

## **Perspectives with Diverse Species and Restoration Projects**

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Delbol, G. 1996. Perspectives with Diverse Species and Restoration Projects. In: Landis, T.D.; South, D.B., tech. coords. National Proceedings, Forest and Conservation Nursery Associations. Gen. Tech. Rep. PNW-GTR-389. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station: 220-222. Available at: <http://www.fcnet.org/proceedings/1996/delbol.pdf>

The use of native woody plants here in the West, from bigleaf maples to thimbleberries, is relatively new to a forest industry which has traditionally relied upon conifers for reforestation and revegetation projects. But within the last decade, those concerned with ecosystem management, wildlife biologists and others, have begun planting native hardwood species along streambanks, highly-erodible slopes, harsh sites and other difficult to revegetate areas. Hardwood plants also have been planted for their critical role in the food chain. Native plant species, therefore, have found a new place in forest practice.

About ten years ago, the Siskiyou National Forest in Southwestern Oregon was one of the first forests, to my knowledge, in the Pacific Northwest to begin experimenting with native plantings. My story begins here with wildlife biologist Kurt Ralston, then of the Illinois Valley Ranger District. He needed to shade a stream that served as a prime salmon-spawning area. Kurt thought that bigleaf maples would be an ideal solution. I agreed. But he could n't just walk into a retail or wholesale nursery and find the hundreds of seedlings he needed, much less seedlings grown from seeds collected from his project site.

At the time, I had just started propagating ornamental plants, such as: tam juniper, pyracanthas and azalea. One fall day, Kurt walked into my nursery carrying a sack of bigleaf maple seeds. He asked if I'd grow them for him. I was absolutely flattered by the opportunity. Little did I know that Kurt's small, \$999 order would propel me into the native plant propagation business and adventures beyond my imagination.

Luckily for me, my first native plant customer was also a smart customer. Kurt had a problem- he needed fast-growing shade on a stream. He devised a plan - plant bigleaf maples. And then he approached a grower who could provide him what he needed. Others who want to use native woody plants for their restoration projects would be wise to follow Kurt's example.

From a grower's perspective, I've learned the finer points of working with my customers to help them decide what plants they need for their project, the size of plants and proper planting time.

As growers, you need to talk directly to the person ordering the seedlings, not just administrative communicators. Typically, hardwood contract administrators are not botanists, plantmen or qualified field personnel. Consequently, contract terms typically seem to be extracted straight out of the more familiar conifer contracts. In this new field of hardwood

native plants, we at Althouse Nursery have found that contract language has to be thought through so that it recognizes that a thimbleberry is not the same critter as a Douglas fir.

I'm a plant propagator-that's what I like to do best. And I also know that a great number of you folks out there are exactly the same as me. As plant propagators, we're pretty picky about our materials - whether it be seed or cutting material.

So, as responsible nurserymen, we need to find out what our customers are trying to accomplish with their project. Revegetate a decommissioned road? Shade a stream? stabilize a slope? There are many applications.

Do they want to plant the same species already in the area or do they want to introduce new species? Then, we can go about our job with an end result envisioned, rather than just trying to fill a purchase order to buy X amount of widgets.

As an example, let's say the your customer wants to decommission a forest road. He wants to plant a *Ceanothus* species, a good choice because it's a nitrogen fixer and survives in some pretty harsh conditions. He wants you to produce 1,000 seedlings for outplanting next fall.

So what's the problem? Well, it's already mid-August, and in my area of the state, the *ceanothus* seed has already ripened and shattered. So unless he already has a sack of seed in hand, he won't be getting any site specific *Ceanothus* for next fall. Therefore, timing of a project is critical.

Try to encourage your customers to, at the latest, have their species list ready for bid by March of the year that seed needs to be collected. You can plan your seed collection and commence growing the crop the following spring, with delivery by fall in many cases.

It's important to watch your weather patterns and know the average seed ripening dates for the various hardwood species of your area. Also, you've got to get to the seeds before the birds and mammals. Many a time I've had to kick myself, for seeing seed, driving by, then returning just a day or two later to find that the seed was GONE.

We generally use the USDA handbook 450 to get us in the ballpark of seed ripening dates. However, your elevation and latitude will come into play. Be observant, paying attention to what's zoning on in the native plant world will be as helpful as any manual.

