

Winter Sowing

What is Winter Sowing?

Winter sowing is a method of starting seeds credited to Trudi Davidoff in 2000. (gardenweb.com)

The USDA defines winter sowing as, "A propagation method used throughout the winter where temperate climate seeds are sown into protective vented containers and placed outdoors to foster a naturally timed, high percentage germination of climate tolerant seedlings."

Simply put, sow seeds during the winter in a container with holes in the top and bottom, place it outdoors and let nature do most of the work.

Why Winter Sow?

It's easy.

Does not require special equipment: grow lights, shelves, tables, trays, domes, heat mats, or indoor space.

Low maintenance – Nature does most of the work until seeds germinate.

No dampening off.

No hardening-off.

Seeds stratify naturally.

Seeds germinate when nature dictates.

Little watering is required.

Seedlings are weed free.

Seedlings are strong and put through more adversity naturally.

Requires no special skills.

You can grow plants unavailable at local nurseries.

You recycle containers: milk jugs, water jugs, soda bottles, plastic food containers...

Prevents seedlings from getting eaten by wildlife.

Seeds don't wash away during heavy rain.

It is a flexible process.

It's fun and cheap.

Children love it.

What to winter sow?

Native plants

Perennials

Herbs

Annuals

Vegetables

Almost anything except tropical plants, tulips, daffodils, iris, and similar spring bulbs.

When do you start sowing?

Different seeds do better at different times.

Seeds requiring cold stratification should be planted in late December through the end of February. This includes most natives; these seeds have hard coatings to guard them from early germination (mother nature protects against brief warming periods that cause seeds to germinate too early).

This list is a guide and not inclusive.

December-February

Any seeds that are cold hardy in your area or require cold moist stratification.

Columbine	Sweet Pea	Catmint
Hollyhock	Foxglove	Peas
Echinacea (Coneflower)	Lupine	Thyme
Asclepias (Milkweed}	Balloon Flower	Oregano,
Lavender	Poppies	Parsley
Phlox	Native Grasses	Broccoli
Rudbeckia (Coneflower)	Spinach	Cauliflower
Blazing Star (Iris)	Kale	Cabbage
Campanula	Brussels spouts	Onions
Lobelia (cardinal flower)		Artichokes

March-April

Half-hardy and tender annual seeds.

Impatiens	Marigolds	Nasturtium
Cosmos	Verbena	Lobelia
Zinnia	Snapdragons	Alyssum

Vegetables

Bok Choy	Snow peas	Lettuce	Broccoli
Beets	Basil	Cauliflower	
Carrots	Cilantro		

April

Tender annual seeds

Tomatoes	Peppers	Eggplant
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Squash

Pumpkin

Cucumber

Supplies

Containers

Potting mix: avoid potting mix with water holding polymers and seed starting mix.

Water.

Tape: duct tape, poly tape, or painter's tape.

Scissors, sharp knife, or utility knife.

Seeds.

UV resistant marker.

Bowl or bucket.

Trowel.

Plant tags.

Ruler.

Coffee filter/newspaper.

Spray bottle of water.

Winter Sowing in 10 Easy Steps

1. Collect and clean containers.
2. Prepare containers.
3. Moisten potting mix.
4. Fill container with 3"- 4" moistened potting mix.
5. Plant seeds at required depth.
6. Label and seal container.
7. Place outdoors.
8. Monitor containers.
9. Open in spring.
10. Transplant seedlings.

Details

1. Containers: Milk/water jugs, 2-liter bottles, plastic juice bottles, plastic food tubs, ice cream tubs, deli/take out containers, plastic drink cups, any container that allows light to penetrate and provides enough space for roots and seedlings. Remember perennials need 3-4" soil for roots. Wash and rinse containers. If they contained food, use a 10% bleach solution and let it set for 10 minutes, then let it dry.
2. Using a knife, scissors, drill, hot glue gun or soldering iron, make 4-5 holes in bottom of container. For jugs and bottles, cut horizontally, 4" from the bottom, all the way around leaving a 1 1/2-2" uncut section for a hinge. Discard the cap. For other containers with flat lids, cut several holes in the top and bottom. If using drink cups, cut holes in the bottom, place in larger clear plastic container with lid. Cut holes in the top and bottom of container. It's important to let the sun, snow, and rain into your containers as well as provide air circulation.

