

ORGANIC FARMING IS A BOON TO SOIL AND HUMAN HEALTH

Dr. BIRENDRA SINGH CHAUDHARY
Department of Agriculture Chemistry & Soil Science
Amar Singh (P.G.) College, Lakhaoti, Bulandshahr

INTRODUCTION

Organic farming avoids chemical pesticides and fertilizers and seeks to increase soil fertility through feeding soil microlife with residues from life such as garbage compost and sewage, manure, plant residues, food processing wastes etc. Organic farming rely on biological processes obtain high quality and yields which are as good as these achieved using modern techniques as agriculture production.

Flash forward to today, and many people are marvelling 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.

DEFINITION

1. Organic farming is a technique, which involves the 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.

2. 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 makes use of pesticides and fertilizers if they are considered natural and avoids the use of various petrochemical fertilizers and pesticides.

3. According to International Federation of Organic Agriculture Movements (IFOAM 1972). 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.



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 the 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 vegetables did not offer the same sufficient allowance.

2. 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.

3. Direct Support to Farming

Purchasing food items from organic farmers is a good 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 mitigate these problems and secure the future. It all starts with you buying food items from known organic sources.

4. To Conserve Agricultural Diversity

These days, it's 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 the 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 dominates. This is a dangerous situation because if pests knock out the remaining potato species 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.

FOUR PRINCIPLES OF ORGANIC FARMING

1. 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.

2. 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.

3. 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.

4. 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.

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.

WHY IS MODERN FARMING UNSUSTAINABLE?

- ✿ Loss of soil fertility due to excessive use of chemical fertilizers and lack of crop rotation.
- ✿ Nitrate runoff during rains contaminates water resources.
- ✿ Soil erosion due to deep ploughing and heavy rains.
- ✿ More requirements of fuel for cultivation.
- ✿ Use of poisonous bio-pesticide sprays to curb pest and weeds.
- ✿ Cruelty to animals in their housing, feeding, breeding and slaughtering.
- ✿ Loss of biodiversity due to monoculture.
- ✿ Native animals and plants lose space to exotic species and hybrids.



IMPORTANCE OF ORGANIC FARMING AND ORGANIC PRODUCTS

1. Better Nutrition

As compared to a longer time conventionally grown food, organic food is much richer in nutrients. The 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.

2. Helps us Stay Healthy

Organic foods do not contain any chemicals. 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 the environment. These foods keep dangerous diseases like cancer and diabetes at bay.

3. 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.

4. Organic Foods Are Highly Authenticated

For any product 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 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.

5. 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 the application of expensive pesticides, insecticides, and weedicides. In fact, you can get organic foods direct from the source at really reasonable prices.

6. 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.

7. Organic Farming Methods are Eco-friendly

In commercial farms, the chemicals applied to 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.

8. Longer Shelf-life

Organic plants have greater metabolic and structural integrity in their cellular structure than conventional crops. This enables the storage of organic food for a longer time. Organic farming is preferred as it battles pests and weeds in a non-toxic manner, involves fewer input costs for cultivation and preserves the ecological balance while promoting biological diversity and protection of the environment.