



## Seed Starting from Start to Finish

### *starting a garden from seed*

- Before choosing and planting your seeds, it's helpful to do a little planning. Some seeds prefer to be sown directly into their garden bed. These include peas, all root crops and all those vegetables and flowers that need warm soil to germinate and warm weather to thrive such as beans, corn, cucumbers, squash, nasturtium, poppies, sunflowers and zinnias (more about direct-sowing on the next page).
- Most plants, however, need to be started indoors and then transplanted out in the garden later. Some of them need a longer time to be ready to be transplanted outside. Others are more sensitive to cold and will be stunted or may even die if they are set out too soon. In addition, some plants that can be sown directly will benefit from the attention they get starting indoors.
- Information on the back of seed packets will give a "when to start inside" number of how many weeks before the average last frost date – for St. Louis this is April 15<sup>th</sup>. Count backwards from April 15<sup>th</sup> and mark this projected indoor planting date on your **calendar** for each variety of seed you have chosen.

### *seed starting set-up*

- If you have a very sunny, south-facing **window** you can use it for your seed starting. Keep in mind, however, that days are shorter and the intensity of sunlight is lower in winter and seedlings will stretch in order to receive sufficient light to grow.
- A light garden will allow you to control the amount of light your seedlings receive and they will be denser, sturdier plants. An easy set-up uses regular **hanging shop lights**, usually four feet long with two fluorescent bulbs (T12 40-watt or T8 32-watt). Choose "Natural/Cool White" which has a spectrum rating of 4100K-5000K. The lights should begin hanging at 2"-3" above the seedlings and **rigged** so that you can raise them as the plants grow.
- Most plants don't need light in order to germinate but many appreciate the bottom heat provided by an electric **heat mat**.
- Once your seeds germinate they need to move to your light garden and you will need to run the lights 12-16 hours each day, providing at least 8 hours of darkness as well. A **timer** will help you stay consistent.

### *starting your seeds*

- The easiest choices for starting seeds are **plastic cell packs** or **peat pot packs**. Start with the smallest size to maximize the available space and help build up the seedling's root mass. Place them in a waterproof **tray**.
- Fill each cell with well-moistened **seed-starting mix**. Press it down firmly to eliminate air pockets.
- Pre-soaking larger seeds overnight (beets, parsley, peppers, Swiss chard, tomatoes for example) will help with germination.
- Plant one or two seeds per cell except for lettuce and other greens that will be cut-and-come-again crops. Most vegetable seeds have a high germination rate, especially with bottom heat.
- You don't have to use up the whole packet of seeds! Save unused seeds in the refrigerator inside ziplock plastic bags.
- Check the seed packet for correct planting depth. Seeds that need light to germinate won't be covered with seed-starting mix and should be set under lights right away. Others, especially peppers and tomatoes, should be set on the heat mat.
- Cover the tray full of pots with **plastic wrap** or use a **humidity dome** to help keep the soil moist until the seeds germinate.
- Add water to the tray and it will be wicked up into the cell packs or peat pots.
- Remove the dome or plastic wrap when the seedlings are ½" tall. Time to get under those lights!

## *caring for your seedlings*

- Once germinated, the seedlings are happy with a comfortable room temperature of 60°-70°.
- Begin with the lights at about 2"-3" above the tops of the seedlings. They grow fast – don't forget to raise your lights!
- Check the seedlings often to see if they need water. Add only enough water to saturate the soil. In order to avoid dislodging the tiny seedlings, use a **sprayer** or gently pour small amounts of water on the soil surface. A clean dish detergent squirt bottle can be repurposed for this chore. It is best if the cell packs/peat pots don't sit in water.
- If you want to reduce multiple seedlings, pinch out the unwanted ones with your fingernails, rather than pulling them out or dividing them which will disturb the fragile root system of the remaining seedling(s).
- Once seedlings – especially those grown for their flowers and fruit – have their first set of **true** leaves, give them a pinch of high phosphate *Nature's Release 3.5-21-0.5*. The benefit will come much later in more abundant flowers and fruit.
- When the plants have their second set of true leaves, add *Nature's Source 10-4-3* to your water once a week (1 teaspoon per gallon) and continue this until you transplant them out in the garden.

## *potting on and hardening off*

- As your plants grow, they may need to be moved into larger pots. Cole crops and perennial flowers that have a long start-up time and the faster-growing plants that have outgrown their pots can be potted on once they have good root mass – usually in about three or four weeks.
- Move them to a 3" or 4" pot or peat pot. Their stems are fragile – handle by their leaves or root ball. Most seedlings should be planted at the same depth or just a little deeper than they were. Tomatoes are an exception – remove all but the top leaves and bury the rest of the stem which will develop roots.
- Before transplanting your plants into the garden, you need to harden them off. About a week before their "due date" begin reducing the water and fertilizer you give them. Then place them outside in a sheltered spot, out of direct sun and wind.
- Start with an hour or so, a little longer the next day, gradually increasing their exposure to sun and breezes. Bring them inside at night or when the temperature falls below 50°. After a week or so, they will be acclimated and ready to transplant.

## *transplanting time*

- It might be that you and your plants are ready to get the garden going but the weather is not – maybe too many rainy days have left the soil mucky or it's still too cold outside. **Wait**. Remember planting later is better than putting in your plants and then losing them. Your plants can stay outside now, even at night, so just – wait.
- Remember the old saying: *Sow dry, Set wet*. While it's best to choose a dry day to direct sow your seeds, a moist, grey day is better for setting out transplants. If it is sunny, moisten the garden soil and the transplants before setting them out.
- It's a good idea to protect them from wind as well so that your plant's roots won't dry out during the transplanting process.
- Remember to water in your transplants. If necessary, give them a little shade with a piece of tulle or netting for a day or two.

## *direct sowing the rest*

- Prepare your seed bed well, breaking up clumps of soil. Adding **vermiculite** to each row or seed-hole will help roots develop.
- For vegetables that can be started inside OR direct sown, the date to sow outside is the same as the transplanting date. You can succession sow – put in some seeds at the same time you transplant kale, collards, lettuce and other greens.
- Peas, beans and other legumes like to be soaked overnight before sowing. Using a legume **inoculant** is a great idea too.
- Cucumbers, squash and melon seeds can be soaked overnight and pre-sprouted in peat pots about a week before their sowing date. They have fragile root systems – plant them pot and all, making sure the rim of the pots are buried.

## *for more information...*

...please see: *Herb Gardening, Perennials, Vegetable Gardening, Vegetables by Season, and other Bowood Gardening Tip Sheets*