

Welcome to the world of growing your own micro greens. You can grow outdoors in warm seasons, or indoors all year long... even if you have limited space. It's literally countertop gardening. Microgreens are inexpensive, fun to grow and cover a wide variety of exciting, nutrition dense tastes. We hope you enjoy growing and eating these exciting living foods!

Definitions

Below are some basic definitions for key topics and concepts.

- ☞ **Sprouts** – Sprouts are the first stage of a seed's development and are generally grown without a growing medium (soil), but are sprouted and rinsed in a sprouting tray, jar or bag. They are usually eaten soon after the seeds germinate and are delicious and crunchy. Visit our sister site, www.handypantry.com for a full line of sprouting supplies.
- ☞ **Micro Greens** – Micro greens are the second stage of a plant's life, where roots establish themselves and the first leaves (called cotyledons) appear. Micro greens are harvested at this stage before the adult stage leaves emerge. Plants in the micro green stage are typically at their peak of flavor intensity.
- ☞ **Baby Salad Greens** – Baby salad greens of every variety are usually easier to grow in soil and are allowed to grow for a week or two beyond the micro green stage when the adult leaves have emerged. Baby greens are harvested while they are still juvenile plants. The flavors are much closer to their full adult stage, and they have had ample opportunity to absorb more minerals from the soil.
- ☞ **Mucilaginous Seeds** – Some micro greens seeds (like chia and basil) are mucilaginous, meaning that once exposed to water they develop a jelly-like coating on the exterior of the seed. This is normal for these types of seeds, but they need to be kept damp until the seedling has had a chance to emerge and establish itself.
- ☞ **Hydroponic Crops** – Hydroponic growing is the cleanest and easiest way to grow microgreens. With only a few exceptions, most microgreens grow extremely well hydroponically.
- ☞ **Dirt Crops** – If growing to the baby salad stage you may find them easier to grow in soil. Some microgreens perform better in soil. These include peas, sunflower, buckwheat, beets, cilantro, lentils, mung, adzuki and others. See www.growingmicrogreens.com for soil based kits to grow crops like baby greens, and microgreens like sunflower and peas.

Materials

Most of the materials you'll need are included in this kit (growing trays without drain holes, soil mix, seeds, pH test strips, spray bottle & instructions). You will need to provide a few other materials like, lemon juice to adjust the pH of your water, and scissors to harvest. Obviously you'll also need clean water. Note that trays may be re-used many times, and it is fine to section multiple crops per tray. Spent soil is also ideal for composting.

Step by Step Instructions

Specific detail and additional instructions per seed type are included on the reverse of this instruction sheet. What follows are general instructions for growing your microgreens or baby salad greens. Based on times to germination and harvest, you may need to sow your seeds at different times if you want to harvest all your greens at the same time. The micro greens growing kit includes enough seed for several plantings. While you will find that while micro greens are generally easy to grow, you may need to experiment a bit to get it just right.

Step 0: Balance The pH Of Your Water – IMPORTANT! – Microgreens seeds are sensitive to the pH of water. Use the included pH test strips and instructions to adjust the pH of your water. Microgreens thrive at a pH of 6. Most soil will add alkalinity to water so starting with a PH of 5.5 is ideal. Make sure to only water your crops with water you have balanced to an acceptable pH. Also helpful is to use filtered water to remove any chlorine from the water.

Step 1: Pre-Soak Seeds – Most seeds that require soil as a growing medium require a presoak (like beet, sunflower, pea, buckwheat and cilantro) need to be pre-soaked before being spread over your soil. See the back side of this instruction sheet for details on which seeds need to be pre-soaked. To soak, submerge the seeds in jar filled with cold water. Make sure there is plenty of water as some seeds (like peas) absorb surprising amounts of water. Keep in a cool place (even your refrigerator on hot days). When pre-soaked for an appropriate time, rinse thoroughly with cold water. Optionally you can transfer the seeds (except beet, which should be planted directly) to a colander and rinse every 12 hours for another day before planting. Tray Quantities:

Sunflower: 1 Pre-Measured Bag Per Tray
Dun Pea: 1 Pre-Measured Bag Per Tray
BuckWheat: 1 Pre-Measured Bag Per Tray
Beet: ½ to 1 Cup of Seed Per Tray
Cilantro: 1 Cup of Seed Per Tray

Step 2: Prepare Your Trays – For micro greens you will want about an inch and a half to two inches of soil in the tray. Put 4 cups of pH balanced water in the tray, then transfer the soil to the tray, spread the soil evenly and gently tamp it flat, (the back of a spatula is perfect for this). You want a flat even bed of soil that is firm, but not compacted. Dampen the top soil by sprinkling a little water gently and evenly over the soil. The soil should be quite damp but not soggy. Re-tamp gently if necessary.

