Propagating Some Native California Perennials

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Over the past 20 years or so, I have had the pleasure of working with several hundred of California's native perennials. A number of them have recently entered the horticultural mainstream, and their nursery propagation and culture have become matters of considerable interest. I would like to share a little of my own practical experience with these plants.

GENERAL CHALLENGES AND OPPORTUNITIES

Growers of blooming perennials face an increasingly "cosmetic" market. Plants are demanded in bloom, well-filled, and looking nearly as if they had just left a florist's greenhouse; natives are no longer exempted. This poses some serious challenges of timing and technique for the propagator, trying to mesh production with sales. Native perennials also come from a variety of habitats, including sites as diverse as open desert and stream-side under coastal redwoods. And different species follow different strategies in dealing with the same conditions, all of which affect their propagation.

Nevertheless, many of the natives in cultivation share a Mediterranean climate, characterized by moist, cool winters and warm, dry summers. Many are active in winter or require a cool period for germination of seeds. This presents its own challenges but also opportunities for relatively inexpensive, "low tech" propagating techniques. Often we can dispense with mist lines, heating cables, and other paraphernalia taken for granted as necessary to the propagation of exotic perennials or woody plants. Here are a few brief notes on my adaptation of common propagating techniques where native perennials are concerned.

PROPAGATION METHODS

Seeding. This is not generally my favored method, though it is certainly the most economical. Many of the plants I'm working with are specific clones, whether nursery-selected or from the wild, with distinctive features like profuseness of growth, abundance and color of flowers, not shared by most individuals. However, in some cases it has been possible to develop, within a few generations, seed strains which are quite consistent in these respects. In any case, many of our native perennials set abundant seeds which are easily collected, dried, and stored (my seed room is an office floor littered with paper bags full of cut stems). In most cases, I simply sow outdoors, in a shaded seed house in fall, letting the natural cool period of early winter stimulate germination. Flats of many species can then be moved indoors to accelerate growth and speed them through the production stages. However some species, including many of our native bulbs and a few non-bulbous perennials like *Lewisia,* germinate more completely and uniformly given a period of stratification. Mixing them in a perlite-based cutting mix in large Ziploc bags, moistening the medium and laying the bags away in an ordinary refrigerator for a couple of months has given consistently excellent results.

Division. Many California native perennials are rhizomatous or have branched rootstocks, making simple division an easy and economical means of clonal propagation. Often I'm dividing from larger plants in one-gallon containers back into the same size containers, though for maximum increase of numbers from limited stock, smaller pieces are planted in smaller, transitional pots. The main challenges have to do with timing. Some species are nearly inactive during warm weather and reconstruct damaged roots and stems poorly if divided during the warmer months; and some others dehydrate easily after being torn or cut apart and will need special protection until reestablished. In either case, fall or winter division minimizes these problems, assuming it allows enough time for plants to achieve full size for spring or summer bloom (this is not always the case).

Cuttings. This has been my preferred method for selected clones of most leafy perennials, being economical of plant material and giving rapid increase of numbers. However, it is not without its problems. Many dryland perennials are highly susceptible to fungus rots under warm, moist conditions—normal propagating house conditions. At the same time, many of the leafier species dehydrate easily as cuttings. The solution is remarkably simple and inexpensive. We maintain a shaded bench, with natural evaporative cooling from a moist gravel floor and no overhead mist, within the larger propagating house; this is shared by flats of many native perennials and a variety of mostly furry-leaved shrubs with the same susceptibilities to disease. Most species perform well with only mild (e.g. Hormex #3) or no rooting hormones.

SOME POPULAR NATIVE CALIFORNIA PERENNIALS

Here is a thumbnail sketch of our experience with some of the more popular California perennials.

Asarum caudatum (wild ginger). We use all three basic methods with this species but continue to lag far behind demand in the marketplace. Fall-sown seeds are an easy, economical method—if the seeds can be collected in the first place. We lose many to our native voles (field mice), just as the pods are ripening. Division is easy but not terribly productive, unless the plants can be left alone for a couple of years in large beds; first-year plants make few rooted shoots. Small, even single-node cuttings of the creeping stems are successful but are slow to initiate new growth.

Dudleya spp. These native succulents are easy to handle. Plants not subjected to overhead sprinkling set abundant seed, which germinates readily under moderate to warm conditions. Those species which produce multiple trunks are easily divided, and unrooted shoots, after drying off the wounded bases for a day or two, may be planted in ordinary cutting medium, without mist and with or without bottom heat.

Eriogonum spp. (wild buckwheat). Many of these are actually low shrubs, but we tend to lump them with blooming perennials. Most, even of the high mountain species, are easily raised from seeds, though damping off can be a problem under greenhouse conditions. Cuttings of just-matured shoots with firm bases are successful for many species; this tends to be in summer and early fall, in our climate. Several species produce groups of shoots radiating from a common node, which can be split with well-sharpened shears.

