

# SOW RIGHT SEEDS

## SEED STARTING GUIDE

### Recommended Equipment

- **Seed starting soil mix:** Pre mixed seed starting, or three parts peat, two parts compost, and ten percent perlite
- **Seed starting trays:** With drainage, make sure to have a solid tray underneath to catch water
- **Ample space for seedlings**
- **Gardening gloves**
- **Timer**
- **A way to water your seeds:** Recommend mister or something with a rain like spout that won't disturb the seeds too much
- **Lights**
- **Humidity dome**
- **Heating pad**
- **Labels**

Start with the back of the seed packet. Read the instructions and follow accordingly. Here are some terms you may need to know:

### Terms to Know

- **Last Frost Date:** This is the last day of the new year that reaches freezing temperatures over night. Young plants can't survive freezing temperatures, so your seedlings should be planted outdoors after this date. Planning when to start your seeds centers around knowing when you will be able to plant outdoors. Refer to the Farmer's Almanac, data from previous years, or information from family and friends to know when your last frost is - it is different in every part of the country!

- **Cold Stratification:** A period before germination where the seed is exposed to cool and wet conditions in order to encourage better sprouting.
- **Scarification:** The process of physically damaging the outer seed coat by grinding it down a bit or creating a small cut. Typically performed on seeds with a rough outer coat, scarification allows the inner plant parts to break through and reach water and important nutrients.
- **Thinning:** The practice of removing small and overcrowded seedlings to allow plants to grow to full maturity without having to compete with many other seedlings for resources. This is especially important for small seeds, you will need to thin often!
- **Hardening Off:** The period where you gradually expose your strong, young plants to the outdoors after having started seeds indoors. Plants need time to adjust to the differences in light and the elements when moving from your indoor grow station to outside, so you should create a space where your plants can be safely outdoors for a few hours a day in the weeks leading up to when you plan to put them in the garden.
- **Damping Off:** A fungal disease that often occurs in seedlings. Young and sensitive seedlings become infected and cannot grow to maturity due to the effects of the pathogens. The organisms that cause damping off thrive in cool and wet conditions, be careful not to overwater seedlings.
- **Transplanting:** Planting strong seedlings in the garden when they have adjusted to the outdoors and the conditions outside are appropriate.
- **Overwintering:** The process of keeping tender plants alive through the cooler seasons by bringing them indoors and providing supplemental light and heat.

# VARIETY SPECIFIC STARTING GUIDE

Variety	Start Indoors or Direct Sow?	When to start indoors	When to direct sow	When it will germinate	When to transplant after your last frost has passed	When to expect harvest	Special Instructions
<b>COVER CROPS</b>							
Annual Buckwheat	Direct Sow	N/A	Late Spring - Late Summer	7-14 days	N/A	70-90 days	—
Crimson Clover	Direct Sow	N/A	Late Summer - Early Fall	7-21 days	N/A	70-90 days	—
Dutch White Clover	Direct Sow	N/A	Early Spring - Early Fall	7-14 days	N/A	70-90 days	—
Hairy Vetch	Direct Sow	N/A	3-6 weeks before last frost	10-14 days	N/A	3 weeks before summer veg	—
Yellow Mustard	Direct Sow	N/A	Early Spring or Early Fall	4-5 days	N/A	60-90 days	—
Winter Oats	Direct Sow	N/A	Late Summer - Early Fall	7-14 days	N/A	100-120 days	—
Austrian Winter Pea	Direct Sow	N/A	Late Summer - Early Fall	7-14 days	N/A	60-90 days	—
Daikon Driller Radish	Direct Sow	N/A	Late Summer - Fall	3-8 days	N/A	40-70 days	—
Winter Rye	Direct Sow	N/A	Early Spring or Early Fall	5-10 days	N/A	120-150 days	—
<b>FLOWERS</b>							
Alyssum	Start Indoors	6-8 weeks before last frost date	N/A	5-14 days	Soil temperature > 65F	60-70 days	—
Aster	Start Indoors	6-8 weeks before last frost date	N/A	7-14 days	Soil temperature > 70F	110-120 days	—
Baby Blue Eyes	Direct Sow	N/A	After last frost, when soil temperature is > 65F	7-30 days	N/A	60-70 days	—
Baby's Breath Annual	Start Indoors	6-8 weeks before last frost date	N/A	7-14 days	Soil temperature > 70F	50-70 days	—
Balsam	Start Indoors	8 weeks before last frost date	N/A	14-21 days	Soil temperature > 65F	70-80 days	—
Bells of Ireland	Direct Sow	N/A	Fall or Early Spring	14-21 days	N/A	90-110 days	Cold stratify for 2 weeks at 40F
Black-eyed Susan	Start Indoors	6-8 weeks before last frost date	N/A	7-30 days	Soil temperature > 70F	60-70 days	—
Blanket Flower	Start Indoors	8 weeks before last frost date	N/A	14-21 days	Soil temperature > 70F	100-140 days	—
Calendula	Start Indoors	6-8 weeks before last frost date	N/A	7-14 days	Soil temperature > 65F	45-60 days	—
Carnation	Start Indoors	6-8 weeks before last frost date	N/A	7-14 days	Soil temperature > 65F	45-60 days	—

