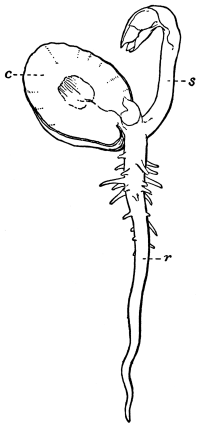
Seed Starting

Why sow your own seeds?

- Cost – sowing your own seeds saves money spent on transplants
- Type of crop – because the type of plant you want to grow grows best when sown from seed
- Timing – to allow for better control over timing/crop planning in your garden
- Promotes biodiversity – growing different varieties contributes to greater preservation of genetic, species, and ecosystem diversity
- Enthusiasm – starting your own seeds connects you in to the whole cycle!

What is a seed?



1. embryo
2. endosperm (food supply)
3. seed coat

GERMINATION REQUIREMENTS

Temperature- The minimum soil temperature required for warm season crops is generally 60°F and for cool season crops, 40°F. However, ideal soil temperature for germination of warm season crops is generally 80-90°F, and for cool season crops, 70-80°F.

Soil- Soil provides structure and nutrients to young seedlings.

Light- This can be tricky. Do the seeds need light to germinate? Or darkness? Lettuce needs light, while alliums (members of the onion family) are sometimes inhibited by light. This is not to be confused with seedling light requirements.

Moisture- Seeds need to be kept moist… but not wet! Damping-off disease is a general term used to describe several different seed/seedling diseases resulting in stem rots near the soil surface, seed decay in the soil before or after germination, and/or roots rotting after the plant has started growing.

SELECTING SEEDS

Open pollinated or hybrid?

Open pollinated – Open-pollinated seeds can be either self-pollinated or cross-pollinated. They are produced when a parent plant is fertilized by another member of the same genetically stable population. The offspring will resemble the parents selected from plants that are most like desired ones and therefore, if you are planning on saving seed, open-pollinated is what you want.

Hybrid (F_1)– Hybrid seeds are the result of cross-pollination between two different but homogeneous inbred stable lines, each of which contributes desirable characteristics to the subsequent generation. Hybrids offer the advantage of uniformity (with respect to flavor, performance, yield, pest-resistance, quality, etc.) and can also result in “hybrid vigor”, an increase in vigor associated with crossing genetically diverse plants. Seed saved from a hybrid plant will not resemble the parent.

Interpreting seed catalogs for our climate

- Cool-season crops – If growing early in the year, look for heat-tolerant varieties. For fall plantings sown in the summer look for cold tolerant varieties.
- Warm season crops – Look for varieties that are tolerant of cooler summers like ours or are quick to mature. Avoid varieties that thrive in short hot summers, as they won't necessarily do well in our cooler weather.
- Disease resistance – Many varieties have resistance to pests and diseases prevalent in our area. Starting with resistance in your seeds is one of the first strategies in a sound Integrated Pest Management program resulting in stronger, healthier, and more resilient plants.

Why Direct sow? Why Transplant?

Direct sow for:

1. Less root disturbance. Root crops and crops with taproots (like spinach) as well as some large-seeded crops (such as corn, beans and peas) experience greater stress in transplanting.
2. Saving on time. Direct sowing doesn't require the extra step (and therefore, time) of transplanting.
3. Because you want to sow a "cut and come again" crop. In sowing mixed greens for a salad mix, the utter impracticality of transplanting baby lettuces in that density hardly warrants explanation – it just wouldn't be done.
4. Because it requires less equipment. Seeds and garden space are all that's needed– no potting soil, seeding containers, indoor space, etc.

Transplant to:

1. Increase your growing season. Transplanting allows for getting a jump on the season.
2. Increase production from the garden. When a crop is finished, you have another crop already 6 weeks along or older going behind it in its place.
3. Conserve resources. In the greenhouse you use less water, less space, and have less weed competition.
4. Protect young seedlings. Transplants are generally more immune to disease and less susceptible to damage from intense weather and insects.

Tips for seed sowing success

- Make sure your soil is not too dry. Water your soil the day before so it doesn't absorb the water away from your seeds.
- Don't overwater! Be sure to allow for a "wet/dry" swing once the seeds have germinated.
- Germinate at the proper temperature. Most seeds like to germinate at temperatures between 65 and 80°F.
- Plant at the proper depth. The general rule of thumb for seed depth is = 2 ½ x the seed diameter.
- Ensure proper drainage. If planting indoors, be sure that whatever you are planting in has adequate holes for drainage and that your potting soil is well-draining.
- Oversow to account for culls. When sowing indoors, sow 20% extra to allow for poor germination and another extra 20% to allow for losses associated with transplanting. When direct sowing outdoors, the general rule of thumb for seeding density is 2-3X the density desired at maturity. Thin once first true leaves have developed.