



Summary Information on Growing Alaska Native Plants from Seeds

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Many species of Alaska native plants are easy to grow from seed. But it is fair to say that some wild plants native to northern latitudes can be more challenging to grow from seed than domesticated plants. Understanding of some ecological facts and care for seeds and young plants greatly improves the success in propagating native plants from seeds.

Seed storage and viability—Fresh seeds (less than one year old) usually have the best germination. Seeds of perennial plants can last for 3–5 years or more if properly stored in cool, dry, and dark conditions (plastic or glass container in fridge or freezer) to prevent gain or loss of humidity. But seed longevity is naturally short in some plants (e.g., monkshood, chocolate lily).

Seed dormancy—Seeds of many Alaska native plants have one or more kinds of dormancy. Some seeds (e.g., lupins and other legumes) have a hard seed coat that prevents water uptake. They germinate best after being scarified (rubbed with sandpaper) or nicked (poked with a needle) to break the seed coat. Seeds that winter in their natural environment are exposed in fall and spring to cold and moist conditions that break dormancy (a.k.a. cold stratification). The metabolic process that breaks dormancy happens at chilling (not freezing) temperatures. Seeds sowed outside in fall-winter will follow their natural life cycle and will be ready to germinate the following spring. Sowing Alaska native plants in spring often requires an additional step to mimic the natural stratification process. Indoors, cold stratification involves keeping seeds refrigerated in a cool, moist, and clean environment for several weeks before sowing (sprinkle tiny seeds between moistened sheets of paper towel, jumble large seeds in slightly moistened sterile seed starting mix). Keep seeds moist by placing paper towels/seed mix in plastic bags or carton, then sow outdoors into flats or directly on prepared beds.

Fall-winter sowing—Outdoor sowing just before the first snow fall (on when soils freeze) suspends germination of native seeds until at least the following spring. Direct sowing native seeds on prepared beds can work for some plants and conditions. But starting seeds in flats or pots facilitates more attentive care. Thinly sow seeds on moistened potting soil or a seed starting mix. A few seeds per pot or cell is often sufficient to ensure germination and will prevent crowding of seedlings. Small seeds (e.g., harebells, saxifrages, poppies, asters, fireweeds) do not need to be covered with soil. Large seeds (e.g., lupins, iris, shooting star, blue-eyed grass *Sisyrinchium littorale*, Jacob's ladders) should be covered with a soil layer about as thick as the seed diameter. Water gently for good contact between soil and seeds. Sow small batches so you can attend to the young plants. Write species names on plastic plant labels using pencil for long-term identification. Plan for adequate drainage of pots and trays during spring snowmelt. Place pots outdoors protected from excessive wind. Voles and birds actively search for seeds. Covering seeded pots with a fine metal or plastic mesh can help protect seeds from predation. Cover pots with snow and re-cover as needed. Do not let seeds dry as this induces further dormancy.

Care for young plants and first winter survival—In spring do not let seeds dry and watch for signs of germination. As germination starts, if possible, move pots to a warmer place or greenhouse to speed up development. Water seedlings in the morning so they can dry during the day. Water thoroughly and fewer times, preferably from the bottom up. Crowded seedlings are susceptible to diseases and competition for nutrients. Thin out seedlings to a few plants per pot or one plant per cell. Surviving the first winter is a main challenge for young plants in Alaska because their small size

makes them then vulnerable to winter desiccation. The bigger and the more established new plants are by the end of summer, the higher will be their first winter survival. An early start in spring and attentive care is important to ensure big and vigorous plants by the end of summer. Continuous snow cover protects plants from the dry winter air. Throughout the winter, cover plants with snow and re-cover as needed.

Some species easy to grow from seed

- Sow outdoors in fall-winter (starting just before soils freeze) or spring (first half of April): Arnica *Arnica* spp., Alaska and Portage poppies *Papaver alaskanum* and *P. alboroseum* (respectively), Siberian aster *Eurybia sibiricus*, common and mountain harebells *Campanula rotundifolia* and *C. lasiocarpa* (respectively).
- Sow outdoors in fall-winter (starting just before soils freeze): Western columbine *Aquilegia formosa*, shooting star *Primula pauciflora*, fireweed and dwarf fireweed *Chamaenerion angustifolium* and *C. latifolium* (respectively).
- Lupin *Lupinus* spp., oxytropes *Oxytropis* spp.: Seeds of lupin and other legumes are highly sought after by voles and birds. Sow these seeds in spring to curb predation. Scarify seeds to break their hard coat, then soak seeds in lukewarm water for 4–24 hours. Seeds will take in water and double in size. Discard seeds that remain afloat. Plant enlarged seeds immediately.

Species that require some patience

- Chocolate lily *Fritillaria camschatcensis*: Use fresh seeds (less than one year old). Takes four years for first bloom.
- Wild iris *Iris setosa*: Sow seeds outdoors soon after they ripen. May take 2+ years to germinate. Indoors, cold stratify for five months in the refrigerator, then sow in potting mix. Keep moistened pots in the dark for at least one week, then move to light.
- Monkshood *Aconitum delphinifolium*: Use seeds less than one year old, sow in fall or as soon as seeds ripen. Germination is enhanced by washing seeds for 24 hours before sowing. May take two years to germinate.
- Mountain avens *Dryas drummondii* and *D. octopetala*: Do not cover seeds with soil (need light to germinate), takes 3–4 years for first bloom.

References

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