<b>Chicory</b>	Direct Sow	N/A	When soil is workable and soil temperature is > 65F	10-14 days	N/A	60-120 days	—
<b>Coleus</b>	Start Indoors	8-12 weeks before last frost date	N/A	10-14 days	Soil temperature > 70F	60-90 days	—
<b>Columbine</b>	Start Indoors	6-8 weeks before last frost date	N/A	21-28 days	Soil temperature > 65F	90 days, will bloom second year	—
<b>Coreopsis</b>	Direct Sow	N/A	Late Fall, must overwinter	14-28 days	N/A	90 days, will bloom second year	If not overwintering cold stratify seeds for 2-4 weeks
<b>Cosmos</b>	Start Indoors	3-4 weeks before last frost date	N/A	10-15 days	Soil temperature > 70F	60-70 days	—
<b>Creeping Thyme</b>	Start Indoors	8-10 weeks before last frost date	After last frost, when soil temperature is > 60F	14-21 days	Soil temperature > 65F	75-90 days	—
<b>Dahlia</b>	Direct Sow	N/A	After last frost, when soil temperature is > 60F	7-10 days	N/A	90-120 days	—
<b>Daisy</b>	Start Indoors	6-8 weeks before last frost date	N/A	10-20 days	Soil temperature > 70F	90 days, will bloom second year	—
<b>Dianthus</b>	Start Indoors	6 weeks before last frost date	N/A	14-28 days	Soil temperature > 60F	90-110 days	—
<b>Echinacea</b>	Start Indoors	6-8 weeks before last frost date	N/A	10-20 days	Soil temperature > 65F	90-120 days	—
<b>Evening Primrose</b>	Direct Sow	N/A	Fall or Early Spring	14-21 days	N/A	70-90 days	—
<b>Forget me not</b>	Start Indoors	3-4 weeks before last frost date	N/A	5-8 days	Soil temperature > 65F	90 days, will bloom second year	—
<b>Gayfeather</b>	Direct Sow	N/A	Directly before Winter	7-14 days	N/A	70-90 days	If not overwintering cold stratify seeds for 2-4 weeks
<b>Iceplant</b>	Start Indoors	4-6 weeks before last frost date	N/A	14-21 days	Soil temperature > 70F	30-60 days	—
<b>Iris</b>	Start Indoors	10-12 weeks before last frost date	N/A	28-35 days	Soil temperature > 70F	90-110 days, will bloom second year	Cold stratify for 4 weeks or more
<b>Lupine</b>	Start Indoors	4-6 weeks before last frost date	N/A	14-24 days	Soil temperature > 70F	90-120 days	—
<b>Marigold</b>	Start Indoors	4-6 weeks before last frost date	N/A	5-7 days	Soil temperature > 70F	60-70 days	—
<b>Milkweed</b>	Start Indoors	10-12 weeks before last frost date	N/A	10-15 days	Soil temperature > 75F	90-110 days, will bloom second year	—
<b>Money Plant</b>	Direct Sow	N/A	When soil temperature is > 60F	10-14 days	N/A	90-110 days, will bloom second year	—
<b>Moonflower</b>	Start Indoors	6-8 weeks before last frost date	N/A	5-10 days	Soil temperature > 60F	60-90 days	Scarify seeds
<b>Morning Glory</b>	Start Indoors	6-8 weeks before last frost date	N/A	5-15 days	Soil temperature > 70F	90-120 days	Scarify seeds
<b>Nasturtium</b>	Direct Sow	N/A	When soil temperature is > 60F	7-14 days	N/A	30-60 days	—
<b>Pansy</b>	Direct Sow	N/A	Fall or Early Spring	7-21 days	N/A	90-100 days	If not overwintering cold stratify seeds for 2-4 weeks
<b>Petunia</b>	Start Indoors	8-10 weeks before last frost date	N/A	7-14 days	Soil temperature > 65F	70-90 days	—
<b>Phlox</b>	Start Indoors	6-8 weeks before last frost date	N/A	7-21 days	Soil temperature > 60F	90-100 days	—

