Nature Is My Greenhouse: Let's Simply Propagate—Part II

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Editor's Note: The following article was presented at the 23rd Annual Cullowhee Native Plant Conference at Western Carolina University in July 2006.

While much of my propagation work has been with the reputedly difficult native azaleas, my techniques work well for woody and herbaceous plants at large. I successfully grow all 16 species of American native azaleas, plus variant forms of most.

I have worked successfully with an increasing variety of native species, including mountain laurel, dogwood, *Stewartia*, evergreen rhododendrons, and *Elliottia*. Often cuttings stuck during the least likely times root well, such as at bloom for *Stewartia* and *Kalmia* and in fall for dogwoods. Outdoor hardy herbaceous plants must be rooted during the warm growing season, and well rooted before the first frost so they can become dormant naturally in pots.

Any plant that roots naturally by layering in nature or spreads from running roots or stems will root in a dome-pot.

Patience and diligence are important so pots don't become saturated. All terrestrial native plants require excellent drainage to root and grow in a container, but some need even better drainage, such as herbs and shrubs from an area like the fall-line sandhills.

I regularly root sandhill species of false indigo, St. John's wort, and golden aster by using fast draining mesh pots that are designed for plants in garden ponds. I also have used kitchen colanders and strainers from cooking pots.

For shrubs, trees, and vines I usually select stems 1/8- to 1/16-inch in diameter from the lower branches where stems are smaller and less likely to form flower buds. Cuttings with larger diameter stems can be rooted if the wood is not too old. It must be used fresh or kept fresh by refrigeration in a plastic bag, slightly inflated, but with no added water.

Cuttings may contain the immediate past season's woody growth or wood up to 3 years old on jointed stems. I trim cuttings immediately and have found recently that pre-trimming cuttings for transport from the field and for cold storage does no harm.

Fresh cuttings with mature leaves can be kept (before sticking) with no added moisture up to three weeks in a refrigerator at about 39° F. Dormant leafless cuttings can be kept longer.

Before sticking cuttings I remove all obvious bloom buds, the terminal bud or buds, and any soft green shoots that will sap energy from the cutting. The aim is to encourage new roots and new shoots to form on the cutting, not to support immature leaves or shoots already produced by the original inground plant. Just before sticking a woody cutting cut the base at an angle and scrape the bark about one inch on one side of the base (just enough to expose the cambium layer so the light color wood is visible).

I think a woody cutting from the previous season's growth or older has advantages over a green stem cutting. The internal hormones to root and sprout seem stronger in a woody stem. In azaleas, the woody cutting is covered with hidden adventitious buds under the bark. I have never seen soft green cuttings sprout from adventitious buds. A woody cutting (unless damaged) is much stronger in handling.

My favorite woody cutting is a Y-shaped joint with a lower single stem two to three inches long with two branched stems three or four inches long. It is important to scarify the lower stem up onto the joint and stick it in media deep enough to cover this.

Propagation Calendar For Native Azaleas In South Carolina Midlands Zone 8A

There are 16 azalea species native to the continental United States, all being deciduous rhododendrons. These include *alabamense, arborescens, atlanticum, austrinum, calendulaceum, canadense, canescens, cumberlandense, eastmanii, flammeum, occidentale, periclymenoides, prinophyllum, prunifolium, vaseyi,* and *viscosum*. In the Southeast we can propagate and grow fairly easily all but two: *canadense*, the northern rhodora, and *occidentale*, the Western azalea.

From late summer to fall, I harvest and plant native azalea seeds outdoors in pots. I hand pollinate between two plants of the pure species in my garden, find seed pods in pure stands of a species, share seeds with friends, make controlled crosses, or buy seeds of known origin from annual seed exchanges of azalea and rhododendron clubs.

I also collect fully expanded seed pods while they are still green but showing some brown. I let them dry fully in a paper envelope for about two weeks before cracking pods open and separating seed from pod pieces. Dry seed can be kept for a few months at room temperature in paper envelopes or stored longer if refrigerated.

While most azalea growers plant seeds under lights inside in winter, I plant mine outside any time of the year in a fast draining pot protected by a wire mesh cap. I always sprinkle a little local humus from a nearby azalea on the media surface. The seedlings come up on nature's schedule with no need for hardening.

From late October through winter, I collect and stick leafless dormant woody cuttings (1/8- to 1/16-inch diameter, or larger) from last year's growth or older wood (up to three years old), preferably with no bloom buds and stick them into dome pots. In deciduous azaleas, you can encourage terminal

leaf bud formation by breaking off flower buds from stems still on the plant. Removal of terminal buds and bloom buds on cuttings is essential. Before sticking cuttings, I sprinkle some humus fines from a nearby azalea on the media surface. In the coldest areas, dormant cuttings can be taken just before the end of dormancy and stuck into dome pots in outdoor shade beds. A cool shaded greenhouse or cold frame could protect earlier dormant cuttings.

