

Microgreens: Future's super-food

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Microgreens (a.k.a. vegetable

confetti) are young vegetable greens that fall somewhere between sprouts and baby leaf vegetables. Sometimes they are confused with sprouts, which are actually germinated seeds that are eaten root, seed and shoot. Microgreens, on the other hand, include a variety of edible immature greens, harvested with scissors less than a month after germination. The stem, cotyledons and first set of true leaves are all edible. Microgreens are simply the versions of these vegetables and herbs when they are in their tiny sprout form. Because of their intense aromatic flavor, variety of colors-textures and extraordinarily high vitamin content, they are also used as a popular culinary trend.

Types:

Not only do microgreens add a nutritional punch to salads, soups, or sandwiches, but they are also tender and offer delicious flavor. Their taste can vary greatly depending on the variety. Salad greens, leafy vegetables, herbs and even edible flowers can be grown as microgreens, though some varieties are better suited than others. The most popular varieties are produced using seeds from the following plant families:

1. Amaranthaceae family: Includes amaranth, quinoa swiss chard, beets, chard, quinoa, and spinach.

2. Amaryllidaceae family: Includes chives, garlic, leeks, and onions.
3. Apiaceae family: Includes carrot, celery, dill, and fennel.
4. Asteraceae family: Includes chicory, endive, lettuce, and radicchio.
5. Brassicaceae family: Includes arugula, broccoli, cabbage, cauliflower, radish, and watercress.
6. Cucurbitaceae family: Includes cucumbers, melons, and squashes.
7. Lamiaceae family: Includes most common herbs like mint, basil, rosemary, sage, and oregano.
8. Poaceae family: Includes grasses and cereals like barley, corn, rice, oats, and wheatgrass. As well as legumes including beans, chickpeas, and lentils.

Cereals such as rice, oats, wheat, corn and barley, as well as legumes like chickpeas, beans and lentils, are also sometimes grown into microgreens. With over 60 varieties of microgreens and microgreen blends available, there is no shortage of tasty and healthy choices when it comes to what to explore.

How to Grow Microgreens

Microgreens are easy and convenient to grow, as they don't require much equipment or time. They can be grown year-round, both indoors or outdoors. Like all fragile seedlings, they will also need to be protected them from weather extremes, drying winds and garden pests. Generally, they are grown quickly from seeds in good light with adequate moisture. They are usually sown in a soil medium or substitute and harvested before they reach full size.

Materials

1. Tray/container
2. Fungicide free seeds
3. Spray bottle
4. Seaweed solution
5. Seed raising mix growing medium
6. Paper towel
7. Marker (date and variety)
8. Proper lighting — either sunlight or ultraviolet lighting, ideally for 12–16 hours per day.



STEP 1. Seed preparation

To help the seeds germinate quickly, overnight pre-soaking of larger seeds (e.g. mung beans, wheat, beetroot and sunflowers) in warm water is needed.

STEP 2. Preparing container and seed raising mix

Lay some moistened paper towel on the bottom of the tray to stop the mix falling through. Fill the container about 3/4 full of moist growing medium about 2-3cm deep.

STEP 3. Sowing

The seeds should be sprinkled generously over the mix and pressed in lightly. Misting should be done with a spray bottle. This prevents the dislodging the seeds. Place on a drainage tray or saucer in a warm spot. Water regularly every day as needed. Check soil moisture first by touching with fingers. The seeds should never dry out. Avoid overwatering. To create a warm humid environment for the seeds to germinate, cover the seeds with the punnet lid. Or add a clear plastic bag over the top of the tray with holes snipped in the top for airflow.

STEP 4. Harvest your Shoots

Depending upon the type of seeds, microgreens will be ready to harvest about 2-3 weeks after planting. First set of "true leaves" generally act as a sign of readiness. The greens should be snipped just above the soil line. One can harvest and serve them immediately for the freshest flavor, and add to soups, salads, sandwiches or main dishes. Remaining cut microgreens can be stored in a plastic bag in refrigerator.

Repeat Harvests

We can get up to three harvests from a seed bed, depending on the type of microgreens. However, the third crop may not be as tasty as the first two harvests, and the plants may be leggy. After harvesting of last crop, the potting mixture should be discarded and seed trays should be washed well before starting a new batch of microgreens.

Advantages of Growing Microgreens

1. Quick to grow
2. High yield to space ratio.
3. Minimal cost, time and effort required

4. Perfect solution for people with no room or time for a garden.
5. Simple requirements
6. Suitable for all climates.
7. Indoor edible garden.
8. Nutrient-dense food.
9. No loss of nutrient value after harvesting
10. Variety of flavours/textures.

Health Benefits

According to a 2012 research study in the Journal of Agricultural and Food Chemistry, "In general, microgreens contain considerably higher concentrations of vitamins and carotenoids than their mature plant counterparts, although large variations were found among the 25 species tested. In comparison with nutritional concentrations in mature leaves, the microgreen cotyledon leaves possessed higher nutritional densities." Early research has indicated that microgreens contain up to 40% more phytochemicals than their full-grown counterparts. As such, they may similarly reduce the risk of the following diseases:

1. Heart disease: Polyphenols, a class of antioxidants related to a lower risk of heart disease, are abundant in microgreens. Microgreens may lower levels of "bad" LDL cholesterol and triglycerides, according to animal research.
2. Alzheimer's disease: Eating foods strong in polyphenols and other antioxidants may reduce your risk of developing Alzheimer's.
3. Diabetes: Antioxidants could aid in lowering the kind of stress that can prevent sugar from properly entering cells. Fenugreek microgreens appeared to increase cellular sugar absorption by 25-44% in laboratory experiments.
4. Certain cancers: Antioxidant-rich fruits and vegetables, especially those rich in polyphenols, may lower the risk of various types of cancer. Polyphenol-rich microgreens may be expected to have similar effects.

While this seems promising, note that the number of studies directly measuring the effect of microgreens on these medical



conditions is limited, and none could be found in humans. Therefore, more studies are needed before strong conclusions can be made.

Disadvantages

Microgreens are generally considered safe to eat. Nevertheless, one concern is the risk of food poisoning. However, the potential for bacteria growth is much smaller in microgreens than in sprouts. So, it's important to buy certified seeds and use contamination (Salmonella and E. coli) free growing mediums. The most common growing mediums are peat, perlite and vermiculite. Single-use growing mats produced specifically for growing microgreens are considered safe.

Conclusion

Microgreens are generally very nutritious and may even reduce risk of certain diseases. Given that they're easy to grow at home, they're an especially cost-effective way to boost nutrient intake without having to purchase large quantities of vegetables. As such, they're a worthwhile addition to our diet.

References:

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