

A Basement Greenhouse

By Kirk Jones

Starting lots of plants from seed doesn't require sunny windows or a fancy greenhouse

After poring over catalogs all through January I usually find I want a greenhouse by February so I can get an early start with all the seeds I've ordered. Growing plants from seed at home is not for everyone. The plant selection at area nurseries and the farmer's market has steadily improved in the past few years and you can now find unusual tomatoes, herbs and annual flowers. It is often easier to just purchase healthy greenhouse grown plants from area growers and forget it.

Still, some people prefer to start things at home because they can't find certain varieties, they desire TOTALLY organic plants and want to control exactly how they are started, or they just enjoy starting plants from seed. For me, there is just something special about any plant, from a primrose to a tomato, that I started from a seed.

My first attempt at starting plants from seed was disappointing. The seeds started readily enough but then grew tall and spindly, leaning toward the window. Some seedlings grew fuzzy fungus around their bases (damping off fungus) and keeled over before they were even two inches high. By the time I placed the seedlings outside the first breeze flattened the few top-heavy survivors.



If you have had failures like these, or been afraid to try because you've feared these kinds of results, take heart, because you can learn from my mistakes. I have since successfully started everything from strawberries to leeks from seed under lights in my basement.

I'm not a master gardener and I'm sure there are other, better ways to proceed but this is what has worked well for me.

Soil It is important that whatever you use be light, well-drained, moisture retentive and sterile. Unsterile soil harbors nasty fungal diseases and also weed seeds which make it difficult to recognize your seedlings. Rather than bake soil in the oven (it stinks to high heaven) I find it easier to use commercial seed starting mixes like Jiffy-Mix or Hoffman's. You can also mix your own using peat moss, perlite and vermiculite.

Containers You can use clay pots or plastic food containers or anything you have but it must have drainage holes. If the containers previously contained plants you must wash them (the

paranoid say with bleach) to avoid the risk of disease. I usually find it easier to go the ecologically unsound route and buy sheets of plastic six packs or liners. You can buy a whole sheet of these (12 six packs, 72 cells per sheet) for around a dollar. This will also tend to help you pack the most seedlings per square inch of indoor growing space. Liners can be purchased locally at Downtown Home and Garden.

Light I've never lived anywhere that had nice sunny windows, and Michigan has no sun in February anyway, so I use artificial lights in my basement. You don't need to do anything fancy here. I use "shop light" fluorescent fixtures and the cheapest available bulbs - cool white 40 watt.

You want to mount the fixture on light- weight chains so you can raise it easily as the seedlings grow. The light should only be about two or three inches from the tops of the plants. I know this seems really close but remember that most vegetables want full sun and fluorescent tubes are very dim by comparison.

Fluorescent bulbs put out significantly less light as they age, so if you decide to borrow a fixture out of the laundry room or garage, you may want to replace the bulbs. If used only for starting plants, the bulbs should be replaced every couple years. For some reason these fixtures often come with a cord about six inches long so you may need to buy a grounded extension cord. The lights should be operated about 16 hours a day. I use a timer to turn them on and off (grounded too, of course). On the other hand, my father, who figures that if 16 hours of light is good, then 24 should be better, starts seeds under fluorescent lights that are never turned off and has fine results.



Sow the seeds Fill the containers with grow mix and moisten it. You want the mix moist but not sodden. I find it easiest to bottom water the container and let it absorb the water and then sow the seeds. Fine seed that needs to be surface sown can be moistened after sowing with a spray bottle. Under the controlled conditions that we are creating the germination rate will be much higher than when sowing outside so don't over sow.

Temperature and humidity Seedlings usually sprout best with warmer temperatures and high humidity. I have had best luck using clear plastic domes that fit over a single flat. (also available at Downtown Home and Garden). They are easy to take on and off and last for years. Follow packet directions, but most seeds will sprout nicely at around 70 degrees. I usually set the flat under the lights immediately so that the seedlings will be exposed to light as soon as they emerge.

After the seeds sprout and have true leaves, prop the dome open for a day or two to accustom the plants to less humidity before removing the dome.

After the dome has been removed it will really help if you can move the plants to a cooler room, 50 or 55 degrees is not too cold. This will slow down the seedling's development and encourage slow, bushy growth. To do this, I use two sets of lights - one in an enclosed, warm area of the basement and another in a cold unheated part. Using a small fan on low speed blowing gently on the plants will encourage them to toughen their stems while discouraging damping off fungus.



Watering and fertilizing Plants should not be fertilized until they have at least two sets of true leaves. Fish emulsion diluted to half or a third strength works well.

Hardening Off At least a week before the plants are to be planted outside they need to be accustomed to outdoor conditions. This is called hardening off. If you don't have a cold frame, choose a mild day when it is not blazing hot or pouring rain, and leave the plants outside for an afternoon. An overcast day provides less of a shock. Each day, increase the amount of time they are outside. This will give the plants time to acclimate to outdoor conditions before being set out in the garden. I have two small cold frames and try to get the plants outside as soon as there are warm days. At first, strong wind is as much a danger as anything else and a cold frame really helps.

As I said before, I am no expert and if you have had better luck with other methods (or worse yet, bad luck with these methods) let me know and we will share an update in a future newsletter. Happy sprouting!



Shared by [Project Grow, Ann Arbor, Michigan](#)
Photo Credits: Deb Nystrom, Ann Arbor, Michigan
Creative commons license for article: [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).