



Germination Information for Seeds

CODES USED:

- NP NO PRETREATMENT needed
L Needs LIGHT to germinate
S If sown in spring, needs SCARIFICATION (gentle buffing of seed coat with sandpaper, or nicking one side with nail clippers then soaking in water for 8-24 hours; this duplicates the natural wear to the seed coat necessary to take up water and germinate). Plant seeds immediately after scarification process.
C/M If sown in spring, needs COLD MOIST storage for a few weeks to months in a refrigerator. To hasten the process, alternate between fridge and freezer (24 hrs. each) for 3-5 cycles. www.wildflowerfarm.com/index.php?route=product/category&path=88

GENERAL GUIDELINES:

- All seeds in this collection are for perennials unless otherwise noted. Most perennials will not bloom until the second year. Annuals bloom and set (and scatter) seed in one year, then die.
- All seeds are best planted in fall/winter (after hard frost until soil freezes hard).
- An alternative to planting in place in the fall is to plant seeds in pots for outdoor wintering. In late fall to mid-winter, fill plastic pots with a slightly moist, sterile, soil-less growing mix. Plant ~3 seeds per pot at a depth of two times the diameter of the seed. Label the pots. Place them outdoors in a shady area to experience the snow and cold of winter. Don't let them completely dry out. The seeds will germinate in the pots in spring as weather warms. Be sure to water the pots regularly once weather warms. You can transplant plants into garden when they are 2" tall, or keep them in the pot until they are ready to bloom the second year.
- If planting in the spring, make sure to use the pre-treatment called for, then immediately sow the seed. Never allow the soil to completely dry out until germination. Water seedlings every other day, more often if very hot. After the first three months, begin less frequent but deeper watering. Continue watering until well established, (at least the first year). Then, 1X/month or as (of if) needed.
- OR, start seeds indoors under grow lights, after pretreatment, if called for.
- If plants need well-draining soil, but you have heavy clay, work 2-3" of an organic soil amendment such as compost into top 6-8" of soil.

THE SEEDS, ALPHABETICALLY:

Bigelow's Aster - *Dieteria bigelovii* – L, C/M

1. Direct sow the seed in late fall, pressing into soil surface. Cover seeds very lightly to allow light to reach the seeds but still retain some moisture.
2. If direct sowing in the spring, store seed dry at 40-70° over the winter. Then, two months before planting the seed, mix with moist sand and store in the refrigerator for 60 days. Sow seeds outdoors at 70°. Germination usually takes place within 2-3 weeks. Keep seedlings watered until they become established. Mature plants are extremely drought tolerant and will not need watering.

Black-Eyed Susan - *Rudbeckia hirta* – L, NP or C/M - **Biennial** (lives 2 years, blooms second year, then dies – but readily self-seeds to perpetuate a permanent stand).

1. Sow seeds outside early to mid-fall or until ground freezes hard. OR
2. In spring, after last frost. No pretreatment required, but to produce bloom the first year, give moist cold treatment in fridge for three months prior to sowing. Sow six seeds per sq. foot. Cover lightly; germinates in 7-30 days. Thin seedlings to 12", leaving the strongest. Grows well in a wide variety of soils. OR
3. Start seeds indoors 4-6 weeks before the last frost and transplant after frosts are over. Use sterile seed-starting soil, pots or starter trays.

Blanket Flower - *Gaillardia aristata* – L, NP or C/M - **May bloom first year**

1. In fall, sow seeds outside after hard frosts begin up until ground freezes hard. Press seeds into soil and barely cover. Does fine in any soil except for clay; must be well-draining. Do not fertilize, or plants will become leggy. Will self-seed.
2. In the spring, sow outdoors after danger of frost. Keep seeds moist until germination. Can sow with no pretreatment, but may do better with stratification.
3. OR Start seeds indoors 4-8 weeks before the last frost and transplant mid to late spring. Use sterile seed-starting soil, pots or starter trays. Germinates at 70° F.

Butterflyweed – *Asclepias tuberosa* – L, C/M

1. Direct sow in fall.
2. OR store the seeds dry at 40° F at least 2 months; then provide cold, moist stratification for 30 days. In spring, sow in well-draining or rocky soil when the temperature is above 70° F, preferably 80° F+ at least part of the day. Only barely cover the seeds. Germination in 7-10 days if temperatures are high. Self-seeds.
3. OR start indoors.

Chocolate Flower - *Berlandiera lyrata* – L

1. Sow directly into soil in fall/early winter. OR
2. Store dry seeds at 40° F. Sow outdoors in situ (in place) after danger of frost. Cover very lightly. Keep seedbed moist. Germinates at 60-70° in 3-4 weeks.

Common Sunflower - *Helianthus annuus* – NP, **Annual**.

Sow in spring after danger of frost is past. Sow directly in place. Space the seeds at least 12" apart. Cover with 1/2" of soil; keep soil moist. Will germinate in 2 weeks at 68-75°; Will readily self-seed.

Desert/Colorado Four O'Clock - *Mirabilis multiflora* – C/M

1. Sow in place in the fall 1/2" deep.
2. For spring planting, about March 1, soak the seeds in a peroxide soak for 24 hours (1/2 C. tepid water + 1/4 oz. 3% hydrogen peroxide). Cold moist stratify for 2-3 months. Many of the seeds will germinate at week 7 and will need to be sown if they are in a baggie in the fridge. It might be easier to sow all the seeds in cells or small pots after the peroxide soak, cover to depth and put outside. Container-grown plants tend to look weak but usually take right off once planted out.

