

NOTES FOR MICROGREEN PODCAST

Everything You Need to Know to Grow Microgreens at Home

Seed Basics

To know a little about seeds will help to understand what you are doing. All seeds consist of three parts. First there is the seed shell that contains and protects the other two parts. Every seed contains the complete embryo of the plant it will grow into. The seed also contains enough carbohydrates to feed the plant, supply energy until it produces its first true leaves.

Every seed first produces two leaves that are called **cotyledons**. After that the true leaves appear and then **photosynthesis** begins. This is the name of the procedure where the plant makes food for itself from sunlight.

When we talk about **feeding** a plant, we are really providing them with trace minerals, rather like why we take vitamins. Since microgreens grow very quickly, it is not necessary to fertilize. If you want to be sure, you might want to put a light fertilizer in the water you are misting with.

What are Microgreens?

Microgreens are tiny greens that are full of nutrients that can be grown in very limited space (windowsill) in a short time (7 to 21 days). The shoots are harvested with scissors just above the growing medium after the first true leaves appear. (The first leaves are cotyledons the true leaves come after them.) You eat the leaves and the stem but not the root. Depending on the type of seeds you choose, your microgreens can have diverse colors, flavors, and textures. Microgreens fit between sprouts (seeds germinated in water and usually in the dark) and baby leaf salad greens).

Why Grow Them

Microgreens add a lot of nutrition to your diet. They average 4 to 40 times more nutrients (fiber, essential minerals, vitamins, and antioxidant compounds) than the same mature vegetable or herb. Chefs in fine restaurants use them to garnish plates. At home they are usually eaten raw in salads, appetizers, and sandwiches. Use them to accompany a meat or fish entrée, or as a topping for pasta or pizza.

They grow quickly, in little space, and without fancy or expensive equipment. You don't need to invest in fertilizers and sprays. They also have a very short shelf life. At home you can harvest and rinse them just before serving.

What You Need to Grow Them

You will need seeds, drinking water, growing medium or mat, growing containers or trays, a spray bottle or a pitcher, a sharp knife, or pair of scissors for harvesting microgreens. People who grow microgreens commercially use a small kitchen scale or measuring cups. The largest container I used was 4 x 6 inches and a spoon worked well for scattering the seeds.

Seeds – To avoid harmful chemicals, it is best to choose seeds labeled as “certified organic”, “non-GMO” or “untreated” seeds. Although it is not necessary to spend extra for them, there are now seeds that are labeled “microgreens” or “sprouting seeds”. If you save your own seeds that is an excellent choice.

Many varieties of edible plant species can be used. Among the easiest are members of the broccoli family. These include broccoli, radish, arugula, cabbage, kale, and mustard. The growth cycle of these is 7-8 days. Lettuce also grows quickly. Herbs like parsley, basil, dill, and others take a little longer but are popular. You can also use whole grains like buckwheat or alfalfa. Wheat grass is popular for juicing and smoothies.

Avoid any plants in the night-shade family as they are poisonous in the sprout stage. These include tomatoes, peppers, potatoes, and eggplant. Luckily these are very slow to germinate and not desirable for microgreens.

Containers – You can look on-line and pay a lot of money for special trays to grow your microgreens. You can also use containers that you have on hand, or in your recycling. The only requirements are

- It should be shallow (around 2 inches high)
- Drainage holes are beneficial. When the seeds have germinated it is a good practice to water from the bottom. You can punch drainage holes in many of the containers we will suggest.
- The container needs to be free of any toxins. **Don't plant microgreens in anything that contained a toxic substance.**
- **If using a plastic container, look for food grade plastics which are #1, #2, #4 and #5. These will not leach anything into your greens**
- Thoroughly clean any used containers before planting in them.

