

# NATIVE PLANT SEED PROPAGATION

by Pat Reh

Have you ever been a bit dissatisfied with the results of seed sowings? Here are a few hints; however for more exact details on every species it is best to go to Dara Emery's seed propagation book, available in paperback through the Sierra Foothills Chapter, CNPS.

If you haven't been successful in propagating native plant seeds either by broadcasting seeds on open ground or in seedbeds, try CONTAINER SOWING. A closer control of soil mix, drainage, temperature, and constant moisture for the germinating seeds will result in healthy plants in a plug of soil. A light fluffy peaty "planting mix" needs some added sharp river sand and good garden soil. In localities of seasonal low humidity such as the Sierra Foothills, once spring rain stop, straight potting mix dries too fast between waterings unless used in a commercial - nursery - type setup of automated sprinklers. Sow seeds thinly on the soil surface of deep flats, gallon containers, or 8 to 10 inch pots for most species. Shallow plastic "liner flats" and, especially, the small flimsy 6-pack cells result in dried-out seedlings as soon as the rain lets up; also they can't accommodate the young seedlings of long-taprooted plants such as Hound's Tongue, Lupine, and California Poppy.

Containers with seeds should be kept out of full sun. Place them under trees, lath, or shade cloth and never let them dry out. Seeds require no fertilizer to germinate as the proper nutrients are contained in the seed capsule. After sprouting, seedlings must be fertilized or soon planted out, with the caution that many natives need a lean, rocky, well-drained soil.

## DORMANCIES.

Though the seed of a few varieties should be sown fresh, many seeds harbor one or more dormancies that must be ended to allow germination.

### Temperature Related Dormancy.

Each species has its requirement for germination whether it is for warmth or cold. Most California natives are cold season plants whose seed must get started in winter rains. California Poppy, Columbine, Baby Blue-eyes, Fivespot, Tidy-tips, Goldfields, Godetias or Clarkias sown at the onset of heat make spindly young plants that die as if they had damped off. Sometimes the Poppy seeds sit inactive through summer, then sporadically sprout after heat breaks in the fall.

### Photochemical Dormancy

Certain varieties germinate best in darkness; other are light-favored and should only be covered loosely, if at all.

Dormancy Caused by Sprout Inhibiting Chemicals. Fruit pulp, seedcoats, or even dry pods of some plants contain chemicals that keep the seed from sprouting prematurely while still on the plant. That's why it's usually best to remove outer coverings before sowing seed.

Internal Dormancy. Though many of the smaller seeds embryos mature in a few weeks or months, there are certain ones that germinate very slowly and must age longer.

Seedcoat Dormancy. The seedcoat may be too hard to admit water until it is scarified by an animal or bird's digestive system or fire, or softened by hot water. For fire treatment, see Emery's book on how to lightly scorch seedcoats of plants like Manzanita, Golden Eardrops and Bush Poppy all of which evolved with fire. Also, the closed cones of a few conifers won't open to release seeds without intense heat.

Hot water is used on old stored Lupine seeds as follows: plunge seed into boiling hot water and let cool and soak 12-24 hours. (Don't use softened water or an aluminum container.) Handling carefully, sow tender swelled seed as these can't be stored again. Nick any others that didn't swell, and soak again.

## STRATIFICATION.

Certain seeds such as those of False Solomon's-Seal, Trillium or Coffeeberry must not be stored dry as they lose viability if not weathered in cool damp mulch. Stratification mimics the cold, wet conditions preparing the seed for sprouting. This can be done by keeping seeds in a pot of always-damp sand in a shady cool spot and emptying the pot every two weeks to rinse sand of rotting berry pulp; inspect the seed, then refill pot. However, a much simpler way and one which guarantees cold is to place seeds on damp cotton or paper towels and store in air-tight bags in the refrigerator for one to three months; check periodically. In any case, seeds that are sprouting must be immediately sown.

### NOTES ON GERMINATING A FEW SPECIES.

California Buckeye and Oaks. Use fresh seed. Place on a damp surface (on top of soil in a gallon-size pot) after first fall rains; never let the surface dry out. Cover pots with wire mesh to deter wild animals.

Conifers. Seeds are light-favored. For Coulter Pine, Monterey Pine, Douglas Fir and Redwoods: soak dry seed 24 hours in water just above freezing then sow on a damp soil and keep moist.

Fivespot and Baby Blue-eyes. Sow early in spring. Keep seed in darkness for three days after sowing.

Grasses. Seeds mostly light-favored.

Milkweeds (Asclepias). Seed appears to be light-favored and germinates best in moderate April-May temperatures without heat or cold extremes. Sprouting seed and first-year seedlings need ample water even though mature plants of some species are drought tolerant. Newly sprouted seedlings MUST be protected from insects.

Spicebush, Snowberry, Woolly Bluecurls. Use cuttings, not seed.

Matilija Poppy is propagated by tuberous root divisions in mild weather; intense heat with waterings can rot and kill young divisions.

Tule and some other water plants. Fresh undried seed is stored under water in refrigerator for several months. To germinate, warm up water to 80 degrees under continuous strong light.

Wildflower seed mixes. Carefully water soil through- and through if dry. Separate out biggest seeds for sowing in their own pots if containers are used. Give pea-like Lupine seeds the hot water treatment. Bury big seeds to once or twice their own diameter depth; cover pinhead-sized or smaller ones lightly with fine soil. Lightly press the tiniest seed into soil surface after scattering; don't cover. Keep new plantings evenly moist and, if bird or animal scratchings will be a problem, lay chicken wire over the pots or ground for as long as needed.

**WARNING:** Tender cotyledon seedlings of Lupines, Milkweeds, Monardellas, some grasses, and others need cutworm and earwig protection.

Experiment.

Ask someone.

Enjoy!

