



DOWLING COMMUNITY GARDEN

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Growing Plants from Seed

Growing from seed gives you flexibility to grow the plants you want, when you want them. Starting seeds indoors provides an opportunity to get an early start on the gardening season, or grow plants for a fall harvest. You can grow varieties not readily available in nurseries or garden centers – ones that may perform better under your growing conditions or old-fashioned varieties grown by your ancestors. You can control the quantities of each plant you'll need, and when to have plants at the right size to put out in your garden. If you garden using a lot of transplants, it will be less costly to grow your own.

Resources

Ashworth, Suzanne. *Seed to Seed: Seed Saving and Growing Techniques for Vegetable Gardeners*. Seed Savers Exchange, 2002.

Bubel, Nancy. *The Seed-Starters Handbook*. Rodale Books, 1988.

Jeavons, John. *How to Grow More Vegetables*...*, 6th edition, Ten Speed Press, 2002.

Useful web sites

Seed Savers Exchange
www.seedsavers.org

Seeds of Diversity Canada
www.seeds.ca

International Seed Saving Institute
www.seedsave.org/issi/issi_904.html

Iowa State Planting Timetable (adjust dates for our zone)
www.extension.iastate.edu/Publications/PM534.pdf

How to Begin

Garden Dreaming Seed catalogues arriving in late December and early January are a perfect way to start the new year! Seed companies from around the world give gardeners tens of thousands of varieties to choose from. Membership in Seed Savers Exchange gives you access to thousands more, many not available commercially. Deal with reputable seed companies and select varieties that will do well under your growing conditions. Getting together with friends to place a joint seed order will save money on shipping and handling costs.

You may also trade seeds online through the gardening forums: Garden Web – forums2.gardenweb.com/forums/exseed; Tomatoville registration for access to trade lists – tomatoville.com/index.php.

Supplies

SOIL. Invest in a good-quality seed-starting medium. These mixtures are light so tiny roots can penetrate, hold water well, and are sterile to prevent transfer of diseases. Don't use garden soil.

LIGHTS. 4-ft. shop lights work well (look for these on sale at reasonable prices). Mixing warm-white and cool-white bulbs in each fixture will yield full-spectrum light; aquarium or plant lights provide full-spectrum light but may cost more. Using regular fluorescent bulbs will work fine, too.

You'll need a way to hang your lights so that they can be raised as plants grow taller, and a surface on which your growing plants will sit. You can make your own plant rack ([www.mygardenguide.com/tutorials/tut.html?id=181&title=Building A Light Rack](http://www.mygardenguide.com/tutorials/tut.html?id=181&title=Building%20A%20Light%20Rack)), purchase a utility rack at a hardware store, or hang lights from the ceiling. The lights should be about 1-3" away from the top of your plants.

You may need an electrical outlet strip and extension cord. A timer will keep your lights on for a consistent period; 12-16 hours a day is recommended.

CONTAINERS. People grow from seed in a variety of containers: egg or milk cartons, drink cups, recycled plastic food containers, plastic pots and cell-packs found at garden centers. If re-using plastic pots, it's important to make sure they are clean and sterilized; scrub well and soak them in a solution of one part bleach to 9 parts water, then rinse thoroughly. Clean pots help prevent seedling diseases like damping off, which causes the sudden (and fatal) collapse of the seedling stem.

Some plants do not like to have their roots disturbed. These should be grown in containers (like peat or newspaper pots) that get planted in the garden along with the plant.

HEAT MAT. Most vegetable seeds germinate best at 70-85° F. If you don't have a warm spot in your house (top of refrigerator or water heater, near a radiator) to place your seeds until they sprout, you may want to invest in a germination pad. This is essentially a heavy-duty heating pad that will keep soil temperature warm. After the seeds sprout, the pots go under your lights where temperatures should be cooler, about 65° F.