Some easy to find and use containers

- Disposable aluminum pie tins (punch holes in one and use the other to drain into.)
- Milk and juice cartons, either coated paper or plastic. The 2-quart size is perfect for on a windowsill. Cut the carton in half the long way. Plant in one side and save the other to cover the seeds while germinating.
- Egg Cartons – The paper ones are good, but they will get soggy from watering. Put it on a larger container or a plate to contain any leakage. When you are finished with it, put the egg carton in your compost pile.
- Plant saucers – They are sturdy and reusable. Drill holes in one and set it into another for drainage
- Plastic food packaging and take-away containers – A great way to re-purpose and single use container. These are ideal as they are usually square, relatively small size. It is easy to find ones that will nest.
- A ceramic bowl full of microgreens will be pretty on your counter, and it won't leak. Be sure it is about 2 inches tall, and you will need a liner for drainage

Medium – **This is the material the plants grow in. It has three main functions,**

1. Supplying roots with water, air, and nutrients
2. Physically supporting the plant
3. Allowing for maximum root growth

Some popular mediums

- **Soil** – Growing microgreens had started as “soil-less” gardening. Commercial growers found they got consistent result by using potting soil. And it is readily available, doesn’t require additional fertilizers and can be re-composted to use again. However, it is messy. Ideally you should use sterilized soil for microgreens. You can buy sterilized soil or bake the soil in the oven at 180 degrees for about 30 minutes.
- **Coconut coir** – This popular medium is from the fiber of coconuts. It is commonly sold as dehydrated bricks. It is lightweight and easy to store. Just add water to use it. Coconut coir produces consistent growth, can be purchased locally, and is cost effective. It does not contain many nutrients and like soil, it can be messy.
- **Coco coir basket liner mats** – inexpensive and easy to use. Some nurseries (Martin’s is one) sell the material. It comes in 2 and 3 ft. widths and I was able to buy 12 inches of it. It does not hold water and has no nutrients. Plant roots can easily penetrate the mat material. Try using a layer on top of soil or coconut coir. An alternate is to use several layers of an absorbent paper towel.

How to sow Microgreens

(Large seeds, such as sunflowers, benefit from soaking 4-8 hours to soften the seed.)

- **Fill your container** – put medium in the container a little less than 2 inches deep. Moisten the medium until water runs out. Level the surface so there are no hills and valleys. If you plan to use a cover, do it now. Mist the top to help seeds adhere.
- **Scatter seeds** – Microgreens are sown densely. You want the seed to mostly cover the medium and try not to let them bunch up. Using a spoon carefully scatter the seeds over the medium. Be sure most seeds are in contact with the medium. If needed, gently press them down. To ensure the seeds are in contact with the medium you might want to sprinkle a small amount of the growing medium over the top
- **Cover** – You don’t want your seeds to dry out, but they need some air circulation. Lightly cover them with a loose lid or plastic wrap.
- **Temperature** – The ideal soil temperature for germination is around 75 deg. F. Once the seeds have germinated, they will do well in air that is about 60 deg. F
- **Keep your seeds in the dark** – Most seeds need dark to germinate. Block the light by stacking containers or covering them loosely with a few layers of newspaper. (An exception is lettuce. It needs light, don’t cover them with anything but plastic wrap.
- **Check your seeds daily** – spray the foliage with plain water until the leaves are moist. Check the soil, it needs to be damp but not soaking. It is best to water microgreens from below. Drain any standing water each day.
- **As they sprout, uncover them, and move them into the light.** Your sprouts will turn from yellow to green. Watch for the first leaves to appear.

How to Harvest and use your Microgreens

- Using scissors or a sharp knife cut the stems just above the growing medium.
- Rinse your greens by rinsing lightly with cold water
- If you are not going to use them right away, dry them and place them between damp paper towels and place them in a resealable plastic bag for food container. They will last up to a week.

A warning about mold

High humidity will result in fresher tasting, crisp microgreens, but humidity and warmth also cause mold. Growing microgreens you will see mold. In order to identify mold – which resembles root hairs, to www.quantimmicrogreens.com and find the article “What is that Funky White Stuff on my Microgreens? Root Hairs or Mold?”. There are excellent pictures and information about telling the difference. If you see a small amount of mold, use a small scissors and remove it. Strong light is also an enemy of mold.

Bibliography – These are all on-line resources

Anne@themicrogardener.com

Easy Guide to Growing Microgreens by Anne Gibson

Gardening Heavn.com

Best Growing Medium for Microgreens – The Last Guide You’ll Ever Need

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www.quantummicrogreens.com

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