3. Put potting mix in a bowl or bucket and add water. Mix the contents, adding enough water to moisten the soil so that when you squeeze it in your hand, water does not drip out and it holds its shape. If you have slugs, place a coffee filter, piece of newspaper or water permeable barrier in bottom of container. Add 3-4" moistened potting mix and pat to remove air pockets. Do not use moisture holding mix or seed starting mix. If mix is too wet, algae will grow and if mix is too dry seeds will not germinate.
4. Plant seeds in containers. For smaller seeds you can mix with sand or vermiculite to distribute evenly. For small seeds you want to plant in mass, sprinkle them over the soil. For large seeds, space so they can be easily cut or torn apart. It is recommended to only plant one type of seed in a container. If you plant more than one variety of seeds, make sure they require the same water conditions and are similar in size. If seeds require light to germinate, pat them to make contact with the mix, otherwise cover with potting mix at specified depth. Mist with water. This may be the last time you water for the winter. Note: plants that need stratification should be planted early enough to provide the required days of stratification.
5. Prepare Labels: Use UV-resistant marker (The Garden Marker, china marker, or grease pencil) to label the plant tag (plastic utensil, venetian blind, etc.) and place inside the container.
6. Close the container and seal the cut with tape. You may use duct tape, clear packing tape or painter's tape. Label the outside of the container. I also date and number containers. Then I enter information into a spreadsheet. This will provide a record to track results and learn what works. Remember to leave the cap off the bottle.
7. Place containers in a protected area safe from pets, and wind. They should be in sun or part sun where they will be exposed to rain and snow. Sun will promote condensation inside the jugs.
8. Monitor your plants. Lack of condensation can be a sign they are dry and need some water. Keep them wet but not waterlogged. You can water through the top of the jug with a spray bottle or bottom water by setting containers in a pan of water. If you use alternative containers, you may need to bottom water by placing them in a tub of water. If the potting mix is too wet and algae grows, open the top to allow it to dry. Do not leave tops off in freezing weather.
9. Open tops during the day after 1-2 sets of true leaves appear and the temperature begins to rise, about the first or second week of May. An unexpected warm spell after germination may require opening containers and moving to part shade. Unexpected freezing temperatures after germination may require covering containers. Trust the process. Nature knows when to germinate different seeds.
10. Transplanting seedlings: Wait until seeds sprout at least two true leaves. Use your personal preference and experience to transplant when you feel the time is right. Be sure to open the containers at least 2-3 days before transplanting. If transplanting individual plants, pull the seedlings apart carefully. If using the hunk of seed method, use a sharp knife to cut the mass in sections for planting. If you need to thin the mass, cut tops off with scissors. Water thoroughly after planting.

Notes:

Make holes large enough that they do not close.

If you have lots of rain or moisture you may need to raise containers off the ground.

Don't panic if there are no sprouts when you open the tops. Milkweed, columbine, and sensitive seeds are slow to germinate. Be patient!

Some of the seeds I started: Aquilegia, Calendula, Foxglove, Liatris, Larkspur, Mimosa, Missouri Evening Primrose, Pansies, Penstemon, Prairie Mallow, Rudbeckia, Snapdragons, Violas, and Zinnias.

References:

USDA Definition of Winter Sowing:

<https://agclass.nal.usda.gov/vocabularies/nalt/concept?uri=https://lod.nal.usda.gov/nalt/69779>

Garden Answer Winter Sowing for 2021: <https://www.youtube.com/watch?v=Nh6IDg7Dn7k>

Winter Sowing: An Innovative Approach by Indiana Native Plant Society

<https://www.youtube.com/watch?v=iaPlrFm9JbU>

Winter Sowing with UME Master Gardener Tina Webster - University of Maryland Extension

<https://www.youtube.com/watch?v=P6n0zKVUE8E>

Seeds:

Missouri Wildflowers Nursery, Jefferson City, MO. <http://mowildflowers.net/>

Prairie Moon Nursery, Mn. mail order <https://www.prairiemoon.com/>

Forrest Keeling Nursery, Elsberry, Missouri <https://forrest-keeling-nursery.myshopify.com/>

Sample of spreadsheet.

Jug No.	Common Name	Type	Scientific Name	Color	Date Sown	Date Germinated	Bloom Season	Light	Moisture	Stratification	Height	Width	Planting Depth	Notes	Source	
1	Mist Flower	perennial	Eupatorium coelestinum	blue	1/8/2023	x	July-October	full sun/part shade	medium		60	1.5'	1.5'	need light to germinate	butterflies, vigorous, rhizomes	The Bob