<b>Poppy</b>	Direct Sow	N/A	When soil temperature is > 60F	14-21 days	N/A	60-80 days	—
<b>Rocket Larkspur</b>	Direct Sow	N/A	Late Fall or Early Spring	20-30 days	N/A	70-90 days	—
<b>Rose Tree Mallow</b>	Start Indoors	6-8 weeks before last frost date	N/A	7-20 days	Soil temperature > 60F	70-90 days	—
<b>Snapdragon</b>	Start Indoors	6-8 weeks before last frost date	N/A	7-14 days	Soil temperature > 60F	70-90 days	—
<b>Strawflower</b>	Start Indoors	6 weeks before last frost date	N/A	7-21 days	Soil temperature > 60F	70-90 days	—
<b>Sunflower</b>	Direct Sow	soil temp reaches 70	N/A	7-14 days	N/A	70-100 days	—
<b>Sweet Pea</b>	Start Indoors	6-8 weeks before last frost date	N/A	7-21 days	Soil temperature > 55F	60-70 days	—
<b>Sweet Sultan</b>	Start Indoors	6-8 weeks before last frost date	N/A	7-14 days	Soil temperature > 70F	90-110 days	Cold stratify for 1-3 weeks
<b>Texas BlueBonnet</b>	Start Indoors	10-12 weeks before last frost date	N/A	10-12 days	Soil temperature > 70F	70-90 days	Scarify seeds and soak for 48 hours
<b>Verbena</b>	Start Indoors	12-14 weeks before last frost date	N/A	20-30 days	Soil temperature > 70F	70-90 days	Cold stratify for 10 days
<b>Violet</b>	Start Indoors	8-10 weeks before last frost date	N/A	7-14 days	Soil temperature >70F	90-100 days	—
<b>Wildflowers</b>	Direct Sow	N/A	When soil temperature is > 70F	10-30 days	N/A	90-100 days	—
<b>Yarrow</b>	Direct Sow	N/A	fall	14-28 days	N/A	120 days	If not overwintering cold stratify seeds for 2-4 weeks
<b>Zinnia</b>	Start Indoors	5-7 weeks before last frost date	N/A	7-10 days	Soil temperature > 75F	60-70 days	—
<b>HERBS</b>							
<b>Anise</b>	Direct Sow	N/A	After last frost, when soil temperature is > 65F	14 days	N/A	120 days	—
<b>Basil</b>	Start Indoors	4-6 weeks before last frost date	N/A	5-10 days	Soil temperature > 70F	30-50 days	—
<b>Bergamot</b>	Start Indoors	6-8 weeks before last frost date	N/A	10-28 days	Soil temperature > 60F	100-120 days	—
<b>Borage</b>	Direct Sow	N/A	After last frost, when soil temperature is > 60F	7-14 days	N/A	50-60 days	—
<b>Cat Grass</b>	Start Indoors	Anytime with enough light	N/A	5-7 days	N/A	10-20 days	Mainly for indoor use
<b>Catnip</b>	Start Indoors	10-12 weeks before last frost date	N/A	7-21 days	Soil temperature > 60F	90-100 days	Tricky to germinate, Cold stratify for 4-6 weeks and then soak for 12-24 hours before planting
<b>Chamomile</b>	Start Indoors	4-6 weeks before last frost date	N/A	10-14 days	Soil temperature > 75F	60-65 days	Barely cover seeds as they require light for germination
<b>Chives</b>	Direct Sow	N/A	After last frost, when soil temperature is > 65F	10-15 days	N/A	30-60 days	Can be grown indoors in a pot or outdoors
<b>Cilantro</b>	Direct Sow	N/A	When soil temperature is > 60F	7-10 days	N/A	30-60 days	Can be grown indoors in a pot or outdoors
<b>Dill</b>	Direct Sow	N/A	After last frost, when soil temperature is > 65F	10-20 days	N/A	40-90 days	—



