

Organic Farming

1. Meaning

Organic farming is a form of agriculture that relies on techniques such as crop rotation, green manure, compost, and biological pest control. Instead of chemicals, organic farming uses a lot of organic matter to give crops the nutrients that they need to grow. Clover, for example, has a lot of nitrogen in it and farmers use it to make the soil better. Manure from animals and compost are also used to enrich the soil. These fertilizers also help conserve the soil, not destroy it after a few years. Organic farmers also use crop rotation to preserve the good qualities of soils and avoid monoculture. Chemical pesticides destroy or weaken many of the natural enemies of pests, like birds or frogs. They also can kill those insects that control a great number of pests.

Organic farming creates new living areas for wasps, bugs, beetles and flies by giving them water and food. Weeds are controlled by using special machines. Hay, straw and wood chips are put between the rows of plants to stop weeding. Many agricultural products can be produced in an organic way. Meat, dairy products and eggs come from animals that are fed organically and can graze outdoors. A diversity of crops and animals are raised on the farm and rotated around the farm over several seasons, including fallow periods. This mixed farming approach helps break cycles of pests and disease and builds fertility in the soil. Cows, for example, are kept in pastures and fields. Vegetables and fruit are also produced with organic methods as well as Genetically modified (GM) crops and ingredients are banned.

2. The principles of organic farming

- The principle of health - organic agriculture is intended to produce high quality, nutritious food that contributes to preventive health care and well-being. In view of this it should avoid the use of fertilizers, pesticides, animal drugs and food additives that may have adverse health effects
- The principle of ecology - organic agriculture should attain ecological balance through the design of farming systems, establishment of habitats and maintenance of genetic and agricultural diversity

- The principle of fairness - natural and environmental resources that are used for production and consumption should be managed in a way that is socially and ecologically just and should be held in trust for future generations
- The principle of care - precaution and responsibility are the key concerns in management, development and technology choices in organic agriculture.

3. The Economics of Organic Farming

- Adding organic matter to the soil each year (a foundational organic practice) increases the soil's ability to store carbon dioxide. While conventional farming has long been the recipient of federal crop subsidies, there's a new trend toward paying farmers for carbon sequestration, effectively acknowledging the economic benefit of high-organic-matter soils.
- Organic matter in the soil also increases the soil's water holding capacity, reducing pressure on water resources and making organic farms more resilient to drought. Since water costs money (and increasingly so), drought tolerant farming systems mean cheaper food production over time.
- Biodiversity on organic farms offers myriad financial benefits. A diverse crop system means a succession of blooms that can feed insect populations (and provide them with habitat) year-round. These beneficial insects help to keep down populations of harmful insects, reducing or eliminating the need for pesticides, and providing pollination services to increase harvest yields.
- Genetic diversity on organic vegetable and seed farms acts as a well-endowed gene bank for potential new varieties that will be resilient against future environmental changes, insect populations, and diseases – a service that is essential to global food security, not to mention tasty food!

4. The advantages and disadvantages of organic farming

1) The advantages

- Farmers can reduce their production costs because they do not need to buy expensive chemicals and fertilizers.
- Healthier farm workers.

- In the long term, organic farms save energy and protect the environment and it can slow down global warming.
- 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.

2) Disadvantages

- 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 are not efficient because organic food is produced in smaller amounts.
- More land must be used to generate the same volume of food, due to the lower use of fertilizers.
- 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.
- About 1-2% of the world's food is produced with organic methods.

References:

<https://www.naturespath.com/en-us/blog/the-economics-of-organic-farming/>
<https://blog.agrivi.com/post/organic-farming-facts-and-principles>

Watch to learn more: <https://www.youtube.com/watch?v=WhOrIUlnPo>

For more information: <http://www.fao.org/organicag/oa-home/en/>