



## Growing Shoots for your School

Hometown Harvest of SE Iowa-- Farm to School project

### What are sprouts? Is it the same as micro-greens/shoots?

The difference between shoots/micro-greens and sprouts is method of production.

**Sprouts** have been around for a long time. They are seeds that are soaked and grown in a jar with water. The environment is near 100% humidity for the whole 3-4 days of growing. The seed is not actually planted.

The FDA seeks to regulate all businesses that produce sprouts due to numerous outbreaks of food poisoning (11 recalls/alerts in the past year alone). In 2011, 52 people



Soaking seeds in water



Sprouting begin



Sprouting completed



Sprouts ready to use

died and thousands got sick from consuming organic sprouts in Europe. The European Food Safety Authority (EFSA) has now warned consumers against eating sprouts or sprouted seeds unless they are thoroughly cooked. Salmonella and Escherichia coli O157:H7 have been the major causes of sprout-associated illness outbreaks.

**Micro-greens (or shoots)** are not produced in water. Micro-green seeds are planted and grown in soil or a soil substitute such as peat moss, coconut coir or other fibrous materials. They are ideally grown in high light conditions with low humidity and good air circulation. The seed density is a fraction of what is used in sprout processing so each individual plant has space in which to grow and develop. Most varieties require 5-7 days growing time, but some can go for 4-6 weeks. After the leaves are fully expanded the micro-greens are ready for harvest. They are cut above the soil surface and packed without any roots. Some micro greens (like wheat grass) are sold while still growing, rooted in soil or other growing medium, so that they can be cut by the end user.



The conditions that are ideal for growing micro-greens do not encourage the growth of dangerous pathogens. These growing methods would not work for the production of sprouts. Commonly grown zesty varieties of micro-greens include: Amaranth, Arugula, Beet greens, Basil, Cabbage, Chard, Chervil, Cilantro, Cress, Kale, Lemon Grass, Mustard, Nasturtium, Parsley, Radish, Sorrel and Tot Soi.

Sweet Varieties include: Sunflowers, Dwarf Gray Snow Peas, Mache, Mizuna Dandelion, Spinach Mesclun Mix, and Watercress.



## Fun Facts about micro-greens/shoots

**Sunflower Greens** are almost 25% protein. They are one of the best things you can add to your raw & living food diet to improve your overall health. They are delicious, nutritious & they make for a beautiful presentation. They are also lots of fun to grow.



Use sunflower greens as a great addition to salads, juices, sandwiches and wraps, of course you can also just eat them by themselves. Sunflower greens are a nutritional powerhouse packed with vitamins A, B complex, D, and E; they also contain minerals including calcium, copper, iron, magnesium, potassium, phosphorus and zinc. In addition to these vitamins and minerals, sunflower greens are a rich source of lecithin which helps break down fatty acids into an easily digestible water soluble form, and chlorophyll which benefits many functions within the body, including building blood supply, revitalizing tissue, calming inflammation, activating enzymes, and deodorizing the body.

Sunflower greens are a fantastic source of protein, providing 22 grams of protein in just 3.5 ounces of shoots. You can harvest a new crop every 7 to 8 days.

**Pea Shoots** are a delicious, nutritious micro-green packed with vitamins A, C and folic acid.



Pea Shoots are low in fat and with just 9 calories per 50g bag, they are a delicious addition to any diet. Quick to prepare they provide a tasty and convenient way to help people achieve their '5 a day veggie portions' – especially as they are ideal partners for other vegetables whether served hot or as part of a mixed salad. Daily salad eaters have also been found to have better intakes and blood levels of vitamin C, folic acid and carotenoids such as beta-carotene (which the body can convert to vitamin A). Variety is important as the health benefits of fruit and vegetables seem to come not just from their individual nutrients and antioxidants but from the way they interact with each other. Pea Shoots, like most vegetables

and fruit, have a low energy density – or few calories per mouthful.



<http://www.jonathansorganic.com/Nutrition%20Facts%20Label.htm>

<http://www.johnnyseeds.com/c-48-micro-greens.aspx>

<http://www.mvseeds.com/microgreens.html>