Dotted Blazing Star/Dotted Gayfeather – *Liatris punctata* – C/M

1. Sow in the fall/early winter outdoors in place in well-draining soil.
2. OR, sow in flats and leave the flats outdoors over the winter for germination and spring transplanting. Keep seeds from drying out. Transplant young plants after danger of frost.
3. OR, for spring planting, store the seeds in a cool, dry spot. Approximately three months before direct sowing outdoors, mix seeds with moist vermiculite, peat, or sand in a resealable bag and store in the refrigerator. When the daytime weather has warmed to around 65°F, plant seeds in well-draining soil. Do not overwater; the thick, fleshy roots that will develop will rot with too much moisture.

Hairy False Goldenaster - *Heterotheca villosa* – L, NP

1. In fall/early winter, sow outside in place in well-draining soil or in cold frames.
2. OR, store seeds over winter in dry conditions at 40°. Sow after last frost. Cover lightly. Germinates at 70°F and higher.
3. Readily self-seeds; deadhead to prevent invasiveness.

Prairie Coneflower/Mexican Hat - *Ratibida columnifera* – L, C/M

1. Sow outside in fall/early winter in well-drained soil.
2. OR, sow seeds in a cold frame in very early spring for later transplanting.
3. OR, store seeds dry in cool, dark place, and in early spring, cold stratify for 1-3 months, then direct sow in after last spring frost. Sow outdoors; barely covering seeds. Keep soil moist. Germinates in 7-21 days at 70°F (slower if lower temp).
4. If starting indoors in flats or pots, wrap planted pots in plastic to prevent drying, and store in the refrigerator for one week, and then provide 68°-75°F. for 4-6 weeks. Transplant outdoors when plants are 2" tall.

Purple Prairie Clover - *Dalea purpurea* – S

1. Sow outside in fall, in place, in any soil (adapts to sandy, gravelly, or clay soils).
2. OR, store seeds over the winter in cool, dry conditions. After the last frost in the spring, sandpaper the seeds. Next put them in a pyrex bowl and cover with boiling water. Let cool and soak for 24 hours. Drain seeds and roll in a light dust of inoculant (optional). Sow indoors in pots and maintain 70° F, or sow outside. Cover 1/4"; keep moist. Germinates in 2-4 wks.
3. Does not spread aggressively.

Rocky Mountain Bee Plant - *Cleome serrulata* – L, C/M Annual.

1. Direct sow on the surface of the soil, fall to late winter. Adapts to any soil type.
2. To sow in spring, first mix with sand and provide cold moisture for 30 days.
3. To start indoors, sow seeds on the surface of moist, sterile seed starting mix in pots, and place in zip-top plastic bags in refrigerator for two weeks. Then move pots to bottom heat of 70-75°F until germination. Provide bright light.

Rocky Mountain Penstemon – *Penstemon strictus* – L, C/M

1. Direct sow in late fall/early winter; press into the soil surface; barely cover.
2. For spring planting, mix the seeds with moist sand and store in the refrigerator for 1-3 months; plant outside. Keep the soil lightly moist until germination. Seedlings should emerge in 10-21 days. Some seeds may not germinate until second year.

Sacred Datura/Indian Apple/Sacred Thorn Apple/Angel's Trumpet/Moonflower/Jimsonweed - *Datura wrightii* – L **Highly toxic; consumption of any part of plant can be deadly.**

1. Sow in fall/early winter in well-draining soil.
2. OR, in spring after danger of frost, soak the seeds for 24 hours; sow and cover with 1/8" soil.
3. OR, sow indoors 2 months before last frost; germinates in 1-3 wks at 75-80°F. Plant outside 2-3 weeks after last frost, when soil is warmed.
4. While drought tolerant, greater moisture will increase blooms. May self-sow.

Showy Milkweed - *Asclepias speciosa* – L, C/M **Toxic to humans and animals.**

1. Sow outside in late fall/early winter or in early spring when still cool; barely cover.
2. OR, cold/moist stratify by putting seed in sterile medium like damp sand or vermiculite, or between moist paper towels; place into plastic bag and store in fridge for 2 months. Then, 6-8 weeks before last frost, sow in pots; barely cover; thoroughly mist the surface. Cover containers with plastic to retain moisture while seeds germinate (~1 month or longer). Water from bottom. Keep at 75°-85°F.

Swamp Milkweed - *Asclepias incarnata* – L, C/M **Toxic to humans and animals.**

1. Sow outside in late fall/early winter or in early spring when still cool; barely cover.
2. OR, store seeds dry at 40° for 5-6 months then sow at 75-85°. Cover very lightly.
3. OR, cold stratify 3 weeks. Sow outdoors when daytime temp is 80° or indoors in pots, as in Showy Milkweed (step 2 above).
4. Provide 1" of water per week; anecdotally, can do well in drier conditions

Sources: <https://frontrangewildones.org/wp-content/uploads/2019/10/seed-swap-prop-info-2019.pdf>, www.missouribotanicalgarden.org, www.prairiemoon.com, <https://wildseedproject.net/how-to-grow-natives-from-seed/>, www.wildflowerfarm.com, www.missouribotanicalgarden.org, <https://morningchores.com/seed-scarification/>, www.selectseeds.com, www.outsidepride.com, www.everwilde.com, www.gardeningknowhow.com