

## Current Trends in Organic Vegetable Production

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### Abstract:

Organic farming is an effective and promising strategy for sustainable agriculture within a circular and green economy because it is a comprehensive production management system that supports and enhances the health of the agroecosystem, including biodiversity, biological cycles, and soil biological activity. Vegetable consumption that is organic has increased in recent years due to its better nutritional content, decreased risk of chemical residues that are damaging to health, and organoleptic qualities. According to recent scientific research, the main components used in the production of organic vegetable crops are plant material, soil management, crop nutrition, soil disinfection, crop management, and pest, disease, and weed control. This study's focus is on these methods. Overall, this article's primary findings show that industry, academia, and farmers have made significant efforts to innovate and conduct research to lessen the environmental impact of cutting-edge horticultural practices while still meeting consumer demands. To maximize the effectiveness of these horticulture techniques, however, research-specific investigations had to be conducted in various agricultural systems and pedoclimatic circumstances.

### Introduction:

A comprehensive approach to production management, organic agriculture—also known as biological or ecological agriculture in some countries—aims to improve the health of the agroecosystem by fostering biodiversity, biological cycles, and soil biological activity. It emphasizes the utilization of management approaches above off-farm inputs, taking into account the need for regionally tailored systems according to area characteristics. This management style fosters just relationships, a high standard of living for all parties, and the preservation of the environment by fusing tradition, creativity, and science. Although the



possible impact of the production method has not yet been sufficiently explored, diets based on organic goods appear to be healthier and tastier than diets based on conventional foods, giving individuals a higher quality of life. The nutritional disparities between conventional and organic foods demonstrate the wide range of outcomes that may be obtained based on a number of circumstances, including weather, growing method, genotype, fertilization of plants, ripening stage and plant age at harvest, and so on. Consequently, it is not possible to draw the conclusion that organic certification is a sign of higher overall nutritional quality or that, even in cases where organic products are clearly guaranteed to be safe from a toxicological standpoint, there is generally little correlation between eating organic food and a lower risk of developing chronic illnesses. The ecological production of vegetables is crucial to the sustainable production of organic food and the protection of the environment in organic agriculture. Growers of organic vegetables not only supply wholesome food but also sustain many farming communities, particularly those with smaller farms. Growing organic horticulture may lower health hazards, boost agricultural employment, enhance producer quality of life, and strengthen the sustainability of agro-systems.

### **Importance of Organic Farming:**

The need for food that is safer for the environment and healthier is driving a fast overhaul of the agricultural production system worldwide. 'Organic farming has emerged as an alternative farming system that not only addresses the quality and sustainability concerns but also ensures a profitable livelihood option.' This is due to growing evidence of equal productivity, long-term sustainability, and safety of food. The global demand for organic food is expected to increase at a pace of 30% annually, with a significant demand for organic food in both local and foreign markets. The land used for organic farming has been steadily growing. In order to satisfy the growing demand, a greater percentage of producers are now switching to organic production methods. Right now, there is a greater demand than there is supply of certified organic products, especially vegetables, which commands a premium price.

### **Issues in Organic Vegetable Farming:**

- A yield decline in the first several years when farmers switch from chemical to organic farming.
- It is challenging to create the necessary inputs on the farm.
- Insufficient market infrastructure for organic vegetable produce.

- Organic farming requires extensive knowledge and requires adjusting agricultural practices to the dynamics of the natural world to maximize yield.
- Converting from chemical to pure organic farming is a time-consuming and labour-intensive process.
- Because the quantity of organic material contains too few nutrients, it is difficult to determine the actual amount needed for soil.
- The application, transportation, and availability of biological material to fulfil crop nutrient demands are limited.
- Farmers are not being adopted without receiving any financial assistance from the government.

**Conclusion:**

Thus, genuine organic farming can be partially adopted in nations like India, particularly for exporting to foreign markets. However, one method for implementing organic farming on a big scale is the use of Integrated Green Revolution Farming. The development of high-yielding hybrid varieties, greater reliance on external inputs, and agricultural mechanization that minimizes harm to the environment and public health are the cornerstones of the green revolution. In order to create integrated systems like INM (Integrated Nutrient Management), IPM (Integrated Pest Management), and biological control approaches that lessen the demand for chemicals, various organic strategies have been created and merged with high input technology.

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