourished soil. Organic farmers always prioritize quality over quantity.

4. Direct support to farming

Purchasing foods items from organic farmers is a surefire investment in a cost-effective future. Conventional farming methods have enjoyed great subsidies and tax cuts from most governments over the past years. This has led to the proliferation of commercially produced foods that have increased dangerous diseases like cancer. It's time governments invested in organic farming technologies to mitigates these problems and secure the future. It all starts with you buying food items from known organic sources.

5. To conserve agricultural diversity

These days, it normal to hear news about extinct species and this should be a major concern. In the last century alone, it is approximated that 75 percent of agricultural diversity of crops has been wiped out. Slanting towards one form of farming is a recipe for disaster in the future. A classic example is a potato. There were different varieties available in the marketplace. Today, only one species of potato dominate.

This is a dangerous situation because if pests knock out the remaining potato specie available today, we will not have potatoes anymore. This is why we need organic farming methods that produce disease and pest resistant crops to guarantee a sustainable future.

6. To prevent antibiotics, drugs, and hormones in animal products

Commercial dairy and meat are highly susceptible to contamination by dangerous substances. A statistic in an American journal revealed that over 90% of chemicals the population consumes emanate from meat tissue and dairy products. According to a report by Environmental Protection Agency (EPA), a vast majority of pesticides are consumed by the population stem from poultry, meat, eggs, fish and dairy product since animals and birds that produce these products sit on top of the food chain.

This means they are fed foods loaded with chemicals and toxins. Drugs, antibiotics, and growth hormones are also injected into these animals and so, are directly transferred to meat and dairy products. Hormone supplementation fed to farmed fish, beef and dairy products contribute mightily to ingestion of chemicals. These chemicals only come with a lot of complications like genetic problems, cancer risks, growth of tumor and other complications at the outset of puberty.

Key Features of Organic Farming

- Protecting soil quality using organic material and encouraging biological activity
- Indirect provision of crop nutrients using soil microorganisms
- Nitrogen fixation in soils using legumes
- Weed and pest control based on methods like crop rotation, biological diversity, natural predators, organic manures and suitable chemical, thermal and biological intervention
- Rearing of livestock, taking care of housing, nutrition, health, rearing and breeding
- Care for the larger environment and conservation of natural habitats and wildlife

Types of Organic Farming

1. Pure organic farming

It involves the use of organic manures and biopesticides with complete avoidance of inorganic chemicals and pesticides.

2. Integrated organic farming

It involves integrated nutrients management and integrated pest management. It is the type of farming in which development of crops from natural resources having the complete nutritive value and manage to prevent the crop or plants from the pests.

In organic farming, we use the following techniques;

- **CROP ROTATION:** It is the technique to grow various kind of crops in the same area, according to the different seasons, in a sequential manner.

- **GREEN MANURE:** It refers to the dying plants that are uprooted and turned into the soil to make them act as a nutrient for the soil to increase its quality.
- **BIOLOGICAL PEST CONTROL:** With this method, we use living organisms to control pests with or without the use of chemicals.
- **COMPOST:** Highly rich in nutrients, it is a recycled organic matter used as a fertilizer in the agricultural farms.

Four Principles of Organic Farming

- **Principle of Health:** Organic agriculture must contribute to the health and well being of soil, plants, animals, humans and the earth. It is the sustenance of mental, physical, ecological and social well being. For instance, it provides pollution and chemical free, nutritious food items for humans.
- **Principle of Fairness:** Fairness is evident in maintaining equity and justice of the shared planet both among humans and other living beings. Organic farming provides good quality of life and helps in reducing poverty. Natural resources must be judiciously used and preserved for future generations.
- **Principle of Ecological Balance:** Organic farming must be modeled on living ecological systems. Organic farming methods must fit the ecological balances and cycles in nature.
- **Principle of Care:** Organic agriculture should be practiced in a careful and responsible manner to benefit the present and future generations and the environment.

As opposed to modern and conventional agricultural methods, organic farming does not depend on synthetic chemicals. It utilizes natural, biological methods to build up soil fertility such as microbial activity boosting plant nutrition.

