



## Winter Seed Sowing

For gardeners who don't have the space or lighting available to sow seeds indoors...

Three KEY points to ensure success—choose appropriate seeds, ensure there is air transpiration, and ensure there is drainage.

**MATERIALS.** Gallon size milk jug (or 2L bottle, or any opaque recycled container that light can penetrate), paring knife or scissors that will cut thru plastic, sharpie, paint marker, soldering iron or drill with ¼" bit or Philips screwdriver, small pieces of vinyl slats (and/or duct tape if you do not use vinyl slats), stapler

### PREPARING THE MILK JUG

- Wash empty container with hot, soapy water. Rinse well. Dry container.
- Use the soldering iron or a small drill bit or 'heated' Philips screwdriver to space about 15 ¼" drainage holes in the bottom of the jug. Be sure to also make about 3 holes around each side of the jug about ½" above the bottom.
- Use the sharpie to draw a 'guide line' for cutting the jug nearly in half. Draw the line around the milk jug from one side of the bottom of the handle to the other side. Do not draw directly under or above the handle, leaving about 1.5 inches. You are going to cut on the guideline leaving the handle portion of the jug in tact, creating a hinge.
- Carefully cut through the plastic milk jug along the guideline you have drawn. Be sure to leave 'hinged portion' or about a 1 ½ inch you have not cut thru. You need at least 3 inches below the hinged portion of the jug.
- Throw the milk cap away. You will not need it.
- Cut vinyl slats into twelve 2-inch strips. Cut four of the strips in half. Staple a half slat into the middle of the remaining eight 2-inch slats. Use these slats to close your milk jug after you have planted your seeds and watered the soil. *Do not use masking tape.* You can use about a 4 inch square of duct tape and no vinyl slats to close the jug. Or, you can use both.
- You will need to check to see if your plants need water once they are sprouted.

### SOIL PREP

- Use seed starting soil or sterile, amended gardening soil by sifting/mixing perlite, vermiculite or most advantageously, sphagnum peat moss. Soil mixture should have 1 part peat moss: 2 parts garden soil or 1 part vermiculite or perlite: 3-4 parts soil. DO NOT ADD fertilizer.
- Soil depth? 2-3 inches in bottom of jug
- Soak the soil well, e.g., dip the jug in water and let drain a little before planting seeds. If the soil does not drain well add perlite or vermiculite.

### CHOOSING SEEDS TO PLANT

- Time seed starting carefully. For example, don't put tomatoes or cucumbers out in January.

- As a rule, if a plant is hardy in your zone, you can plant its seed any time in winter, regardless of the temperature outside. The containers protect the seeds. Thawing and freezing will loosen the seed coat. Sprouting will occur when warmth arrives, normally in spring. However, the seed can also sprout during some freak warm spells between weeks of frigid conditions. This is not a problem for perennials and hardy annuals.
- **Hardy perennials/hardy annuals can be planted between January and Mid-March.** Seeds that require soil stratification, have thick seed coats, and can handle the freezing/thawing cycle which includes some native plants, many perennials. *Language to look for-- hardy annual; sow in place in fall or winter, sow 4-6 weeks before average last frost; requires a period of cold dormancy/stratification*
- **Tender perennials/Cold Crop Veggies—Mid-February—March.** Small seeds that might require cold stratification for a specific period or require light to germinate (mostly applies to native plants/wildflowers). Cold crop vegetables such as broccoli, kale, Brussel sprouts, and many herbs such as thyme, oregano, parsley, heirloom tomatoes *Language to look for—Start indoors 4-6 weeks before average last frost date; sow in place around average last frost date; requires light to germinate; requires a period of cold stratification 30-60 days.*
- **Tender Annuals/Summer Veg—March-April.** Plants that require warmer temperatures to germinate and usually don't reach maturity until late summer such as tomatoes, peppers, basil. *Language to look for—direct sow after danger of frost has passed.*
- **THINK.** You are planting in container in time to transplant when danger of frost has passed. Do not plant seeds too early. Seed packages should tell you—4 or 6 or 8 weeks to plant in your gardens.

#### SEEDS TO PLANT PER CONTAINER

- **Tiny, dust-like seeds (Nicotiana, Alyssum, Creeping Thyme, etc.).** Sow thinly although you likely can't sow "thinly" at all. The roots of winter-sown seedlings will eventually become entangled, and even root-bound. No matter. When the crowded seedlings emerge in spring, when ready to transplant simply cut the bundle as if you were cutting up brownies or rows of brownies. These seedlings, which were born outdoors, are tougher than you imagine. No harm will come to the plants if you sever their roots at transplanting time, planting them out in the open garden or raised beds.
- **Medium-size seeds (tomato, lettuce greens, columbine, hollyhock, etc.).** These seeds are large enough to handle and count. Sow 6-8 per gallon-size container.
- **Large seeds (morning glory, lupine, sweet pea, and etc.).** The larger the seed, the larger the seedling. To keep the seedlings from shading each other, sow only 4 to 6 seeds per container.
- Sow the seeds on the soil surface. Cover to depth indicated on seed pkg. Pat down gently so soil and seeds make contact.
- Label jug with paint marker (*not the sharpie* because that ink will run in outdoor winter weather); be sure to identify which seeds are planted in which jug and when.
- Store jugs on the protected side of the house. If you have multiple jugs, consider storing them in a slatted plastic container so water can drain.
- Sow seeds from the first day of winter and as long as the nights remain chilly.

