Concept of Organic Farming

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Organic farming endorses the concept that the soil, plant, animals and human beings are linked.

In philosophical terms organic farming means 'farming in sprits of organic relationship' In this system everything is connected with everything else.

Therefore, its goal is to create an integrated, environmentally sound, safe and economically sustainable agriculture production system.
Since organic farming means placing farming on integral relationship, we should be well aware about the relationship

- between the soil, water and plants,
- between soil-soil microbes and waste products, between the vegetable kingdom and the animal kingdom of which the apex animal is the human being,
- between agriculture and forestry,
- between soil, water and atmosphere etc.

It is the totality of these relationships that is the bedrock of organic farming.
The farmer manages self-regulating ecological and biological processes for sustainable and economic production of products.

Organic farming systems are based on development of biological diversity and the maintenance and replenishment of soil productivity.

The soil in this system is a living entity.

The total environment of the soil, from soil structure to soil cover is more important.

It must have to be protected and nurtured at all cost.
Feed the soil, it will feed the crop.
The soil’s living population of microbes and other organisms are significant contributors to its fertility on a sustained basis.
It conserves soil fertility and soil erosion through implementation of appropriate conservation practices.
Key characterization of organic farming in relation to soil fertility and crop production

- Protecting the long-term fertility of soil by maintaining soil organic matter levels, fostering soil and biological activity and careful mechanical inversion,
- Plant nutrients supply through relatively insoluble nutrient sources (organic sources) made available by the action of soil microbes,
- Meeting crop need of nitrogen through nitrogen fixation by leguminous crops in the cropping systems and recycling of farm organic materials including crop residues and livestock wastes,
- Importance of crop rotation, natural predators, resistance varieties and other agronomic manipulations of plant protection including weed management, and
- Biodiversity management, soil and environmental health.
Concept of Organic Farming

- Natural ecosystems can be a model for organic farming systems. The natural ecosystems neither use any input nor demands unreasonable quantities of water. The art of organic farming is to make the best use of ecological principles and processes. Organic farmers can learn a lot from studying the interactions in natural ecosystems such as forests.
- The entire system is based on intimate understanding of nature’s ways. The system does not believe in mining of the soil of its nutrients and does not degrade it any way for today’s needs.
## Natural v/s Organic production systems

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Nutrient cycles in forests

- Trees and other plants take up nutrients from the soil and incorporate them in their biomass (leaves, branches etc.). The nutrients go back to the soil when leaves fall or plants die. Part of the biomass is eaten by various animals (including insects), and their excrements return the nutrients to the soil. In the soil, a huge number of soil organisms are involved in the decomposition of organic material which makes nutrients available to the plant roots again. The dense root system of the forest collects the released nutrients almost completely.
Organic nutrient management is based on biodegradable material, i.e. plant and animal residues which can be decomposed. Nutrient cycles are closed with the help of composting, mulching, green manuring, crop rotation etc. Farm animal can play an important role in the nutrient cycle: their dung is of high value and its use allows to recycle nutrients provided with the fodder. If carefully managed, losses of nutrients due to leaching, soil erosion and gasification can be reduced to the minimum. This reduces the dependency on external inputs and helps to save costs. However, nutrients exported from the farm with the sold produce need to be replaced in some way.
Soil fertility in forests

Soil and its fertility both together constitute the centre of the natural ecosystem. A more or less permanent soil cover prevents soil erosion and it helps to build up soil fertility. The continuous supply of organic material feeds a huge number of soil organisms and provides an ideal environment for them. As a result the soil becomes soft and capable of taking up and storing large quantities of water.
Organic farmers give central importance to the maintenance and improvement of soil fertility. They stimulate the activity of soil organisms with organic manures and avoid harming them with chemical pesticides. Mulching and cover crops are used among other methods to prevent soil erosion.
Diversity in forests

- Forests host a high diversity of plant varieties of different size, root systems and requirements. Animals are also part of the system. If one organism drops out, it is immediately replaced by another one which fills the gap. Thus space, light, water and nutrients are used to the optimum. The result is a very stable system,
Crop diversity in organic farms

- Organic farms grow several crops including trees, either as mixed cropping or in rotation. Animals are an integrated part of the farm system. The diversity not only allows optimum use of the resources but also serves as an economic security in case of pest or disease attack or low market prices for certain crops.
Pests and diseases do occur in natural ecosystems, but they rarely cause a big damage. Due to the diversity it is difficult for them to spread. Plants usually can recover from an infestation on their own. And many pests are controlled by other organisms such as insects or birds.
Organic farmers try to keep pests and diseases at a level which does not cause economic damage. The main focus is on supporting the health and resistance of the crop. Beneficial insects are promoted by offering them a habitat and food. If pests reach critical levels, natural enemies and herbal preparations are used.
Organic farming wants to follow the law of nature. Does it mean that organic farms must be as close to natural systems as possible. Within the organic movement one will find farmers who focus on natural farming, and others who take a purely commercial approach. The majority of organic farmers probably somewhat in between these two extremes. Most farmers will expect to get sufficient production from the farm to make a living. For them the challenge is to follow the principles of nature to achieve a high productivity.
Organic farming – a system approach

- Conventional farming puts its focus on achieving maximum yields of a specific crop. It is based on a rather simple understanding: crop yields are increased by nutrient inputs and they get reduced through pests, diseases and weeds, which therefore must be combated.

- Organic agriculture is a holistic way of farming: besides production of goods of high quality, an important aim is the conservation of the natural resources fertile soil, clean water and rich biodiversity.
• Organic farming is not a step back to traditional methods but a modern approach.

• Become familiar with the advantages, but also with the limitations of organic farming.

• Understanding the difference between organic agriculture and related systems.
Thanks