



Lights and Heat for Seed Starting

Seed starting can be a fun and rewarding activity, with the right supplies and information. Last week we gave some tips on selecting containers and potting mix. Today, we're focusing on a few supplies that will help your seedlings germinate and grow stocky and strong.

In our climate, light and heat can both be invaluable to growing strong seedlings. In Pittsburgh, especially in the early spring, not quite enough sunlight comes through the windows to create a good environment for seedling growth. And even indoors, the potting mix may be a little chilly for heat-loving plants like tomatoes and peppers to germinate well.



These tomato seedlings are growing strong underneath shop lights.

Light

We recommend supplemental lighting for growing seedlings at home. Lighting allows plants to be grown in typically darker areas like basements or heated garages. Lighting also helps to ensure strong, sturdy growth that will give the seedlings a great chance of survival before and after they reach the garden beds.

If you've ever attempted to grow seedlings on a windowsill, you probably noticed that the leaves were pale, the stems were long and thin, and the plants bent toward the light. Seedlings typically need more than the light coming through a window. With proper lighting, they will grow dark green and stocky, with short, strong stems.

Here are the two options we've found to work well:

- “Shop” lights. These inexpensive fixtures offer the full spectrum of light that plants need, as long as they are outfitted with one “warm” and one “cool” lightbulb. For optimal growth, the plants need to be 1-2” below the light bulbs. So shop lights work best if they are suspended with chains and s-hooks, or another system that allows the lights to be easily lowered, and then raised, as the plants grow.
- **Commercial “grow lights.”** These are manufactured for the purpose of growing plants. They come in all shapes and sizes, as well as in different types, including fluorescent and LED. These lights can be purchased in kits from gardener supply stores, or separately.



This handmade shelving unit uses space efficiently. Both heating pads and lights fit on these structures, and the height of the lights is easily adjusted.

Heat

Each type of seed has an optimum temperature for germination. Unsurprisingly, warm-season crops, like tomatoes, zucchini, and basil, require more heat to germinate than cool-season crops like lettuce, spinach, and radishes. In both their online and print catalogs, Johnny's Selected Seeds includes a germination guide for each type of seed. This chart indicates the ideal germination temperature for that

particular seed. We recommend using this information to determine where to place seeds in order to germinate them.

Some sources of heat may be readily available in a home setting. For instance, the top of a refrigerator or an area adjacent to a radiator may stay consistently warm. Most seeds do not need light to germinate, so covering the planted containers, placing them on the heat source, and checking them daily (watering when necessary), can work well for germination. When the seeds begin to germinate, remove them and place them directly under a light source.

If you're planning to grow lots of warm-season seedlings, or if you don't have a great, consistent heat source, consider purchasing a **heat mat**. These mats can be adjusted based on the temperature the seeds need to germinate, and they stay at a consistent temperature. The mat can be placed under the seedling tray, under the light source, so the seedlings can just be uncovered when they germinate, rather than moved.



Plant sprayers like this one are inexpensive and make watering tiny seedlings much easier.

Watering

While we're discussing seed and seedling care, we should probably mention watering. Many seeds are so tiny that they may be washed away or buried too deep in the potting mix, if they are watered with too strong of a stream. We recommend starting with thoroughly moist soil – add a little water and mix well until it feels like a damp sponge. After seeds are placed in the soil, mist as needed to keep the soil damp with a sprayer, available at most hardware and home improvement stores. Covering the seeds (use plastic sheeting or a similar material) keeps them evenly warm and damp until germination.