

# Starting plants from seed indoors

# THE BASICS

The process doesn't have to be frustrating

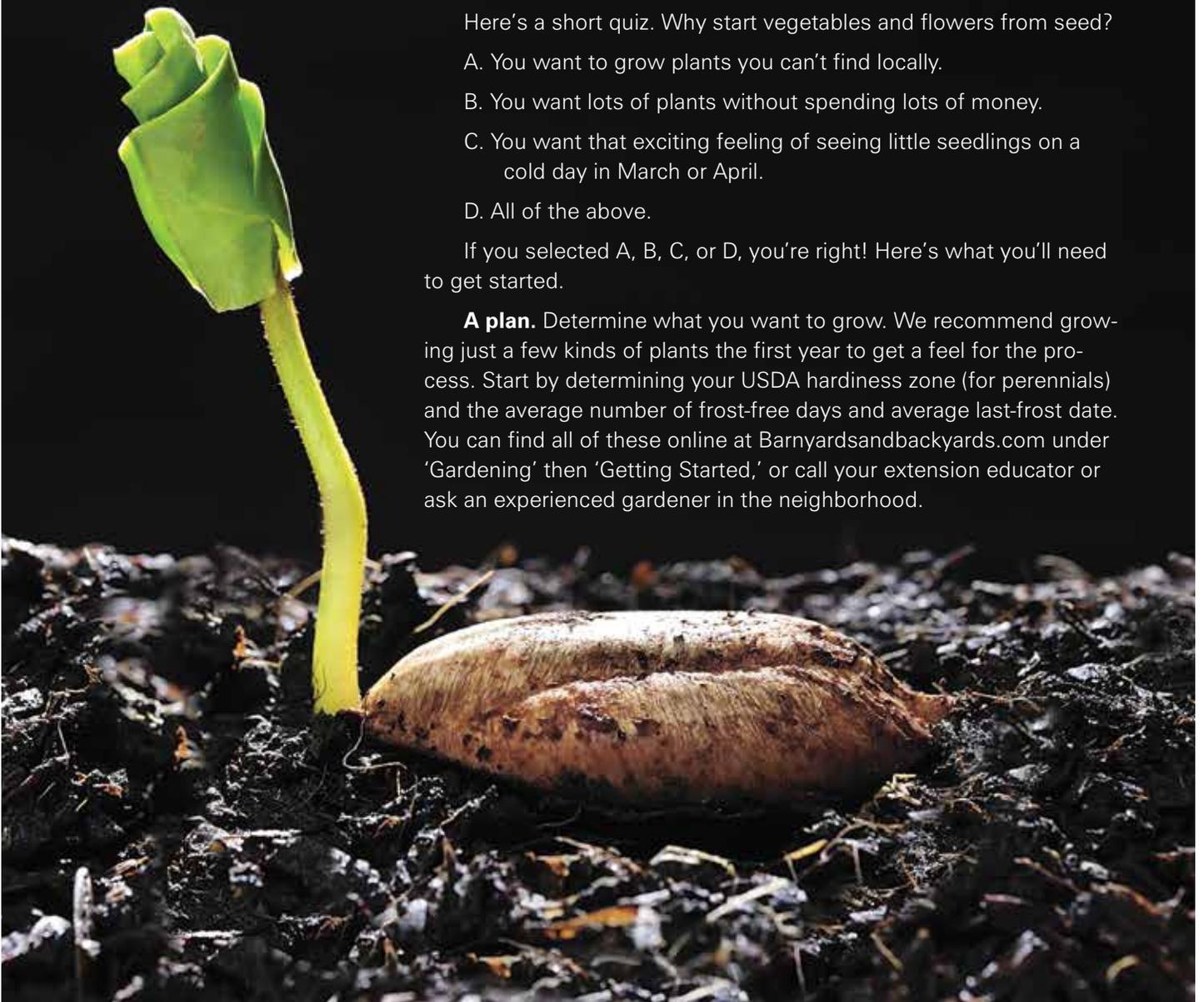
*Amy Fluet and  
Jennifer Thompson*

Here's a short quiz. Why start vegetables and flowers from seed?

- A. You want to grow plants you can't find locally.
- B. You want lots of plants without spending lots of money.
- C. You want that exciting feeling of seeing little seedlings on a cold day in March or April.
- D. All of the above.

If you selected A, B, C, or D, you're right! Here's what you'll need to get started.

**A plan.** Determine what you want to grow. We recommend growing just a few kinds of plants the first year to get a feel for the process. Start by determining your USDA hardiness zone (for perennials) and the average number of frost-free days and average last-frost date. You can find all of these online at [Barnyardsandbackyards.com](http://Barnyardsandbackyards.com) under 'Gardening' then 'Getting Started,' or call your extension educator or ask an experienced gardener in the neighborhood.





*Seed-starting set-up in basement*

**Seeds.** Flipping through a seed catalog (or browsing an Internet site) in January is definitely a boost to the spirits during cabin fever season. As you shop for seed, note the numbers given for days to maturity for vegetable varieties and make sure they work with the number of frost-free days in your area. Sometimes days to maturity is based on the seed germination or on the transplant date. Make sure your calculations are accurate. Be wary of over-the-top claims for plant performance and keep your expectations realistic. Seed left from a previous year can be used – different types of seed will germinate for a number of years – some only up to one year – others up to five years or longer; store seeds in a cool, dry place. If you go overboard on ordering seeds, simply tuck a few packets away for next year.

