

How to start seeds

NOTE: When planting in the 12-cell seed-start kits, plant only one or two seeds in each cell!! After germination, thin to one PLANT if two emerge.

How to start a plant from seed

- **Keep records!**
- Choose a tomato, pepper, squash, cucumber variety that will do well here (≤ 75 days from transplant to maturity) **READ YOUR SEED PACKET!**
- Make your labels now! You won't remember what you planted where!

Clean pots: 1:9 bleach solution is the way to go

- Clean/scrub excess remaining dirt from pots to be cleaned
- Soak for 10 min in bleach solution
- No need to rinse afterwards-inactivated by organic matter

Start with sterile seed-start mix

- Sterile mix is light, fluffy, dries out easily
- Sterile mix helps prevent "damping off"
 - Pathogens from water, hands dirty pots
 - Cold, damp conditions

Preparing sterile seed start mix (such as Jiffy—about \$7) instructions for 3.5 inch pot

- Dump a 12 Qt bag into a 5 gallon bucket. Don't add more—it will get soggy.
- Add about $\frac{1}{2}$ gallon hot tap water
- Mix well with hands. Mix should hold together and feel like a wrung out sponge
- Fill the **3.5 inch** pots to the very top

Planting the seeds

- You can either plant 2-3 seeds per **3.5 inch** pot,
- Place desired seeds on top of soil, gently brush over them to cover shallowly—**PLACE LABEL IN POT!**
- Take another pot and use the bottom of it to tamp down the soil until soil level is about $\frac{1}{2}$ inch from the top of the pot.
- Check to make sure the seeds are covered
- Spray with water to make sure the seed is kept moist and in contact with the soil

Next...

- Plant as many pots as you'd like, making sure to label them as you go.
- Gently cover with plastic to retain moisture (remove after seedlings pop up!)
- Place pots on tray, pour about 1 inch warm water into the tray beneath the container.
- Water should wick up into the seed mix within an hour. Drain off any remaining water after an hour.
- Add more if necessary. Avoid overhead watering on delicate seedlings. Better way-when the seed tray starts to feel lighter, it's time to water.
- Place in a **WARM** place—heat mat will help seeds germinate faster

And then...

- Check every day. Every couple days spray with water the top of the soil with water—you shouldn't need to add water at this point. Flip over the plastic. **REMOVE PLASTIC COVER AFTER THE FIRST SEEDLING POPS UP!**
- When your seeds germinate, you'll see the stem, then the "seed leaves," followed by the "true leaves"
- You'll need to continue keeping your seedlings warm (55-60°F night temperature and a 65-70°F day).
- They need light. 16-18 hours/day. 2-3 INCHES above the seedlings if using traditional fluorescent lights. If using LEDs, the distance varies. Start at 6 inches and adjust up or down as needed: If the leaves have tan bleached areas or are crunchy, increase the distance; if the plant is leggy, decrease the distance. Maintain that optimal distance as the plant grows. **KEEP THIS DISTANCE THE ENTIRE TIME YOU ARE GROWING YOUR PLANT INDOORS!**

About lighting

- **Inexpensive:** full-spectrum fluorescent tubes ("grow lights") produce a balance of warm (red) and cool (blue) light.
- **LEDs:** Cheap → expensive

Keys to healthy plant starts

- Sterilize all used pots
- Use **NEW** potting mix to fill trays
- Clean all tools

- Use a heating pad under trays to warm soil to 70-75°F for indoor plant production.
- Wait until garden soil has reached optimal temperature for germination before planting outdoors (usually >50 degrees) In Cowlitz County, wait until the first week of June to plant seedlings outdoors!
- Water to keep it **moist but not soggy**. Use pots with drainage holes. I prefer to water from below
- Keep hoses and water heads off the floor.
- Use clean **WARM WATER** (68 – 77 F)
- When seedling has 2 or 3 sets of true leaves (about 6 weeks)—they should be repotted in a larger pot with potting soil if you started in very small seed cells. If desired, you can water with a complete water soluble fertilizer at 1/4 strength once a week. I like fish emulsion (around 5-1-1 N-P-K), or you can use something similar to Miracle Grow (but very diluted!)

Germination information for selected plants

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Plant	Approximate time to seed before last frost date (weeks)	Time seeds need to germinate (days)	Temperature (F)	Light/dark requirement
Broccoli	8	5 to 10	70	Either
Cabbage	8	5 to 10	70	Either
Cauliflower	8	5 to 10	70	Either
Cucumber	4 or less	5 to 10	85	Either
Eggplant	8	5 to 10	70	Either
Lettuce	8	5 to 10	70	Light
Muskmelon	4 or less	5 to 10	85	Either
Pepper	8	5 to 10	80	Either
Squash	4 or less	5 to 10	85	Either
Tomato	6	5 to 10	80	Either
Watermelon	6	5 to 10	70	Either

Resources:

- [Growing Tomatoes](http://extension.oregonstate.edu/mg/metro/sites/default/files/growing_tomatoes.pdf) http://extension.oregonstate.edu/mg/metro/sites/default/files/growing_tomatoes.pdf
- The ultimate resource for gardening in Washington: **Gardening in Washington State** <http://gardening.wsu.edu/>
- [Home Vegetable Gardening In Washington \(Fantastic resource\)](https://s3.wp.wsu.edu/uploads/sites/2071/2014/04/Home-Vegetable-Gardening-in-WA-EM057E.pdf) <https://s3.wp.wsu.edu/uploads/sites/2071/2014/04/Home-Vegetable-Gardening-in-WA-EM057E.pdf>
- Instructions for building a grow light stand <https://www.instructables.com/Grow-Light-Stand/>
- [Growing Tomatoes Guide: from seed to garden planting](#)

Supplies from Amazon

- **Heating mat:** VIVOSUN Durable Waterproof Seedling Heat Mat Warm Hydroponic Heating Pad 48" x 20.75"
- **Lighting:** iPower GLT5XX4 Head Start T5 54W 6400 Fluorescent 4" Grow light system
- **LED Grow Light 1000W, Full Spectrum Grow Lights \$140**
- \$22 **Ankace GrowLight** [2018 Upgraded Version 18W Dual Head Timing, 36 LED 5 Dimmable Levels Grow Lights for Indoor Plants with Red/Blue Spectrum, Adjustable Gooseneck, 3/6/12H Timer, 3 Switch Modes
- **LED Light stand 2 Pack 36W 4 Feet LED Light Stand Rack for Seed Starting- \$100**
- **Ratchet hangers for lights**
- **Seed dispenser tool**
- **Barrina LED grow lights**