

## Microgreens: Specialised Vegetable of 21<sup>st</sup> Century

**Shivani Khatri**

Assistant Professor, Department of Agriculture, GRD Institute of Management and Technology

**ARTICLE ID: 37**

### **Introduction:**

With the introduction of functional foods and the growing consumer awareness of their benefits, microgreens have gained importance. Individuals have shown a strong interest in microgreens in recent years, not only for their potential to increase the nutritional content of human diets, but also for their palatability and economic potential. Microgreens is a commercial name for seedlings of numerous plant species. It is frequently classified as a specialized class of vegetable because it has grown cotyledonary leaves as well as a set of true leaves. Because of their distinct flavors, microgreens have become a popular vegetable category, particularly among vegans and raw foodists. They are frequently confused with sprouts and baby greens, but all three are distinct depending on the age and size of the crop. Sprouts are the smallest and youngest, followed by microgreens (2 inch tall), and baby green (3-4 inch tall). Previously restricted to premium eateries, microgreens are now available in local markets due to increased consumer demand. They are well-known for their crisp texture, delicious flavor, taste ranging from sweet to spicy, many colours, and use as an ingredient that adds crunch to salads or as a nutritional garnish. As a result of globalization, most of India's high-end restaurants now serve microgreens with their various meals.



### History of Microgreens:

Microgreens are a new type of vegetable that originated in San Francisco in the late 1980s and early 1990s. Michael Clark accidentally grew microgreens instead of baby greens and delivered them to a posh restaurant, where Craig Hartman invented the term "microgreens." Later on, the phrase became well recognized in restaurants around the United States, with the Chef's Garden, which began with the production of microgreens at their farm and grew to become one of the major suppliers of micro produce in the United States. In the early 2000s, studies on the nutritious potential of microgreens led to their recognition as functional foods rich in nutrients. These researches paved a way for microgreens to be grown extensively around the world in small scale at greenhouses many a times considered with edible flowers and sprouts.

### Production of Microgreens:

#### Common Microgreens of various families:

Family	Commercial Name
Alliaceae	Chives, shallots, onion, garlic, scallions, leek
Amaranthaceae	Amaranth, orach, magenta spreen
Apicaceae	Carrots, parsely, chervil, coriander, dill, fennel
Asteraceae	Sunflower, tagetes, shungiku, lettuce
Brassicaceae	Mustards, cabbage, kohlrabi, cauliflower, mizuna, turnip, savoy, pak choi, tatsoi, arugula, rutabaga, collard, cresses, kale, Brussels sprouts, radish
Chenopodiaceae	Spinach, beets, chards
Cucurbitaceae	Cucumber, melons, squashes
Fabaceae	Pea, lentils, fenugreek, adzuki, fava
Laminaceae	Basils (green or opal), mint, chia, rosemary, sage, oregano



**Basic cultivation practices for microgreens:**

Microgreens are primarily grown in greenhouses for commercial purposes. It is difficult to manage microgreens on a wide basis. Microgreens are produced in soilless medium, with the most common planting system utilizing a nutrient film technique hydroponic system. This is a sort of hydroponic system in which a thin film of water containing nutrients circulates around the grow tank containing plants, supplying them with adequate amounts of critical plant nutrients.

Another approach for producing microgreens is to use trays in which the substrate is partially deposited on the tray, with the depth varying depending on the irrigation system. The substrate is made from a number of mixtures. The most often utilized element in most germination substrates is peat, as it has been shown that peat-based mixtures produce a high output of microgreens. Coco coir, perlite, and vermiculite are some of the additional components used in peat-based mixes. Overhead mist irrigation is utilized till the seeds germinate, and then the seedlings are sub-irrigated until they reach commercial maturity.

Textile mats or burlap mats can also be utilized as seeding beds with a light spread of the mixes as an alternative to tray production systems. Any crop species' seeds are either broadcasted or line sown. Growers tend to seed densely for high production, but too dense a population might create diseases that are difficult to control later on. Apply light fertilizer by floating the planted trays for 30 seconds in liquid nutrient media with 80ppm nitrogen.

**Nutrients Profile of Microgreens:**

Microgreens are regarded as a center of bioactive compounds that are beneficial to intestinal health in several studies. In comparison to their more mature counterparts, coriander, red cabbage, and diakon green radish microgreens exhibit significant concentrations of ascorbic acid, carotenoids, phylloquinone, and tocopherols, respectively. In comparison to many mature veggies, microgreens are considered to give with a lot more nutrition. Microgreens from the Brassica family were examined, and it was discovered that they contained macronutrients like calcium and potassium. Numerous species of microgreens were found to contain compounds that are beneficial for gastrointestinal health when the bio-accessibility of bioactives were evaluated.

**Conclusion:**



Microgreens has immense potential in economic as well as health prospect. Today microgreens are regarded as super food but being limited to higher end market the common man is still ignorant about its nutritional quality. It is great time in market to establish business to exploit the commercial aspect of microgreens.

**References:**

<https://www.microgreensilo.com/chef-who-invented-microgreens/>

K. Deepika, V. Sandhya and Solanki.A. Hitesh: Microgreen -as a potential food source: A Review. *International Journal of Creative Research and Thoughts*, Volume 9, Issue 3 March 2021

Massimiliano Renna and Vito Michele Paradiso Ongoing Research on Microgreens: Nutritional Properties, Shelf-Life, Sustainable Production, Innovative Growing and Processing Approaches. *National Library of Medicine Pub* 2020 Jun; 9(6): 826.

Verlinden, S. (2020). Microgreens: Definitions, Product Types, and Production Practices. *Horticultural Reviews*, 47, 85-124.