

How to start seeds

How to start a plant from seed

- Choose a tomato, pepper, squash, cucumber variety that will do well here (≤ 75 days from transplant to maturity) READ YOUR SEED PACKET!
- 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

- Dump a 12 Qt bag into a 5 gallon bucket
- 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 pot, or 15/20 seeds per pot
- Place desired seeds on top of soil, gently brush over them to cover shallowly
- 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

Next...

- Plant as many pots as you'd like
- Gently cover with plastic to retain moisture (remove after seedlings pop up!)
- Place pots on tray, pour about $\frac{1}{2}$ inch warm water into tray
- Water should wick up into the seed mix within an hour. Drain off any remaining water after an hour.
- Use your built in hydrometer—your finger. Is the soil moist? Add more if necessary. Avoid overhead watering on delicate seedlings.
- Place in a WARM place—heat mat or top of refrigerator

And then...

- Check every day. Flip over the plastic. Remove plastic after plants pop 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. 12-16 hours of it. 1-2 INCHES above the seedlings!

About lighting

- **Cheap:** Cool, white tubes (shop lights)(40 watts) produce light in the blue and yellow-green and are okay for greens & veggie transplants
 - can produce healthy, stocky salad greens and vegetable transplants.
- **More \$\$** full-spectrum fluorescent tubes (“grow lights”) produce a balance of warm (red) and cool (blue) light.
 - Thicker stems, better leaf growth, flower production.
- Some gardeners use **one of each**.
- **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)
- 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--complete water soluble fertilizer at 1/4 strength once a week.. I like fish emulsion (around 5-1-1 N-P-K)
- Provide **12-16 HOURS OF LIGHT** from a fluorescent or grow light or LED to seedlings—**Must be 1-2 inches above the TOP OF THE SEEDLINGS.**

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)
- [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)
- [DIY PVC Light Stand](http://extension.umd.edu/growit/food-gardening-101/pvc-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**
- **\$20 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