<b>Fennel</b>	Start Indoors	4-6 weeks before last frost	N/A	10-15 days	Soil temperature > 60F	90-100 days	—
<b>Hyssop</b>	Start Indoors	8-10 weeks before last frost	N/A	14-28 days	Soil temperature > 65F	90-110 days	—
<b>Lavender</b>	Start Indoors	8-10 weeks before last frost	N/A	18-28 days	Soil temperature > 75F	90-200 days	Tricky to germinate, Cold stratify seeds for 3-4 weeks, Barely cover seeds with soil when planting
<b>Lemon Balm</b>	Start Indoors	8-10 weeks before last frost	N/A	8-15 days	Soil temperature > 65F	70-90 days	Barely cover seeds as they require light for germination
<b>Lemon Grass</b>	Start Indoors	6-8 weeks before last frost	N/A	7-14 days	Soil temperature > 70F	75-100 days	Use supplemental heat
<b>Lemon Mint</b>	Start Indoors	8-10 weeks before last frost	N/A	15-20 days	Soil temperature > 70F	70-90 days	—
<b>Lovage</b>	Start Indoors	6-8 weeks before last frost date	N/A	10-14 days	Soil temperature > 60F	90-110 days	Can also direct sow in Fall or late Spring
<b>Marjoram</b>	Start Indoors	6-8 weeks before last frost	N/A	7-15 days	Soil temperature > 65F	60-90 days	Barely cover seeds as they require light for germination
<b>Mint</b>	Start Indoors	6-8 weeks before last frost	N/A	10-15 days	Soil temperature > 70F	70-90 days	Barely cover seeds with soil, Can also be grown indoors with sufficient light
<b>Nettleleaf Horsemint</b>	Direct Sow	N/A	Late Fall	14-28 days	N/A	90-100 days	Cold stratify for 2 weeks if planting in Spring
<b>Oregano</b>	Start Indoors	8-10 weeks before last frost	N/A	7-14 days	Soil temperature > 65F	70-90 days	Barely cover seeds as they require light for germination
<b>Parsley</b>	Start Indoors	Anytime	N/A	20-30 days	Soil temperature > 65F	70-90 days	Soak seeds in water for 24 hours before planting
<b>Peppermint</b>	Start Indoors	6-8 weeks before last frost	N/A	10-15 days	Soil temperature > 70F	70-90 days	Barely cover seeds with soil, Supplemental heat aids germination
<b>Rosemary</b>	Start Indoors	6-8 weeks before last frost	N/A	15-24 days	Soil temperature > 65F	180-200 days	Barely cover seeds with soil, Supplemental heat aids germination, Can also be grown indoors with sufficient light
<b>Sage</b>	Start Indoors	8-10 weeks before last frost	N/A	10-20 days	Soil temperature > 65F	75-100 days	—
<b>Sorrel</b>	Start Indoors	3-4 weeks before last frost	N/A	7-14 days	Soil temperature > 65F	60-70 days	Can also be direct sown after all danger of frost has passed
<b>Summer Savory</b>	Start Indoors	3-4 weeks before last frost	N/A	7-14 days	Soil temperature > 65F	60-70 days	Can also be direct sown after all danger of frost has passed
<b>Tarragon</b>	Start Indoors	6-8 weeks before last frost	N/A	14-21 days	Soil temperature > 60F	90-100 days	Can also be direct sown after all danger of frost has passed
<b>Thyme</b>	Start Indoors	8-10 weeks before last frost	N/A	14-21 days	Soil temperature > 65F	75-90 days	Barely cover seeds with soil, can be grown indoors with sufficient light
<b><u>VEGETABLES</u></b>							
<b>Amaranth</b>	Start Indoors	6-8 weeks before last frost	N/A	14-21 days	Soil temperature > 65F	90-100 days	Can also be direct sown after all danger of frost has passed
<b>Artichoke</b>	Start Indoors	8-12 weeks before last frost	N/A	10-20 days	Soil temperature > 60F	85-100 days	Cold stratify seeds for 2 weeks
<b>Arugula</b>	Direct Sow	N/A	Early Spring, when soil temperature is > 60F	5-10 days	N/A	20-50 days	Can also be grown indoors with sufficient light
<b>Asparagus</b>	Start Indoors	12-14 weeks before last frost	N/A	10-56 days	Soil temperature > 75F	Up to 3 years	Soak seeds in water overnight, Use supplemental heat to aid germination
<b>Bean</b>	Direct Sow	N/A	1-2 weeks after last frost, when soil temperature is > 65F	7-12 days	N/A	45-75 days	—