Step 3: Spread Your Seeds – Spread your soaked seed evenly across the tray. Larger seeds like buckwheat, sunflower and pea will end up being quite thickly spread.

Step 4: Water & Cover - Gently tamp the seeds flat into the soil. The goal here isn't to crush the seeds into the soil, but to simply make sure that the seeds are making firm contact with the soil. Use your spray bottle to thoroughly mist the seeds directly on the soil. Now take one of the other trays and use your spray mister to spray the inside of it 4 or 5 times with an even distribution of mist. Use that misted tray as a black-out and humidity dome on your recently seeded tray. Your newly sown seeds need humidity and dark to thrive. Set your tray in a place where it won't get too hot, or too cold. 65 to 75 degrees Fahrenheit is ideal.

Step 5: Mist Every 12 Hours – Uncover the seed tray every 12 hours or so and mist them again with your spray bottle. 15 to 20 evenly distributed sprays should do. Do not add additional water other than the misting. Re-cover your tray.

Step 6: Uncover The Tray – Your crop should be ready to uncover after 4 or 5 days (7 days for beet & cilantro). You can judge this by watching for when the baby leaves (cotyledons) of your crop first emerge and then waiting one more day. It is important to keep your crop in the dark for the first 4 to 5 days to force your crop to grow in the struggle for light. This will help you grow a strong crop. Once you uncover the tray, make sure your crop gets plenty of light. We highly recommend LED grow lights (available at www.growingmicrogreens.com). Direct sunlight, fluorescent, or incandescent lights are also good. If your crop angles for light, be sure to rotate the tray occasionally.

Step 8: Check Daily – Your crop should have the right balance of water from now till harvest. Check the soil. It should be moist but not soggy. If necessary, replenish water by sprinkling or pouring water over the soil, avoiding the leaves as much as possible. Do not use the spray bottle anymore.

Step 9: Time to Harvest – Most microgreens will be ready to harvest in 10 days. Some crops can be harvested as early as 7 days. Most crops will not last past 14 or 15 days before they must be harvested. Keep in mind that there are exceptions to these harvest times. Check www.growingmicrogreens.com for specific details of each seed type. Details for the most popular seeds can be found on the reverse of this instruction sheet.

Step 10: Harvest – Move your trays to a cool, shady place. If your greens are harvested when it is too hot, they will wilt very quickly after harvesting. If harvested when cool (late evening, early morning), they will tend to stay fresh and crisp.

Harvesting Method: Use scissors to trim the microgreens directly from the grow pad. Think of it as giving your greens a haircut.

Step 11: Rinse & Dry – Use a colander to rinse your microgreens thoroughly under cold water. Dry the greens completely by spreading over a towel or paper towels and air dry. Speed drying by using a fan on a slow setting. Cut greens are best if served right after drying, but can be stored loosely in a bowl in the refrigerator for several days. Do not try to refrigerate greens that are not completely dry.

Troubleshooting & Tips

Below are some general ideas and troubleshooting tips to help make your greens growing experience easier. Growing microgreens is fun and fairly easy, but expect to have some failures in the process as you experiment in getting it just right.

- ☞ **Planting Too Thick** – If you spread your seeds too thickly the micro greens will come in too dense and be susceptible to rot. If you feel like your greens are coming in too thick, you can always thin out the crop by carefully plucking individual plants.
- ☞ **Planting Too Thin** – For micro greens this will make for a small, scraggly crop, but won't cause any trouble.
- ☞ **Over Watering** – Microgreens will thrive if the roots get the right mix of water and oxygen. Over-watering causes the root to not get enough oxygen and makes the crop susceptible to root diseases, and can even result in the loss of a tray. Avoid any puddles that extend above the root line. Ideally water should lay in the channels of the bottom of the tray.
- ☞ **Under Watering** – Watch carefully for any signs of wilting. The grow pad should be kept fairly soggy for the full growth cycle. If the grow pad is merely damp, there is probably not enough water in the tray.
- ☞ **Re-cutting** – Once harvested, micro greens will not re-grow. Dispose of the spent grow pads.
- ☞ **Rot** – If you notice sections of rot in your tray it can be a sign of over-watering, or sowing seeds too thickly. However, most of the time rot is an indication that your water is too alkaline (pH higher than 6.5). Make sure you pH balance your water or you will have weak crops. If you do have occurrences of rot, give the rotting area a wide berth at harvest.
- ☞ **Multiple Crop Trays** – There is no problem in sowing multiple crops in the same tray, in fact it's a great idea! You can easily segregate your seeds into different sections of the same tray. It is even okay to sow seeds with varying harvest times in the same tray.

