



How to Germinate Seeds of Alaska Wild Iris by Patricia S. Holloway

Alaska wild iris, *Iris setosa*, is one of the most important landscape wildflowers in Alaska. For many years, plants used in landscaping were harvested from the wild, decimating populations near urban areas and along roads. Irises propagate easily by vegetative division in spring or late summer. Division is the only reliable method of propagating clones with a specific flower color such as white, pale lavender and rose-colored flowers. Seed is the most reliable propagation method for large quantities of irises. It is also the method of choice if a variety of flower colors is desired. Plants from seed can have a mixture of colors in many shades from deep velvety purple and red to pale lavender and occasionally white. It is exciting to throw out handfuls of seeds and see the variation in flower sizes and colors that result from seed.

Meadows may be established simply by tossing the seeds in a ditch or moist meadows, although germination may take two or more years. The seeds of Alaska iris are dormant. The buried seeds must be exposed to chilling, not freezing, temperatures (cold stratification) for at least five months in fall and spring to break that dormancy. Depending on when the seeds are sown in late summer or fall, germination may take place the following spring or a year later. Additionally, seeds require darkness to germinate, so they must be buried in soil or beneath vegetation before germination will occur. If seeds are scattered on the surface of the soil, they may not germinate for a few years until they become naturally buried by leaves and other vegetation.

Below is a method of hastening germination and sowing seeds for cultivation, breeding or commercial sale in cell packs. This process allows for fall harvest of seeds, cold stratification in the refrigerator, then planting in containers or flats in spring.

1. Collect wild iris pods that are brown and just beginning to open. Spread the pods onto newspaper or in a shallow tray. Air dry for at least one week, turning the pile to dry evenly. Iris pods average 1 1/4 inches long and contain an average of 70 seeds per pod (range 0 –150 seeds). The largest pods don't necessarily contain the greatest number of seeds.
2. Separate the seeds from the pods by vigorously shaking the pods over a screen (e.g. hardware cloth, soil sieve, colander). The holes must be large enough to allow the seeds to drop through but leave the pods and large trash on the screen. Small bits of chaff, dried leaves, pod pieces can be removed by blowing air over the pile of seeds.
3. Seeds may be sown directly outdoors in fall in the field or flats. Because of complex dormancy requirements, seeds may not germinate until the second year. Store seeds dry in plastic bags at 40°F (4°C) up to one year or in the freezer for longer periods.

4. Cold stratify the seeds by mixing one part (by volume) of seeds in at least 2 parts clean, moistened sand and place into a closeable plastic bag. White quartz sand works best because the brown seeds show up well and are easy to separate out after the stratification period is finished. Instead of sand, vermiculite or peat may be used, but seeds are harder to see. The stratification medium must be moist with no standing water. Think of moist corn meal. Any standing water in the bottom of the plastic bag will inhibit oxygen and promote the growth of molds.
5. Seal the plastic bag and store in the refrigerator at 40°F (4°C) for 5 months. Do not freeze. Germination inhibitors must be metabolically broken down, and that cannot happen when seeds are frozen. For direct field sowing in June, start this stratification process in January. For greenhouse planting in March, start the stratification process in October.
6. After five months, remove the seeds from the sand or vermiculite using a sieve. The sand is reusable. Sow immediately into a sterile peat-lite potting mix without allowing the seeds to dry out. Sow 3-4 seeds per container. Water well and cover the flats with two layers of black plastic to exclude all light for 7 days. Enclose in a sealable garbage bag to help maintain moisture. Seeds will germinate in about 7 days, and complete seedling emergence will occur in 2-3 weeks. Don't forget to remove the black plastic after 7 days.
7. Seedlings will be large enough to transplant following 12 weeks in a greenhouse or grow room. Most will bloom in 2 years.

Hint: for even higher rates of germination, soak stratified seeds for 24hr in 1000 ppm GA₃ solution, then sown into containers. The GA promotes germinations, and the sowing rate may be reduced to two seeds per container.