<b>Beet</b>	Direct Sow	N/A	1 month before last frost	5-10 days	N/A	45-90 days	—
<b>Broccoli</b>	Start Indoors	4-6 weeks before planting outdoors	N/A	7-14 days	Soil temperature > 65F	50-80 days	Direct sow in late Summer for a Fall crop
<b>Brussels Sprouts</b>	Start Indoors	4-6 weeks before last frost	N/A	7-10 days	Soil temperature > 60F	80-90 days	—
<b>Cabbage</b>	Start Indoors	6-8 weeks before last frost	N/A	7-10 days	Soil temperature > 75F	70-80 days	—
<b>Carrot</b>	Direct Sow	Spring or Fall	N/A	14-21 days	N/A	50-60 days	Cover area after planting to retain water & ensure good germination - remove when sprouts appear
<b>Cauliflower</b>	Start Indoors	4-6 weeks before last frost	N/A	10-15 days	Soil temperature > 60F	50-60 days	Take care not to disturb roots when transplanting
<b>Celery</b>	Start Indoors	4-8 weeks before last frost	N/A	14-21 days	Soil temperature > 65F	130-140 days	Prefers cooler growing conditions, Needs shade if grown in hot conditions
<b>Collards</b>	Direct Sow	N/A	Early Spring-Late Summer	10-21 days	N/A	80-90 days	Can also be started indoors 4-6 weeks before planting outdoors
<b>Corn</b>	Direct Sow	N/A	After last frost, when soil temperature is > 65F	7-14 days	N/A	60-70 days	Can also be started indoors 3-4 weeks early in a sterile medium
<b>Cress</b>	Direct Sow	N/A	When soil temperature is > 65F	3-5 days	N/A	10-12 days	Grows best in cool weather or indoors with sufficient light
<b>Cucumber</b>	Direct Sow	N/A	When soil temperature is > 70F	7-14 days	N/A	50-70 days	Can also be started indoors 3-4 weeks before planting outdoors
<b>Eggplant</b>	Start Indoors	8-12 weeks before last frost	N/A	7-14 days	Soil temperature > 75F	65-80 days	—
<b>Gourd Bottle &amp; Dipper</b>	Direct Sow	N/A	Late Spring after last frost, when soil temperature is > 70F	7-14 days	N/A	100-180 days	Lightly scarify seeds and soak in water for 24 hours before planting
<b>Gourd Luffa</b>	Start Indoors	6-8 weeks before last frost	N/A	7-10 days	Soil temperature > 55F	90-120 days	—
<b>Gourds Decorative Small Mix</b>	Start Indoors	6-8 weeks before last frost	N/A	7-21 days	Soil temperature > 70F	110-120 days	—
<b>Kale</b>	Start Indoors	4-6 weeks before last frost	N/A	5-17 days	Soil temperature > 60F	50-60 days	—
<b>Kohlrabi</b>	Direct Sow	N/A	Early Spring or Fall	12-15 days	N/A	55-65 days	Can also be started indoors 3-4 early, Prefers mild weather and can withstand light frost
<b>Leek</b>	Start Indoors	8-10 weeks before last frost	N/A	5-10 days	Soil temperature > 55F	100-120 days	—
<b>Lettuce</b>	Start Indoors	3-4 weeks before transplanting outdoors	N/A	7-10 days	Soil temperature > 50F	30-70 days	Can also be direct sown when soil is workable and above 50F or grown indoors with sufficient light
<b>Melon</b>	Direct Sow	N/A	When soil temperature is > 70F	7-14 days	N/A	80-90 days	Start indoors 2-4 weeks early for a headstart
<b>Mustard Greens</b>	Direct Sow	N/A	Early Spring or Late Summer	4-12 days	N/A	40-50 days	Can be started indoors 4-6 weeks before transplanting outdoors
<b>Okra</b>	Start Indoors	3-4 weeks before transplanting outdoors	N/A	7-15 days	Soil temperature > 70F	50-65 days	Lightly scarify seeds and soak overnight prior to planting
<b>Onion</b>	Start Indoors	8-10 weeks before last frost	N/A	10-14 days	Soil temperature > 68F	100-175 days	—
<b>Pak Choi</b>	Direct Sow	N/A	When soil temperature is > 55F	8-12 days	N/A	45-75 days	—
<b>Cowpea &amp; Garden Pea</b>	Direct Sow	N/A	1-2 weeks after last frost, when soil temperature is > 65F	8-10 days	N/A	80-90 days	Does best in cool weather