Secondly, multiple cropping practiced in organic farming boosts biodiversity which enhances productivity and resilience and contributes to a healthy farming system. Conventional farming systems use mono cropping that destroys the soil fertility.



Why is modern farming unsustainable?

1. Loss of soil fertility due to excessive use of chemical fertilizers and lack of crop rotation.
2. Nitrate run off during rains contaminates water resources.
3. Soil erosion due to deep ploughing and heavy rains.
4. More requirement of fuel for cultivation.
5. Use of poisonous bio-cide sprays to curb pest and weeds.
6. Cruelty to animals in their housing, feeding, breeding and slaughtering.
7. Loss of biodiversity due to mono culture.
8. Native animals and plants lose space to exotic species and hybrids.

Benefits of Organically Grown Food Items and Agricultural Produce

- **Better Nutrition:** As compared to a longer time conventionally grown food, organic food is much richer in nutrients. Nutritional value of a food item is determined by its mineral and vitamin content. Organic farming enhances the nutrients of the soil which is passed on to the plants and animals.
- **Helps us stay healthy:** Organic foods do not contain any chemical. This is because organic farmers don't use chemicals at any stage of the food-growing process like their commercial counterparts. Organic farmers use natural farming techniques that don't harm humans and environment. These foods keep dangerous diseases like cancer and diabetes at bay.
- **Free of poison:** Organic farming does not make use of poisonous chemicals, pesticides and weedicides. Studies reveal that a large section of the population fed on toxic substances used in conventional agriculture have fallen prey to diseases like cancer. As organic farming avoids these toxins, it reduces the sickness and diseases due to them.
- **Organic foods are highly authenticated:** For any produce to qualify as organic food, it must undergo quality checks and the creation process rigorously investigated. The same rule applies to international markets. This is a great victory for consumers because they are getting the real organic foods. These quality checks and investigations weed out quacks who want to benefit from the organic food label by delivering commercially produced foods instead.
- **Lower prices:** There is a big misconception that organic foods are relatively expensive. The truth is they are actually cheaper because they don't require application of expensive pesticides, insecticides, and weedicides. In fact, you can get organic foods direct from the source at really reasonable prices.
- **Enhanced Taste:** The quality of food is also determined by its taste. Organic food often tastes better than other food. The sugar content in organically grown fruits and vegetables

provides them with extra taste. The quality of fruits and vegetables can be measured using Brix analysis.

- **Organic farming methods are eco-friendly:** In commercial farms, the chemicals applied infiltrate into the soil and severely contaminate it and nearby water sources. Plant life, animals, and humans are all impacted by this phenomenon. Organic farming does not utilize these harsh chemicals so; the environment remains protected.
- **Longer shelf-life:** Organic plants have greater metabolic and structural integrity in their cellular structure than conventional crops. This enables storage of organic food for a longer time.

Advantages and Disadvantages of Organic Farming

Advantages of Organic Farming

Following are the mentioned below advantages of Organic Farming.

- Farmers can reduce their production costs because they do not need to buy expensive chemicals and fertilizers.
- Healthier farm workers.
- They improve plant growth and physiological activities of plants.
- In the long term, organic farms save energy and protect the environment.
- It can slow down global warming.
- There is an increasing consumer are willing to pay more for organic foods.
- Fewer residues in food.
- More animals and plants can live in the same place in a natural way. This is called biodiversity.
- Pollution of ground water is stopped.
- They reduce the need for purchased inputs.
- Poison-free
- Food Tastes Better
- Food Keeps Longer
- Organic fertilizer is considered as complete plant food.
- Organic manures produce optimal condition in the soil for high yields and good quality crops.

Disadvantages of Organic Farming

- Organic food is more expensive because farmers do not get as much out of their land as conventional farmers do. Organic products may cost up to 40% more.
- Production costs are higher because farmers need more workers.
- Marketing and distribution is not efficient because organic food is produced in smaller amounts.
- Food illnesses may happen more often.
- Organic farming cannot produce enough food that the world's population needs to survive. This could lead to starvation in countries that produce enough food today.

References

- ▶ www.google.com
- ▶ www.wikipedia.com
- ▶ www.studymafia.org