Growing Plants from Seed *continued*

WHERE TO LOCATE SEED STARTING SUPPLIES

Plant racks:

Shelving units similar to this may be found at larger hardware stores like Menards, Fleet Farm and Home Depot



Seed-starting Supplies:

BFG Supply Company
1500 Jackson Street NE
Minneapolis, MN 55413
612/781-6068
www.bfgsupply.com

Growers Supply

www.growersupply.com/farm/supplies/
/cat1a;gs1_seed_germination.html

Superior Growers Supply

www.homeharvest.com/propagation
main.htm

Check seed catalogues and local garden centers; many sell supplies also

Larger quantities potting soil, starter mix:

Jordan Seeds

Woodbury, MN 55125
651/738-3422
www.jordanseeds.com

WHEN TO START SEEDS INDOORS IN THE TWIN CITIES: SPRING

February

Leeks, onions, celery, parsley, chives, oregano

early- to mid-March

Peppers, cabbage, broccoli, cauliflower, Brussels sprouts, eggplant, thyme, sage

mid- to late-March

Asian cabbages, lettuce

early April

Tomatoes, lettuce, basil

mid-to late-April

Lettuce, okra

early May

Melons, cucumbers, squashes

WHEN TO START SEEDS IN THE TWIN CITIES: FALL CROP

early June

Cabbage, broccoli, cauliflower

mid- to late-June

Asian cabbages, kohlrabi, carrots

early July

Beets, lettuce, cilantro

mid-to late-July

Spinach, arugula, radish, lettuce, turnip

Planting Seeds

Pour the seed starter mix into a clean receptacle, add water (room temperature, and filtered if available to eliminate chlorine and other additives in city water) and mix to the consistency of damp sand. Pack gently into the container with your fingers until it is about 3/8 of an inch from the top of the pot.

Add three seeds per pot or cell, unless the seed is old or a poor germinator (then add more seeds), and cover with about a 1/8 inch of starter mix and gently tamp down. Rule of thumb is that you use three times the diameter of the seed you're planting to determine the sowing depth of your seed. Some seeds need light to germinate, so don't cover these varieties with soil.

Label your plants so you'll know what is in each pot. It's useful to note when you planted seeds, how long they took to sprout and the percent of seed that germinated. Keeping records will make it easier for you to determine next season how many seeds to plant and at what time of year.

Bottom water the newly seeded cell packs by placing them in a flat and pouring about an inch of water in the bottom. Place them in a warm, not hot, place until they sprout. Some people cover the flat with a clear dome top, or with a piece of plastic film; it's not necessary to do this if you make sure the seed starter mix stays evenly moist and does not dry out.

When the seedlings emerge, remove the plastic top and place them under the lights with the light positioned 1-2" above the sprouts. Keep raising the lights as the seedlings grow and continue to keep the starter mix and sprouts evenly moist.

Thinning and Transplanting

If more than one plant is growing in each pot or cell, you'll need to remove the extras when they have at least two sets of leaves.

THINNING. Select the largest, most healthy plant and carefully cut away the others at the soil line.

TRANSPLANTING. Use an all-purpose potting soil when moving plants into larger containers (try a number of brands before buying in bulk, as potting soils are very different; in general, low-cost mixes are not the best quality). Handling the tiny plant by the leaves, not the stem, carefully remove each seedling from the pot. Select the larger and healthier plants. Move each seedling into a pot of its own and water carefully. Let the transplants rest, out of direct light, for the remainder of the day.

Getting Ready for the Garden

HARDENING OFF. Seedlings need to gradually transition from the optimal conditions under lights to strong sunlight and winds outdoors. This will take 1-2 weeks. Start by bringing seedlings outside for a few hours in a sheltered, shady location. Next day, bring them outside for a little bit longer and move them to a semi-shady spot. Gradually increase the length of time they are outdoors and amount of sunlight and wind they receive. Your plants will dry out faster once outdoors, so check them frequently.

Once plants have been outdoors for about a week, leave them out overnight if temperatures permit. (If frost is predicted, move them into a garage or enclosed porch for protection.) You want your plants to be totally acclimated to outdoor conditions before you plant them in your garden.