Here's another example of helping your customers:

We had a customer call us in early May to pick up redbud dogwood and *Ceanothus* for planting that spring. We told that customer it wasn't recommended. We went ahead with the delivery anyway. However, the timing of the project was way off base. We need to educate the customer that fall planting of hardwoods is recommended. The reason is because in the early fall, hardwoods still have active root growth. Provided adequate soil moisture, the seedlings will have substantial root growth before winter cold sets in. By the following spring bud push, they'll be on their way to being established. Our customers who have taken this

advice have told us that their fall plantings were indeed successful.

OK, here's one more true-life example. Your customer has written a contract that calls for 1,000 of these, 10,000 of those and 5,000 of those. He also wants you to produce 1,000 red huckleberries from seed or cuttings with a minimum height of one foot within the one-year contract time.

Yes, you can do this with maples, alders, cascaras and maybe some oak species. But you can't do this with red huckleberry. Bottom line is, you know your species and their limitations, while your customer often doesn't. And often, you'll find that maybe the species isn't as important as the overall goal. So find out what the customer wants. If they want one-foot tall plants to produce food for birds, red huckleberry won't work. But, cascara or coffeeberry or a number of other plants will suit the purpose.

A properly written project will help your customer more successfully accomplish his or her restoration goals.

### **HOW TO DETERMINE SPECIFICATIONS FOR PLANTS**

Obviously, your customer now has an idea of the type of plants he wants. How about their size? This depends on a couple of things.

- \* **Fast growing plants**, such as alders and maples, with aggressive root systems need room to grow and will do better in larger containers. Slower growing species, red huckleberry and Pacific yew, can be grown in smaller containers.
- \* **Timing.** Size of the container for fast growing plants can be smaller if they'll be planted out sooner. But if outplanting is a year or more off, production is better suited to a larger container.
- \* **Root structure.** Species such as black oaks have such a tremendous tap root that a larger, longer container is better suited for the plant.
- \* **Who are the planters are going to be?** Volunteers, Boy Scouts or professionals? Volunteers need convenient containers that are easy to unplug while professionals are better equipped to unplug seedlings in advance and haul to a site in a planting bag.
- \* **The job site, soil type and its accessibility.** Hauling D-pots up a 40 percent grade for two miles isn't much fun.

We typically grow our seedlings in a 38-cavity blow molded poly tray. This container yields a seedling plug six inches deep, which for many applications, is a good size to work with. For example, I spoke with the workers who planted our *Ceanothus* on a landing site where the ground was as hard as concrete. The site was a south slope. The planters were pretty happy with the size of hole they had to dig for the *Ceanothus*. In addition, we also had low mortality with the project. If we'd grown the same plants in a larger D-pot, I doubt I would have gotten that same feedback.

Also, when considering the size of seedling, you and your customer need to remember that it's the roots, not the shoots, that are the most important consideration. Some species, such as

blue elderberry, produce a substantial root mass that will fill a tube container the first year. Yet, just a short top shoot, more like a mass of leaves, will grow above. Once the root mass is planted and becomes established, buds develop and begin sending up long shoots up to six feet tall by the second year.

With all this work, you'd expect a native plant seedling to be expensive. But consider this: I can collect the required seed, clean it, stratify it, sow it and grow the seedlings, then deliver it to my customer at a cost of about 85 cents, for let's say an average for a one-year-old bigleaf maple. Just because this is a new field of forestry does not preclude fairness in pricing. By providing a good quality product at a fair price, the customers will return.

By working with your customer from the very beginning of a project, your customer will understand how the specifications he writes will affect the cost of his seedlings.

**So to conclude, here are some Rules of Thumb that help determine native seedling costs:**

- \* Common species with generally plentiful seed sets - maples, alders, dogwoods are less expensive to produce than species with harder-to-collect seeds, such as Western azaleas or chinquapin.
- \* The more specific a collection site is defined, the more costly for a collector to find and gather adequate amounts of seed for the crop. If the customer wants you, as the seed collector or nurseryman, to hike ten miles into a site, traverse raging rivers, rappel off of steep slopes- it's going to cost them.
- \* Bareroot or containerized plants? Yes, many of these native species can be field-grown with success. We choose to grow containerized plant material because that's where our experience lies. Also, I've got lots of rocks in my ground.

Also consider that many species with fine root systems, such as: madrone, western azalea and other ericaceous plants, aren't as successfully field grown.

- \* Containerized seedlings are more bulky than bareroot, but then, you don't have to refrigerate them while waiting for outplanting.

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