



## SEED GERMINATION OF ALASKA WILD LUPINES

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Wild lupines grow well in home gardens, wildflower meadows and roadside landscapes in Alaska. Arctic lupine, *Lupinus arcticus*, is the most common species and grows throughout most of Alaska and Yukon except for portions of southwest Alaska, the Aleutians and southern coastal regions. It occasionally hybridizes with Nootka lupine, *Lupinus nootkantensis*. This species predominates along all southern coastal regions from the Aleutians to southeast Alaska and into the southwest Yukon. Despite its restricted distribution along the coast, Nootka lupine can be grown in gardens in interior, Alaska.

Both lupines produce seed pods similar in appearance to small pea pods. Pods are clustered along a single stalk or raceme. These pods appear in mid summer and change in color from green to black as they mature. Pods at the bottom of the stalk mature first. Once they turn black, the pods begin to dry. When they reach a certain internal moisture level, the pods twist open, flinging the seeds in all directions. Seeds must be harvested before they are explosively dispersed. Harvest the entire stalk of pods when some of the pods at the top are still green and prior to dispersal. An alternative is to enclose the stalk of pods in a knee-high stocking or cheesecloth bag (material must allow air and light penetration) and secure with a twist tie. The pods can release their seeds, but they are captured inside the bag. These bags also act as a barrier to a small insect whose larvae feed on the seeds. Often, pods are completely empty because of larval damage.

Enclose all harvested stalks in a large paper bag. staple or tape the bag shut and keep at room temperature for one or more weeks. Pods will explode inside the bag, sounding like popcorn popping. When popping stops, remove all the stalks, and the seeds will be in the bottom of the bag.

Seeds have a hard seed covering that must be broken down before germination can begin. Seeds sown directly outdoors may not germinate for years. Small quantities of seeds may be individually poked with a needle, nicked with a razor blade or rubbed with a file on the rounded side of the seed, taking care not to injure the seed. Other people rub seeds between sheets of sandpaper to break down the seed coat. You can determine the success of the nicking by soaking the seeds in water for about 1 hour. If the nicking has been sufficient, seeds will swell to nearly double their size and change from a dark brown to a pale brown or yellowish color. Seeds that need more treatment do not swell.

Large quantities of seeds may be soaked in concentrated sulfuric acid\*. Battery acid may also be used, but the timing of the soak will be longer. For concentrated acid soak, put seeds in a non-corrosive container, pour in enough acid to cover the seeds. Stir once, and allow acid to sit for 10 minutes. Pour off the acid and wash the seeds in plenty of water. Sow seeds immediately.



Seeds will germinate rapidly, and seedlings are very susceptible to damping off or rot. Use sterile soil and containers to avoid disease, and be prepared to apply a fungicide to prevent seedling losses.

**\*CAUTION:** Concentrated sulfuric acid is very dangerous. Wear appropriate protective clothing including gloves and eye protection at all times. If acid gets onto your skin, wash immediately with water and seek medical attention. Contact your local extension agent for methods of proper disposal of the acid.