



sprouting & microgreens



what are they?

Sprouting is when an edible seed is awakened from its dormant state by soaking in water for a set time, to 'sprout' and grow to a small size, then consumed, usually raw and sometimes cooked, depending on the seed. Seeds used for sprouting include vegetables, beans, pulses, grains and nuts. Familiar ones include the crisp alfalfa sprouts found in salads and sandwiches; the noodle-like mung bean sprouts in chop suey; or the malt flavour extracted from sprouting barley. Here's more on the terms used:

- seeds, beans, pulses and grains are sprouted, then eaten whole, including primary leaves, stem and root
- microgreens are tiny plants grown from seed on a growing medium, and cut at the base when tiny; stem and primary leaves are eaten
- plant shoots are seeds or pulses grown on a growing medium; cut at the base for leaves and stems to be eaten, but not roots; usually a bit bigger than microgreens when harvested
- grasses are grains grown on a growing medium; only blades are harvested for juicing
- nuts are soaked, and the whole soaked nut is consumed with or without skin; it's called sprouting although no visible sprout will appear
- many seeds can be either sprouted or grown into microgreens - such as radish, alfalfa, mustard, cabbage, broccoli and clover
- mucilaginous (sticky) seeds can only be used for microgreens - such as cress, basil or rocket

Sprouts need humidity and air circulation; some seeds require dark, some light, and others first darkness, then light in the final stages. Sprouting is a soil-less growing method, but soil or compost can be used when growing microgreens, plant shoots or grasses. However, these can all be grown without soil - see 'what can I do?'.



The familiar mung bean sprouts used in Chinese cooking.



A range of microgreens growing in clay pots on a sunny windowsill.

what are the benefits?

Dry, dormant beans, grains and seeds often contain three things that make them indigestible for humans - enzyme inhibitors, phytic acid (which prevents the absorption of many essential minerals) and a range of mild toxins that discourage animals from eating them. They only became part of our diet after the development of agriculture, and we're not really equipped to eat them unprocessed. However, soaking and sprouting neutralises enzyme inhibitors, phytic acid and toxins, intensifies vitamins and nutrients and renders them edible when raw.

Sprouts are considered among the healthiest of foods, with detoxifying and rejuvenating properties that help your body repair itself; and yet they can be produced cheaply, easily and quickly. We all need fresh, plant-based food sources to maintain optimal health, and sprouts are packed with vitamins, amino-acids, beneficial enzymes, minerals, proteins, phytonutrients and trace elements that are all easily digested and absorbed by the body.

Growing sprouts only requires a small amount of space and very basic equipment. What it doesn't require is a particular season, fertilisers or lots of hard work and time. Sprouts are therefore a good way to get kids interested in growing veg.

Fresh sprouts are very versatile - they can be eaten raw in salads and sandwiches, juiced and added to smoothies or soups, used as a garnish or just nibbled whenever you feel like it.

Home-grown sprouts are much cheaper than the ready-sprouted seeds in plastic bags that you can buy in the shops - and you know how exactly how they were grown and what's in them.



what can I do?

The nutritional value of some sprouts is so high that it's recommended they be used sparingly (e.g. fenugreek or nigella). Some beans can contain toxins even after sprouting, so either don't sprout them at all or steam them before eating (e.g. red kidney beans). Almost all seeds need soaking in water for 4-24 hours before sprouting. Soaking makes the seed plump and triggers changes - self-protective 'anti-nutrients' are released into the water and the inedible, hard seed will slowly start its inner transformation to a 'superfood'.

After soaking (follow a soaking chart), the seed is left in an airy but humid place to sprout. Once sprouts reach the desired size, they're harvested for consumption. For growing sprouts you'll need seeds, sprouter and a water supply for rinsing.

You can make a sprouter from a glass jar / plastic container (we advise against plastic in principle, but upcycling a container will increase its lifespan). Glass-jar sprouter: there are online guides. We don't recommend piercing a metal lid (sharp edges and possible rust). A cheesecloth attached with a rubber band to the neck of the glass jar will create a simple sprouter. You will also need a way to hold it upside-down or tilted for drainage.

Plastic-pot sprouter: take a 500g yoghurt pot, including lid. Make drainage holes in the bottom (from the inside). The holes should be smaller than the smallest seeds you intend to sprout. Put a handful of soaked seeds inside, rinse well and drain by putting the lid on and gently squeezing the pot until the water drains out through the holes. Rinse and drain each morning and evening.



Pea shoots.

There are many different kinds of sprouters available to buy. Plastic sprouters are common, and easy to clean, but plastic is a bit of an environmental nightmare. Glass sprouters often have plastic lids, but you can easily make a cheesecloth lid. Ceramic sprouters are both natural and efficient, although there are various grades of fired clay, and not all of them are suitable. Avoid Stoneware and glazed sprouters because they prevent air circulation. The best are earthenware or terracotta. They're natural, beautiful and porous - so they imitate soil conditions and absorb and release moisture, but are breathable, which prevents condensation.

Note that cooking destroys a lot of nutritionally-important enzymes, vitamins and amino-acids. Most sprouts are safe to eat raw; the only things that definitely need cooking are the bigger beans such as soy, azuki and red kidney beans.

Microgreens are even easier to grow. Sow seeds in a porous / earthenware dish lined with a moist table napkin, covered with a lid that allows air circulation. Organic compost in a tray with drainage holes can be used as a medium, but this increases the risk of contamination. Soil or compost is only required for grasses or shoots. Put the container on a sunny window ledge and keep moist. Expect greens to germinate in 3-7 days, and then 1-2 weeks later (depending on the green), you can harvest them by snipping them off above soil level with scissors.

Important: alfalfa sprouts are mildly toxic and shouldn't be eaten every day - avoid altogether if you're ill; it's best to eat sprouts in moderation and to vary the types of sprouts you eat; bigger bean sprouts such as soy and red kidney bean are toxic when raw; many raw bean sprouts contain hemagglutinins (which inhibit protein and fat absorption), but cooking destroys hemagglutinins; best to cook the bigger germinated beans.

resources

- lowimpact.org/sprouting for more detailed information, plus courses, sprouters, links, books, including:
 - Edward Cairney, *the Sprouters Handbook*
 - Anne Wigmore, *the Sprouting Book*
 - Mark Braunstein, *Sprout Garden*
 - wikihow.com/Make-a-Seed-Sprouter-at-Home - how to make a sprouter

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