- 🌱 **Temperature** – Cold will slow down growth rates of your micro greens dramatically. A nice warm spot will speed things up. Visit www.growingmicrogreens.com for heat mats and other growing supplies.
- 🌱 **Generally Weak Crop** – If you baby your crop too much, it can make the crop weak. Microgreens should struggle a bit to survive. If they are not kept in the dark long enough, the roots won't establish themselves well, and will result in a weak looking tray. If you are having trouble with weak trays, you can add a little stress to strengthen your crop. Instead of uncovering your crop and exposing to light after 4 or 5 days, take the tray you are using as a dome and flip it. Spray the underside of the tray to moisten it, and lay it inside the growing tray so that the bottom of the tray rests on top of your seedlings. This will force your crop to establish a better root, and grow much stronger to lift the tray and reach for light. Leaving the tray on the crop in this manner from day 4 to day 6 can really strengthen a weak crop.
- 🌱 **Pale Crop** – Consider using a stronger light source for your microgreens. We recommend a good LED grow light. Available at www.growingmicrogreens.com.
- 🌱 **Mucilaginous Seeds** – Mucilaginous seeds should be sewn and cared for the same as any other seed. However, they may be more sensitive to drying out in the early stages of sprouting. Make sure they are misted and kept damp.
- 🌱 **Presoaking** – Some seed types will do better if pre-soaked. See notes for specific seeds on the reverse for indications. Usually seeds that should be grown in soil will require a presoak. Presoak for the indicated time period in cold water.

Visit www.growingmicrogreens.com for heat mats and other growing supplies.

Specific Seed Info

Note: Not all seed types are included in every kit. Visit www.growingmicrogreens.com for additional seed varieties.

