



The Ultimate Superfood: Microgreens

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The diseases and disorders because of a poor diet are the main health constraint of undeveloped and developing countries where people are less concerned about their food intake and health. The biggest lifestyle-related issues, such as illnesses and nutritional deficiencies, have been brought on by the changes in lifestyle that have come along with the improvement in social, economic, and cultural standards of living. One major concern for the future is the scarcity of fresh vegetables free of pesticide residues. The urban populations are mainly dependent on long food chains that begin in distant rural areas limits the availability of produce that has short shelf-life and poor shipping ability. As a result of that, many urban populations reside in areas classified as 'food deserts,' where people do not have ready access to fresh agricultural products like fruits and vegetables and lacking complete package of essential nutrients and depend mainly on processed and packaged foods. Increased health consciousness associated with lifestyle changes has created a vast demand for functional food globally. Microgreens are considered 'practical nourishments' which are food items that have explicit wellbeing advancing and infection forestalling properties, that are extra to their typical healthy benefits. In the human diet, they are also referred to as a respectable source of minerals. Emerging as a class, microgreens can address almost every medical problem linked to nutritional deficiency. Because of their high nutritional content, adaptability, taste profile, and crisp texture, microgreens have become more valuable in food preparation in recent years.

What are microgreens?

Microgreens are small, tiny seedlings of vegetables and herbs that are picked after the cotyledons (seed leaves) have fully developed and the first pair of genuine leaves have emerged or are partially extended. The size of these microgreens is ranges from 1-3 inches (2.5–7.6 cm) in height which usually occurs within 7–14 days after germination, which varies from crop to crop and variety to variety and other environmental conditions. It has three basic parts; a central stem, two cotyledon leaves, and typically the first pair of very young true leaves. The commonly cultivated microgreens are spinach, mustard, buckwheat, arugula, bull's blood beet, celery, cilantro, amaranth, golden pea, basil, spinach, mizuna, pepper cress, popcorn shoots, red mustard, red beet, red cabbage, red oracy, sorrel, red sorrel, wasabi, cabbage, broccoli, radish, lettuce, kale, rapini, etc. Microgreens are cut along with the stem and attached cotyledons/ seed leaves with the help of scissors. If left for an extended period of time, they will quickly start to elongate and lose taste and colour. In contrast to sprouts, which are seeds that have germinated and are eaten together with their embryonic root, this is not the same. Microgreens are considerably smaller than baby greens and have a distinct size. Their current state is in between baby greens and sprouting. Vegetable confetti is another name for it.

Types of Microgreens

A. Distinction of microgreens by colours

We use various microgreens to add colour and flavour to dishes. Depending on the kind of culture and variety, these microgreens have different colours. For example, more light results in greener shades while **cooler temperatures tend to produce red and yellow hues**.

Different types of microgreens can be divided into three main colour categories:

- Green Microgreens: Arugula, Sunflower-Big, Broccoli Calabrese, Pea etc.
- Red Microgreens: Amaranth, Red Radish, Beetroot, Sorrel Red Veined, Red Pak Choi etc
- Yellow Microgreens: Corn, Onion, Daikon Radish, Yellow Beet etc.

B. Distinction microgreens by taste

Microgreens offer an exciting range of Flavors, allowing you to craft a perfectly balanced dish. The spicy kinds, including radishes, mustards, and nasturtiums, are perfect for those seeking a little more zing. There are vegetables like peas, beets, carrots, cabbage, and parsley for those with softer palates. Aim for your ideal taste by adjusting temperature and growth time, as these factors affect spiciness.

C. Distinction of microgreens by the level of advancement

Gardening is a great way to get outside and enjoy nature, but it can be especially enjoyable if you put your skills to the test.

Microgreens for beginners

For novice gardeners looking for an easy start in microgreens:

- Mustard seeds,
- Radishes,
- Broccoli,
- Cress,
- Kohlrabi,
- Mizuna

Nutritional composition

Microgreens are good sources of many micronutrients particularly vitamins and minerals. Microgreens contain more nutrients than adult plants. The composition of vitamin A, C, E, K, enzymes, and carotenoid differs according to types of microgreens, growing medium, amount of sunlight and temperature, and the time of harvesting. Bright coloured microgreens are found to be more nourishing than light ones. Microgreens have a higher content of a-carotene, β -carotene, violaxanthin, lutein, and neoxanthin in comparison to sprouts

How to grow microgreens?

Microgreens can be grown in different mediums like soil, tissue paper, hydroponics, etc. But generally, a mixture of Coco-peat, vermiculite, and perlite can be used for growing microgreens in a 5:2:1 ratio respectively. A farmer may use the same media several times for the growth of their young greens because the macro- and micronutrients in it release extremely slowly. Microgreens may be produced easily and affordably since microgreens seeds typically require simply optimal circumstances (environment and appropriate water moisture levels for imbibition) for germination up to the microgreen stage. Treatment of seeds by various chemicals is also not suitable for farming of microgreens and the use of hybrid seeds may not be economical for you.

Sowing time

Depending on the needs of the purchaser, seeds can be seeded at any time of year. The roots and other leftover components of past crops should be fully removed from the trays or container before reusing the prior sowing medium. After allowing the medium to air dry completely in the sun, fill the trays or container. Your greens may be kept in any form of

mini-greenhouse or living space to ensure the ideal levels of humidity, light, and temperature. Microgreens grown in an environment with high light conditions, low humidity and good air circulation will result in a better harvest.

Harvesting and packaging

In tropical climates, microgreens may be harvested 7–14 days after germination, but in temperate climates, harvesting can take up to 28 days, depending on the crop and other climatic factors. Scissors can be used to cut microgreens together with the stem and any attached seed leaves. Microgreens must be stored and transported with greater care since their useful life is limited. Business microgreens are often stored in clamshell plastic containers. There are also biodegradable clamshell containers in the marketplace.

High-value crop

In addition to charging a premium for their microgreens as a local grower, a farmer may sell their microgreens to upscale restaurants and grocery shops for greater rates.