#### WATERING

- As temperatures rise in early spring—even as nights are still freezing—the seedlings will emerge. This is the time to check for water. Some recommend to open the tops of the jugs, and if the soil appears dry, moisten thoroughly but gently, so as not to disturb tender root systems. *Water the soil not the tops of the leaves.* Close the tops. Others, say to soak the jug in 2-3 inches of water overnight to soak up moisture. Use common sense. Do not soak in water if temperature is not above 32°.

- On warm, sunny days, open the tops for hours at a time and let the seedlings enjoy the spring air. Remember to close the tops at dusk!
- Once the weather is warm enough you can cut off the hinged portion of the jug. Cover seedlings with cloth if frost is eminent.

## TRANSPLANTING SEEDLINGS

- Once your beds are ready and it is time to plant in your gardens you can transplant your seedlings. (Be sure your seedlings each have at least 2 leaves.)
- A number of your seedlings will be entangled, maybe even root bound. Ok to sever roots at planting time.
- *Transplant Method 1.* Hold one hand against the soil and invert the jug. Holding the seedlings in your hands, pry them apart. Plant in your garden.
- *Transplant Method 2.* Cut the front portion of the jug off and slide rooted seedlings into your hand or onto a surface. Pull individual seedlings apart or for mass plantings, cut portions of them apart like cutting brownies into lengths or into squares. Thin mass plantings out as they grow.

## Finding more detailed information.

The information in this document is summarized from Kevin Lee Jacobs (Hudson Valley, NY) websites and Extension services as noted in references below.

- <https://hennepinmastergardeners.org/2013/02/winter-sowing-in-minnesota/>
- <https://extension.psu.edu/successful-winter-seed-sowing>
- <http://www3.extension.umn.edu/local/article/winter-sowing-kits>
- <http://www.agardenforthehouse.com/2017/02/winter-sowing-how-many-seeds-per-container/>
- <http://www.agardenforthehouse.com/2012/01/what-to-winter-sow-and-when/>
- <http://www.agardenforthehouse.com/2015/02/how-to-transplant-winter-sown-seedlings/>

Kevin Jacob's Plant List.

### January through February:

Flowering Perennials & Hardy Annuals

Digitalis purpurea (Wild Foxglove)  
 Oenothera speciosa (Evening Primrose)  
 Consolida (Larkspur) 'Galilee Blue Double'  
 Aquilegia (Columbine) 'Alpina' blue  
 Aquilegia 'Scarlet'  
 Aquilegia mixed  
 Aconitum carmichaelii (Monkshood)  
 Delphinium grandiflorum 'Blue Mirror'  
 Nepeta 'Pink Dreams' pink  
 Oenothera lamarkiana yellow  
 Alcea (Hollyhock) 'Camois Rose' rosy-pink  
 Alcea 'Apple Blossom' pale-pink  
 Berlandiera 'Chocolate Flower' yellow, fragrant  
 Aquilegia 'Crimson'  
 Campanula (Bellflower) 'Champion Pink'  
 Campanula latifolia 'Brantwood' purple

Nicotiana 'Fragrant Cloud' and 'Purple Perfume' (I also sowed these indoors, under lights; both grew with equal exuberance)

Platycodon (Balloon Flower) 'Sentimental Blue' (pictured above)

Lupinus (Lupine), 'Russell Hybrids Mix'

Centaurea cyanus (Bachelor Buttons) common blue variety

#### *Vegetables & Herbs*

Spinach

Kale

Brussels sprouts

Peas

Broccoli

Thymus serpyllum (Creeping Thyme)

Salvia (common sage)

Oregano

Cilantro

#### **March**

Tender Annuals, Vegetables & Herbs

Impatiens wallerana

Cosmos 'Double Pink Bon-Bon'

Zinnia 'Violet Queen'

Marigolds

Lettuce (numerous varieties)

Bok Choy

Beets

Carrots

Basil

Parsley

#### **April**

Tomatoes

Again, this planting schedule is based on Kevin's own zone which is a 5-b climate. If you live in a milder zone you can winter-sow your seeds much earlier than Kevin. Kevin knows a Texan who winter-sows his tomatoes in December.



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