Festuca spp. (fescue). Our native festucas are mostly dense-growing bunchgrasses with many shoots per clump. This makes them ideal subjects for division.

Normally we divide them into fairly small, rooted pieces, planted in 2½-in. pots for later shifting, and keep them well shaded immediately after division. Unrooted shoots may be treated as cuttings, if the basal nodes are intact. We place them on a shaded bench without mist.

Heuchera spp. (alum root; coral bells). There are now a good variety of native species and half-native hybrids of this group in nurseries. Seed propagation is easy, but current named clones are far superior to the general run of seedlings. All can be divided successfully most of the year, though some of the large-leaved, heavy-stemmed hybrids will yield better numbers from cuttings taken in repeated rounds, every few months.

Iris, Pacifica group. These include some of our most spectacular perennials. Seeds germinate readily after a month or two of cool, moist weather; they also provide an interesting assortment of new material, though mostly inferior to named parent clones. The plants are nearly dormant during warm weather, so fall and winter division tend to be most successful; even so, many older leaves will die back after division, and the plants will look fairly shabby for a while.

Lewisia cotyledon hybrids. These are showy native succulents, derived from native material in our cool northern mountains; none of them do well in California's Central Valley heat. I select the best of each year's crop for seed stock and stratify the seeds (usually they begin to sprout in the bags after a couple of months). Some of the more prolific clones may be done by division or cuttings (shade/no mist); however, many individuals refuse to produce more than one rosette for several years.

Mimulus (Diplacus), shrubby species and hybrids (bush monkey flower). These are cheery but somewhat temperamental natives. They are easy to propagate from seeds, sown almost any time; however, they damp off easily and are highly subject to botrytis. The latter is also true for cuttings, which are otherwise easy to root. We use a variety of locations, all without mist.

Monardella spp. (coyote mint). These are small, semi-shrubby perennials which look and behave much like the true sages (*Salvia*). They are not difficult from fall-sown seed, but the seedlings are so variable, and the plants so profuse and easily propagated by cuttings, that cuttage is clearly preferable for my purposes. The shady cutting bench, with no mist, gives quick results and avoids various fungus afflictions.

Penstemon (beard-tongue). This is an extremely diverse group, which could easily be the subject of its own article. Most are easy to propagate from fall- and winter-sown seeds. Some of the mountain species seeds require an extended cool period to germinate, while others are not so particular. The matting species root as they travel and can be divided economically into rooted chunks for replanting. All of our native species may be propagated by cuttings, so long as they are taken from the lower, clearly vegetative portions of stems and not along the flowering portions (cuttings taken just below the flower clusters look vegetative and generally root, but often fail to produce new shoots).

Salvia sonomensis (Sonoma sage). This is one of the most beautiful, but unfortunately also one of the touchiest, of our native ground covers. I have not tried seeding, though germination should not be difficult. Large plants can be divided into rooted pieces for replanting, though cuttings give a better rate of multiplication. In either case, losses can be expected from a variety of lethal diseases —

whether in the greenhouse or in the field. We do our cuttings on the shade bench and water them just enough to avoid wilting. Plants in the field are hand-watered. Shading would probably help in further reducing our losses.

Sisyrinchium bellum (blue-eyed grass). Several clonal selections of this small iris relative are now available. Seeds are easy to grow, sown in fall, but are generally inferior to this selected stock. The plants make dense clumps and are easily divided into groups of rooted shoots for replanting. Since they are primarily cool-season growers, this is best accomplished in fall and winter.

Vancouveria spp. (inside-out flower). These are carpeting, shade-loving perennials with fernlike leaves. I have no experience to offer with seeds, though I suspect they are not difficult. The plants are easily divided in fall and winter, and unrooted portions of the slender rhizomes can be planted as cuttings in pots or flats, with no rooting hormone. Although they are active most of the year, we have suffered heavy losses to post-division "shock" (sudden wilting and decline) with summer divisions, regardless of shading.

Zauschneria spp. (California fuchsia). The zauschnerias have a variety of growth habits affecting their propagation. All are easy to propagate from seeds, sown at almost any time under moderate to warm conditions, though the resulting seedlings are extremely variable. Some individuals make intricate networks of rhizomes and are easily divided, at least during the cooler months (postdivision wilting is a problem in summer heat). Cuttings root rapidly most of the year, but are not necessarily "easy" to root. We are most successful with near-tip cuttings in spring and early summer, placed on the shade bench or in a shaded, closed house to avoid wilting. Hot weather anytime soon after the cuttings are stuck often results in heavy losses, which appear to result more from physiological problems than from disease.