<p style="text-align: center;">Amaranth (All Types)</p> <p>Pre Soak: No Germination: 2-3 days Baby Greens Harvest: not recommended Color: translucent green or violet Taste: mild, earthy</p> <p>Notes: Grows poorly in the cold. Find a nice warm spot for germination and growing. The striking colors make a great garnish or addition to any salad.</p>	<p style="text-align: center;">Arugula</p> <p>Pre Soak: No Germination: 2-3 days Baby Greens Harvest: 16 to 22 days Color: green Taste: peppery</p> <p>Notes: Arugula is easy to grow and fast. It's a favorite and generally considered a staple of the spicier side of micro greens and baby salad greens. The peppery taste gets less intense as it gets bigger.</p>	<p style="text-align: center;">Basic & Spicy Salad Mixes</p> <p>Pre Soak: No Germination: 1-2 days Baby Greens Harvest: not recommended Color: variety Taste: mixture of flavors – mild spice</p> <p>Notes: A great combination of microgreens that grow well together and can be harvested at 10 days. Contains: Broccoli, Kale, Kohlrabi, Arugula, Red Acre Cabbage & Cauliflower.</p>	<p style="text-align: center;">Basil (All Types)</p> <p>Pre Soak: No Germination: 3-4 days Baby Greens Harvest: 16 to 22 days Color: green leaves with purple highlights Taste: fresh, mild basil</p> <p>Notes: Mucilaginous. Keep damp with regular misting. Makes a great addition to any salad as a garnish and to add flavor. Use in place of regular basil in any recipe.</p>
<p style="text-align: center;">Beet (All Types)</p> <p>Pre Soak: 24 hours Germination: 3-4 days Baby Greens Harvest: not recommended Color: green leaves, red stems Taste: earthy</p> <p>Notes: Grow only in soil. Very difficult to grow hydroponically. Beet greens are very colorful. Cut close to the soil to feature the red stem. Experiment with covering with a thin layer of soil when planting. Keep covered for with blackout dome for close to a week.</p>	<p style="text-align: center;">Broccoli & Cauliflower</p> <p>Pre Soak: No Germination: 2-3 days Baby Greens Harvest: not recommended Color: green Taste: mild cabbage</p> <p>Notes: Easy to grow, and can be sown a little more thickly than most other seeds. Broccoli microgreens are favored for their health benefits. These very tasty micros make a great base for any microgreens salad. Will perform better with a flipped lid at day 4 or 5 for one or two days. (see "generally weak crop" in the troubleshooting section)</p>	<p style="text-align: center;">Buckwheat</p> <p>Pre Soak: 12 hours Germination: 1-2 days Baby Greens Harvest: not recommended Color: light green Taste: mild tart, tangy</p> <p>Notes: Organic. Buckwheat grows tall quickly, and loves sunlight. Early leaves may emerge yellow as the shell drops off, but will green up well in sunlight. One of our favorite micro greens.</p>	<p style="text-align: center;">Cabbage & Kohlrabi</p> <p>Pre Soak: No Germination: 2-5 days Baby Greens Harvest: 16 to 22 days Color: green leaves with purple-red stems Taste: fresh mild cabbage</p> <p>Notes: Easy to grow, flavorful microgreens. The interesting color combinations make them great garnishes or additions to any salad. Will perform better with a flipped lid at day 4 or 5 for one or two days. Will perform better with a flipped lid at day 4 or 5 for one or two days. (see "generally weak crop" in the troubleshooting section)</p>
<p style="text-align: center;">Chia</p> <p>Pre Soak: No Germination: 2-3 days Baby Greens Harvest: not recommended Color: green Taste: earthy</p> <p>Notes: Mucilaginous. Chia is easy to grow and is favored for its health benefits, including high levels of omega oils, amino acids and proteins. Chia greens are very small so harvest close to the soil line for maximum yield.</p>	<p style="text-align: center;">Cilantro</p> <p>Pre Soak: 2 Hours Germination: 5 to 7 days Baby Greens Harvest: 20+ days Color: green Taste: fresh cilantro</p> <p>Notes: Grow only in soil. Crop will fail if grown hydroponically. Experiment with covering seeds with a thin layer of soil when planting. Tamp very lightly. Cilantro prefers cold growing conditions. Try to keep below 70 degrees. Keep covered for with blackout dome for close to a week.</p>	<p style="text-align: center;">Chard (All Types)</p> <p>Pre Soak: No Germination: 4 to 6 days Baby Greens Harvest: 20+ days Color: varies – usually colorful Taste: chard</p> <p>Notes: Similar to beets but easier to grow and a better taste. Grow only in soil. Very difficult to grow hydroponically. Cut close to the soil to feature the colorful stem. Experiment with covering with a thin layer of soil when planting. Keep covered for with blackout dome for close to a week.</p>	<p style="text-align: center;">Clover</p> <p>Pre Soak: No Baby Greens Harvest: not recommended Color: green Taste: fresh, mild, slight tang</p> <p>Notes: Requires extra rinsing to remove the seed hulls. Delicious micro greens are a staple of any micro green salad. Better if harvested before 10 days. Taste becomes bitter as the crop ages.</p>