Rooting cuttings can be difficult in the spring when most native azaleas are blooming and have emerging new growth and soft leaves. Many people with a greenhouse and mist systems stick green leafy cuttings at this time using soft, new growth. But, I prefer woody, leafless cuttings taken from thinner stems low on the plant. I make woody spring cuttings by removing all of the soft leaves and most new green stem. I treat the "spring woody cutting" as if it were a dormant leafless winter cutting, which forces it to create an entirely new set of leaves. Y-shaped or branched cuttings work better than single straight stems. After leaves and new soft growth have emerged in the spring is my least favorite cutting time, and I don't stick leafy cuttings until after the leaves are mature. Only a few native azaleas have leaves mature enough for leafy cuttings at bloom time. This includes later-blooming species like *eastmanii, viscosum, cumberlandense, arborescens* and *prunifolium. Eastmani* has mature leaves at bloom in mid-May and will root well then from woody leafy cuttings

From mid-summer through fall after leaves and stems have matured, I have some of the greatest success in sticking leafy hardwood azalea cuttings with terminal buds and bloom buds removed. I cut the leaves in half at an angle, removing lower leaves, any green growth and all wilted or dead leaves. I allow the cuttings to overwinter outdoors in dome-pots in a shaded bed. In colder areas than USDA hardiness zone 8A, overwintering dome-pots should be done in a shaded ground pit or unheated greenhouse. If cuttings are well rooted before onset of frost, the dome cap can be removed but the dome kept in place.

In all dome-pots overwintered outdoors, the leaves of cuttings will drop from stems as if they were on mature plants going from fall into winter. The same cuttings should revive in spring inside the dome, probably earlier than usual. The dome protects cuttings during winter and adds warmth to extend fall growing or jump-start spring growth.

When to Remove Dome Vent Plugs

You should remove the vent cap or plug from a propagation dome after at least two warm months (minimum) have passed and after a visual check on the growth status of cuttings shows mature leaves and well developed shoots. While keeping the dome pot protected by shade, remove the vent cap (keeping the dome in place) on the best looking cuttings. If the cuttings have not wilted after a day without vent caps, they are probably rooted. If cuttings have wilted, replace the vent cap, water the pot, and wait longer.

For the rooted cuttings, leave the caps off but domes on for another four to six weeks while in shade. The vented dome over the cuttings aids in adjustment to drier, outside air. I have left domes in place over cuttings until they started to grow out of the vent hole.

A vented dome-pot with rooted cuttings can be exposed to more sun, which hastens growth. Fall-rooted cuttings left in vented dome-pots over winter will grow longer and start earlier.

When to Repot Cuttings and Seedlings

People always ask me at workshops about repotting cuttings and seedlings. Sometimes I leave rooted cuttings or seedlings in the same pot for a year or or more if it is roomy enough, media continues to drain well, and plants retain obvious vigor. However, after six months cuttings may be repotted if leaves have emerged. I like for the leaves to be mature and not soft.

It is best to repot cuttings and seedlings before the plants are so large that the roots tangle. My first repotting is usually just moving cuttings to one larger pot (half filled with media and drilled) spacing them better. This takes less time and media than using individual one gallon pots.

Putting a dome pot of cuttings together is fairly simple, but you want to get all parts ready before taking cuttings from the refrigerator or collecting them. You need a shady spot to put the pot, a pot drilled for drainage, proper media half filling the pot, a ventable clear or translucent dome that fits inside the pot against the media with space for watering, native-plant humus sprinkled lightly onto the media surface, a length of hold-down wire to secure the dome with two holes made in the pot rim, and a gentle hose nozzle or watering can.

Prepare your cuttings by removing lower leaves, cutting leaves in half if present, and removing terminal flower buds. Make a fresh cut at the base and scrape the bark for an inch or so at the base. Stick each cutting into media deeply enough to cover the scraped bark section, and make sure the group of cuttings will fit inside the dome diameter.

Water the pot to make media close up around cuttings, wire down the propagation dome over the cuttings while centering it in the pot, put the pot into reliable shade, and water once weekly if there is no rain. Check periodically by just viewing through the dome; don't lift the dome or handle the pot.

Sharing What You Propagate Is Important

Someone asked once what I was going to do with all the azaleas and native plants I was propagating and developing. Mostly, I give away small plants, seeds, and cuttings. When I leave this earth I hope that my plants will continue to brighten other people's gardens, and that I have given away all I know that is worth telling and examples of all plants unique to me. I believe the personal plant treasures given to others comes back to you manifold in your life and survive past your existence.