**Growing medium.** Special soil-less mixes (made up of vermiculite, peat moss, perlite, coconut coir fiber, etc.) are best for starting seed. One of the reasons is that these are usually disease-free. This is important

because seedling diseases such as “damping off” (discussed below) can quickly decimate a flat of young seedlings. Look for a quality, finely textured mix without added fertilizers. We’ve found you generally get what you pay for. Locally owned garden centers are a good source for quality mixes.

**Pots.** Use containers with drainage holes to hold the mix and trays to put the containers in to catch water. You can purchase seed-starting flats or recycle clean containers from around the home. If reusing pots, clean them well with warm, soapy water; we typically finish with a rinse in bleach water (1 part bleach to 9 parts water) and thorough air drying.

**A good location.** A good source of light is important, especially for vegetable seeds and annuals, which will become leggy without it. Shelves with fluorescent lights that can be lowered or raised are very good; a south-facing window can do in a pinch. Shelves can easily be made, and fancy fluorescent bulbs aren’t needed – use either two cool white

bulbs or one cool white bulb and one warm (soft) white bulb to get a broader spectrum of light. Other types of lights are available as well. A timer is useful for turning the lights on and off. You can also get creative with your system: Amy hangs a couple of shop lights under her ping-pong table for added seed-starting space. Choose a spot with reasonable temperatures; cooler temperatures will help keep young plants stocky, but seeds often like warmer soil for germination. Ensure there is reasonable air circulation.

**Time to plant.** Read all the seed packets and separate them into groups by the recommended weeks before the average last frost that they should be planted indoors (for example, one pile for those needing eight-10 weeks, six weeks, four weeks, etc.). Now look on the calendar and mark when those average last frost dates are. For example, start seeds March 28 for an average last frost date of June 6 and seeds that need 10 weeks to grow before transplanting.

Pre-moistening the mix with warm water makes initial watering easier. Fill containers with mix to about 1 inch from the top edge. Tamp lightly to slightly compact the mix. Sprinkle the seeds on top of the mix. The number of seeds planted in each “cell” or container depends on how many plants are wanted there. A few seeds may not germinate, but most should. Cover the seeds with soil. Seed packets will generally have guidelines for how deeply seed should be planted. A few plants like lettuce need some light to germinate, so cover those very thinly or simply sprinkle them on top of the soil and then gently tamp the surface again to make sure the seeds are in good contact with the soil surface.

Label containers with the name of the variety. We have learned that immediate labeling saves many headaches down the road.

Water the pots with a gentle surface spray (so as not to dislodge the seeds) or place the pots in a shallow container filled with water to bottom-water the plants. We generally use warm water for the first watering. Once the soil is moist, keep it moist until seeds germinate. You can use "greenhouse" tops on the trays or slip the containers in a clear plastic bag (to let light in); just leave some room for air circulation. The goal is to have the soil stay moist but not soggy.

Place containers in a comfortably warm spot with some light, but not strong direct sunlight, which can "cook" the seeds if covers are in place. Watch for signs of growth. When plants start to break the soil surface, remove any covers and move the containers to a place with good light. If growing plants under fluorescent lights, keep the plants just a couple of inches below the lights and keep the lights on for 12-16 hours a day.

- Raise the lights as the plants get taller.
- Monitor the moisture of the soil as the plants grow. Aim for damp but not soggy soil; overly wet soil can lead to problems for seedlings. The most common of these is "damping off," which results in seedlings that collapse at the soil line and is caused by a variety of fungi. To reduce chances of damping off, use a soil-less mix, make sure containers are clean, and let the soil dry out slightly between waterings.

**Amy Fluet** believes that ordering too many seeds in the spring is indicative of strong character and resilient spirit. She can be reached at [amyafluet@gmail.com](mailto:amyafluet@gmail.com). **Jennifer Thompson** is the Small Acreage Outreach coordinator and can be reached at (307) 745-3698 or [jsjones@uwyo.edu](mailto:jsjones@uwyo.edu).

- If seedlings are growing too tall too quickly (often referred to as being floppy or "leggy"), the light source might not be strong enough or close enough to the plants or the temperature might be too warm.

### Transplant when the seedlings are ready

When to transplant seedlings into individual pots (or into the garden) varies with the species. The plants need at least two true leaves (not their first seed leaves) and shouldn't be overly crowded.

Carefully tip the pot of seedlings onto its side and ease out the entire soil mass being careful not to damage those fragile stems. Alternatively, you can prick out individual seedlings from a pot by levering them up gently with a pencil or similar implement.

Roots that are present throughout the soil or that have started circling in the container indicate you should have transplanted the seedlings earlier. Use those seed leaves (or a true leaf) to carefully lift the seedlings and lower them into individual (labeled!) pots (or into a planting hole in the garden). A plant with a damaged leaf is likely to survive, but one with a damaged stem will most likely die.

If transplanting into larger containers, use a variety of soil and soil-less mixes depending on the needs of your plants. A soil-less mix does not have a lot of nutrients. Consider watering seedlings periodically as they grow with a very weak fertilizer (diluted to one-quarter or one-half strength).

### Hardening Off

Hardening off gradually gets plants used to outdoor conditions (bright light, cooler temps, wind, etc.). One way to harden off plants is to place pots of young plants in a sheltered area outside and then gradually move them into more exposed locations. Move them back inside (the house, garage, etc.) if frost or severe weather is possible. A second way is to transplant plants directly into the garden and then protect them from the elements with covers or wind shelters until they adjust to outside conditions.

Starting plants from seed is not a difficult task. It does, however, benefit from a little planning and requires tending your plants once they have started to grow. The benefits of this process are many. Not the least is seeing those fresh, green leaves unfurl with their promise of spring as the winds and snows of winter still howl.

