

Microgreens: The “Miraculous” Super Foods

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Introduction

“Health is wealth”- we must have heard this term many times from our parents and grandparents. But in the recent times, human health has been compromised while chasing materialistic wealth. Ongoing catastrophe COVID-19 has put many lives at stake. It has challenged economy of the countries as well as public health in a miserable way. But at the same time, the pandemic has taught us to live a healthier version of life i.e. to concentrate more on personal care, to maintain good physical and mental health etc. One of the keys to live a healthy life is to maintain balanced diet. A balanced diet includes seven essential factors of carbohydrates, protein, fat, vitamins and minerals along with water. Most of the people forget about micronutrients while talking about balanced diet. But they also play a vital role in the overall growth and development of body. In this context, we can consider to include “microgreens” in our daily diet.

This term “microgreens” may be a new term for many people. Before talking about the advantages/ health benefits of microgreens, let’s discuss first what this is exactly mean. Broadly, the microgreens can be defined as the vegetable greens harvested just after the cotyledon leaves (a pair of true leaves) have developed. The microgreens are nutrition supplement, a visual enhancement and also a flavour and texture enhancement. They can add sweetness and spiciness to the foods. The introduction of microgreens in the restaurants began as early as in 1980s in San Francisco. In a short span of time, these tiny foods gained popularity worldwide. Now these foods are taking baby steps in the Indian market. During the pandemic, they have become a good source of organic foods and income for many people.

The various types of microgreens belonging to different plant families are such as Brassicaceae (e.g. cauliflower, broccoli, cabbage, radish, kale etc.), Asteraceae (e.g. lettuce, chicory etc.), Apiaceae (e.g. dill, carrot, fennel, celery etc.), Amaryllidaceae (e.g. garlic, onion, leek etc.), Amaranthaceae (e.g. amaranth, beet, spinach etc.), Cucurbitaceae (e.g. melon, cucumber, squash etc.), leguminosae (e.g. peas, fenugreek) and also some crops of

other families. Microgreens are approximately 1-3 inches (2.5 – 7.5 cm) tall. Plants growing beyond this size are rather called petite greens. The average crop duration of microgreens varies from 10-14 days in case of many brassicas and 16-25 days in case of many slower growing herbs like beet and chards.



Different types of microgreens



Seeds of microgreens

A noticeable portion of the Indian population bears the brunt of poor nutrition supply across the country which leads to impaired growth and many serious illnesses to the body. More than half of the deaths of children and pregnant women are caused by malnutrition or mainly lack of vitamin A, iron, iodine, zinc and folic acids. About 57 per cent of preschoolers and their mothers have subclinical vitamin A deficiency, said Dr. Samrat Shah, Consultant Internist, Bhatia Hospital, Mumbai. According to Dr. Samrat, some common symptoms of micronutrient deficiencies are pale skin, fatigue, weakness, breathing trouble, unusual food cravings, hair loss, periods of light headedness and constipation. Microgreens can solve this problem to a large extent. Some people may think there are many herbs and green leafy vegetables with good source of vitamins and minerals to be added in our daily diet. Then why do we need to consume microgreens? To get a satisfying answer to the queries of the people, we need to learn about some important facts about microgreens. As per the studies, microgreens are 40 times more nutritious than their mature counterparts. They can supplement the amount of micronutrient needed for body and boost immunity as they are mainly rich in potassium, iron, zinc, manganese, copper etc. they are full of antioxidants and healthy nutrients and also are rich source of vitamin A, B, C, E & K. The major health benefits of some microgreens are as follows:

- **Beetroot microgreens** supplement haemoglobin which is an important blood components that facilitates oxygen and carbon dioxide transportation and to the lung. Lack of haemoglobin can cause general fatigue, pale skin, shortness of breath, dizziness, crawling feeling in the legs. Along with this, beetroot microgreens also possess vitamin A, B, C & E and minerals like calcium, iron, magnesium, phosphorus, potassium, zinc and protein of about 30-35%.
- **Broccoli microgreens** help prevent cancer. Persistent cough or blood-tinged saliva, a change in bowel movement, unexplained anaemia, lumps in the testicles & change in urination are some of the early symptoms of cancer. As cancer is one of the dangerous and incurable diseases, taking preventive measures is better. It is also a rich source of vitamin A, B, C, E & K along with minerals and 35% protein.
- **Pea and Fenugreek microgreens** can fight diabetes which has become a common disease in India by reducing stress. Hunger and fatigue, weight loss, peeling more often and being thirstier, dry mouth and itchy skin and blurred vision are some of the symptoms of diabetes. Fenugreek microgreens can enhance cellular sugar uptake by 25-44%.
- **Sunflower microgreens** improve heart health and prevent our body from cardiovascular diseases. Symptoms of cardio-vascular diseases include fatigue, shortness of breath, indigestion, nausea, jaw or throat pain, arm pain (particularly left arm) etc. It also contains 20-25% protein.

Along with all these health benefits, microgreens also help in preventing some other diseases like Alzheimer's disease as they contain polyphenols. All these facts about them make them "superfoods". Having so much miraculous power, microgreens can be really helpful in providing nutrients to our body only when they are grown organically and consumed fresh. Growing microgreens are easiest of all the cultivation process. These tiny plants requires very small amount of area to grow. All you need is growing media (organic potted mixture/ coco peat), small earthen or plastic pots, trays, portrays, plastic bottles, or any reusable container and organic or untreated seeds. In the beginner level, we can grow microgreens using seeds available in the kitchen like mustard, sesame, chia, basil, moong, chana etc. First we need to fill the container with potted mix. Then the seeds should be sprayed over it and watered by sprayer. If using hydroponics method, pH of water should be maintained at the level of 6. The

crops also need adequate sunlight. After 2 weeks, the microgreens are ready to harvest. They can be used in salads, sandwiches, topping in dal, soups or curries etc. We should never cook the microgreens as it will decrease the available micronutrients in it. The microgreens should be thoroughly washed in water before consumption as they may contain microorganisms. Microgreens are advised to be consumed within 3-4 hours of harvest to get best out of them.



Steps to grow microgreens microgreens growing in plastic tray, indoor vegetable gardening
In India, there is an ample scope of microgreens entrepreneurship especially in the urban and suburbs as people are now becoming more health cautious during this pandemic. Microgreens can be a healthier option for them. Microgreens growing and supply will be a profitable enterprise for the plant lovers, housewives and also for old age people. We need to create awareness about the nutrition requirement for the body and the role of microgreens to meet those requirements among the people so that acceptance of these super foods will be increased in between Indian consumers and enterprise set-up will be easier which in turn will be able to meet the micronutrient demand of the country.



Microgreens salads