<b>Pepper</b>	Start Indoors	8-10 weeks before transplanting outdoors	N/A	14-28 days	Soil temperature > 75F	80-90 days	—
<b>Pumpkin</b>	Direct Sow	N/A	When soil temperature is > 70F	7-14 days	N/A	90-120 days	—
<b>Radish</b>	Direct Sow	N/A	When soil temperature is > 55F	4-12 days	N/A	30-60 days	—
<b>Rhubarb</b>	Start Indoors	6-8 weeks before last frost	N/A	14-21 days	Soil temperature > 60F	Up to 2 years	Soak seeds in water for 2 hours before planting
<b>Spinach</b>	Direct Sow	N/A	When soil temperature is > 50F	4-9 days	N/A	60-70 days	Best planted in early Spring or Fall
<b>Squash</b>	Start Indoors	3-4 weeks before last frost	N/A	5-10 days	Soil temperature > 65F	60-90 days	Can also be direct sown after all danger of frost has passed
<b>Swiss Chard</b>	Start Indoors	3-4 weeks before transplanting outdoors	N/A	7-14 days	Soil temperature > 65F	70-90 days	—
<b>Tat Soi</b>	Direct Sow	N/A	When soil temperature is > 50F	8-12 days	N/A	45-55 days	Can also be started indoors early
<b>Tomatillo</b>	Start Indoors	10-12 weeks before transplanting outdoors	N/A	5-10 days	Soil temperature > 70F	80-90 days	—
<b>Tomato</b>	Start Indoors	10-12 weeks before transplanting outdoors	N/A	5-10 days	Soil temperature > 70F	70-80 days	—
<b>Turnip</b>	Direct Sow	N/A	Early Spring - Late Fall	5-15 days	N/A	60-70 days	—
<b>Watermelon</b>	Direct Sow	N/A	When soil temperature is > 70F	7-10 days	N/A	80-120 days	—
<b>Zucchini</b>	Direct Sow	N/A	After last frost, when soil temperature is > 65F	7-14 days	N/A	45-55 days	—