While I regularly repeat practices in propagation that continue to work, I occasionally try new experiments. I

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Officers of the chapter are: **James Jaeger**, president; **John Morris**, vice president; **George Klump**, vice president for projects and publications; **Linda Kranen**, secretary; **Gladful DerSarkisian**, treasurer; **Fred Renich**, director; and **James McKechnie**, director.

We held a rhododendron plant sale in April 2006 at Descanso Gardens, La Canada Flintridge, California. We sold vireyas and azaleas. This year we hosted the plant sale again with the sale of both plants being very successful. We are planning to do this more often and through other venues as well; e.g., the Los Angeles Horticultural Society and the Los Angeles Rose Society.

The success of these ventures and the public relations it has created for the vireyas (we sold a vireya to one of the rose society officials and, we believe, made a good friend there!) has led us to think we'd be remiss not to pursue such activities. Vireya seems to be becoming more popular with landscapers who know about the plant.

Timber Press published a book in 1992 called "The Sub-Tropical Garden" which features the vireya as a plant for all seasons and for all reasons. However, the authors got some of their information crossed up in that they stated that vireyas are epiphytic and do not grow well in the ground. That is not entirely correct. I have about 75 or 80 of them growing well in the ground here at my home.

Like azaleas, vireyas love fast draining soil. Unlike azaleas the little seeds have "tails" on both ends so they are often picked up by trade winds in the wild and land in tree branches. In areas where it rains nearly every afternoon, the seeds will take root in trees and, of course, the water drains off the tree branch just about as fast as it rains.

The seeds will also take root in light soil which drains well. he flower colors are kaleidoscopic, from white, yellow, orange, pink, red and magenta, to various bi-color combinations. And like the elepidote rhododendrons, they tend to form very attractive trusses some of which are quite large. They fit well with azaleas, and I have them mixed in with different sorts in my garden where they work perfectly.

Vaseyi Chapter

John Brown, Newsletter Editor

Dr. Joe Coleman presented a program entitled "Photographic Highlights of the Nacogdoches Convention" to 14 members and guests at the chapter's May meeting.

He presented an interwoven history of the Nacogdoches region combined with the flora and a few examples of the fauna. ASA President **John Brown** provided a review of the business meeting that occurred at the convention.

The Chapter had plants for door prizes along with rooted cuttings of the Glenn Dale plants 'Litany' and 'Trinket' taken from plants in the Morrison Garden at the National Arboretum last year.

The chapter's annual propagation meeting and cutting exchange was held June 24.

Creel-Way Propagation

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learn more from failures and partial successes than I do from a total success. You never seem to figure out how something worked, and often cannot repeat the successful experiment.

A recent invention of mine is the Sunnyside Propagation Tower, which accommodates 16 large to medium hanging baskets. I converted the baskets to fast drainage using a pattern of 3/4-inch holes. With such a tower you can grow 16 large pots in a ground footprint of four-by-four feet square. I intend to cover the soil beneath the tower with white sand to maximize sun reflected on the bottom of the pots. I am using the Sunnyside Tower to grow various native plants, including azalea seedlings.

I plan to make a shaded version called the Shadyside Tower that will have a square support over the tower to hold a 65 to 70 percent shade cloth. This will enable me to hang dome-pots off the ground with shade but upward reflected sunlight from sand on the ground beneath.

I have not tried everything in propagation yet, but continue with new small-scale experiments such as leaf-bud cuttings for native azaleas in leaf or dormant; rooting large-leaved species in large domes and pots; trying vented dome-pots in the sun; and making a dome pot top and bottom from a single one-gallon spring water bottle. I would also like to make a propagation device based on "nurse logs" found in the wild.

Conclusion

I believe that home propagation of native plants is an important conservation tool and educational incentive. We should always be seeking ways to involve young people in the appreciation of native plants. Gardeners who share natives they have propagated prevent others from digging wild plants. Cuttings and seeds grow better outdoors than those grown indoors or in a greenhouse. Seeds planted outdoors in a well-draining pot will germinate and grow by nature's schedule. Cuttings stuck outdoors need only native soil inoculation, constant humidity, and excellent drainage. In my opinion, fertilizers, fungicides, and pesticides kill native soil bacteria and weaken plants. Cuttings and seedlings grown by my methods create strong plants that thrive with little care.

Mike Creel's first loves are his family followed by the two family felines, but after that, he turns "green," venturing to a seven-acre native garden and the wilds of South Carolina to propagate, preserve, and share every worthy native plant he encounters. He considers propagation a critical tool of native plant conservation. A 1977 University of South Carolina journalism graduate, he recently retired from state government as writer and photographer on environment and natural resources. Through workshops, Web correspondence and U.S. mail he shares his simple propagation techniques and plants with people across America and abroad.