<p style="text-align: center;">Cress (Curled)</p> <p>Pre Soak: No Germination: 1 to 3 days Baby Greens Harvest: 16 to 22 days Color: green Taste: extremely peppery / spicy</p> <p>Notes: Mucilaginous. Cress is ideal to grow to the baby salad stage. It has a strong peppery taste at the microgreen stage that mellows as it grows larger. Grow only small quantities at the microgreens stage.</p>	<p style="text-align: center;">Endive (All Types)</p> <p>Pre Soak: No Germination: 2-3 days Baby Greens Harvest: 16 to 22 days Color: green Taste: pleasantly, mildly bitter</p> <p>Notes: Grows well, even in colder conditions. Does not grow very tall, but grows wide. Requires harvesting close to the soil line, and thorough washing / rinsing.</p>	<p style="text-align: center;">Kale (All Types)</p> <p>Pre Soak: No Germination: 1-4 days Baby Greens Harvest: 16 to 22 days Color: green Taste: fresh / mild spinach</p> <p>Notes: Fast and easy to grow. Robust and substantial microgreen. Mild spinach flavor makes a great microgreen or baby salad green.</p>	<p style="text-align: center;">Kogane</p> <p>Pre Soak: No Germination: 1-2 days Baby Greens Harvest: 16 to 22 days Color: yellowish green Taste: fresh, mild cabbage</p> <p>Notes: Kogane has a pale green / yellow hue which makes it interesting as a garnish. It's fast and easy to grow but the seeds can be very expensive.</p>
<p style="text-align: center;">Mizuna & Mibuna</p> <p>Pre Soak: No Germination: 1-2 days Baby Greens Harvest: 16 to 22 days Color: Green Taste: fresh, mild mustard</p> <p>Notes: Grows fast & tall, and easy to grow. Great base green for any salad. Can be sown a little more thickly than most other seeds.</p>	<p style="text-align: center;">Mustard (Most Types)</p> <p>Pre Soak: No Germination: 2-3 days Baby Greens Harvest: 16 to 22 days Color: Green with reddish hue Taste: Spicy Mustard</p> <p>Notes: An easy fast grower that is ideal to add a strong zippy oriental mustard flavor to a salad.</p>	<p style="text-align: center;">Peas (All Types)</p> <p>Pre Soak: 12 hours (lots of cold water) Germination: 2-3 days Baby Greens Harvest: not recommended Color: light green Taste: mild, fresh sweet, crunchy</p> <p>Notes: Grow in soil only. One of our all time favorites. Rinse every 12 hours in a colander after initial soak until they begin to sprout. Sow seeds very thickly so they are all mostly touching. Grow in the shade. Avoid direct sunlight. Prefers a dryer soil. Water only every 2 - 3 days and give the soil a good drench. The long stems make a delicious an attractive addition to any micro greens salad.</p>	<p style="text-align: center;">Pak Choi</p> <p>Pre Soak: No Germination: 1 to 2 days Baby Greens Harvest: 16 to 22 days Color: green Taste: mild cabbage with a hint of pepper</p> <p>Notes: Pak Choi is a fast, easy growing microgreen and makes a great addition to any micro mix. Grow in lower light conditions as pak choi is sensitive and won't do well in well lit conditions.</p>
<p style="text-align: center;">Radish (All Types)</p> <p>Pre Soak: No Germination: 1-2 days Baby Greens Harvest: not recommended Color: Green or Purple (Sango) Taste: strong radish / spicy</p> <p>Notes: Greens are substantial and crunchy. Very easy and fast growers. Sango radish is a spectacular purple and makes a great colorful addition to any salad, sandwich or garnish.</p>	<p style="text-align: center;">Rutabaga & Turnip</p> <p>Pre Soak: No Germination: 1-2 days Baby Greens Harvest: not recommended Color: green Taste: mild with a hint of spicy</p> <p>Notes: Fast growers that prefer lower light levels. Keep out of direct sunlight. Indirect is better. These micros are fairly easy to grow.</p>	<p style="text-align: center;">Sunflower</p> <p>Pre Soak: 8 hrs – cold water Germination: 1-2 days Baby Greens Harvest: not recommended Color: Green Taste: Crunchy/Nutty</p> <p>Notes: Grow in soil only. Our all-time favorite microgreen! The greens are large, substantial and have an amazing nutty flavor. We recommend this as a staple of any crop or microgreens salad! The micro greens are large enough that they fit well with baby greens of other varieties.</p>	<p style="text-align: center;">Tatsoi</p> <p>Pre Soak: No Germination: 2-3 days Baby Greens Harvest: 16 to 22 days Color: Dark Green Taste: fresh / mild</p> <p>Notes: Very easy to grow with a great mild flavor. The mild flavor makes it a great choice as a base for any microgreen salad. It is said that tatsoi enhances the flavor of other greens it is mixed with.</p>

For specific indications on other seed types, please visit www.growingmicrogreens.com.

Uses / Recommendations

Garnishes – Microgreens make excellent garnishes for just about any dish. Look for the more colorful varieties like kohlrabi, red cabbage, red amaranth, beet and red giant mustard to add a splash of color as garnish to soups, full sized salads, sandwiches, hors de oeuvres, and fruit plates.

Sandwiches – Use microgreens generously in place of lettuce on sandwiches, especially tuna, egg salad, chicken salad, cucumber and more. They are a fantastic addition to vegetarian / pita sandwiches, and can even be used on hamburgers instead of lettuce.

Salads – Microgreens can be used to add color and garnish full sized salads, but we recommend making straight microgreens salads. They make a great addition to tomato, cucumber and avocado salads. Our all time favorite microgreen is sunflower and we love to use it as a base for any all microgreen salad. There are an unlimited variety of combinations you can experiment with to mix and match colors and varieties. To make a pure microgreen salad pile your microgreens high on the plate and garnish with wedges of tomato and avocado. We love microgreens straight without dressing, but try light dressings like lemon juice with seasoning salt, or balsamic vinegar and oil.