Propagation of Pacific Northwest Native Plants from Seed

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The assumption that native plants are easy to grow because they are abundant in nature isn't accurate when you try to grow them in containers in a nursery setting. Since there isn't a lot of information in print on propagating native plants it's up to the individual grower to study the habits and cultural conditions of natives and try to come up with the answers.

At Firetrail Nursery, we propagate Pacific Northwest native plants mostly from seed. The plants I'll be discussing are native groundcovers and woody shrubs.

There are a number of reasons why you'd want to propagate native plants from seed. One that's very controversial right now is genetic diversity. My understanding of introducing genetic diversity is that you use seed of a particular plant species collected from a number of different sites, allow the plants to cross pollinate and let nature take its course. Conversely, landscape restoration projects usually require the seeds to be collected on the restoration site so as not to contaminate that genetically diverse region. For the most part, if it's a nice, healthy plant, nobody asks where it originated.

The reason I prefer to work with seed is the challenge. Unlike the seeds of annuals and most perennials, woody plant seeds have very specialized characteristics. Most of them have dormancy requirements and/or hard seed coats and each plant variety has its own particular seasonal cycle. For example, *Symphoricarpos albus* needs two dormant periods before germination and *Rubus spectabilis* needs scarification and a dormant period before germination. Because of this, they also have specific storage requirements. Some seeds, such as *Cornus canadensis,* will keep indefinitely at 40F. While others, such as *Gaultheria,* need to be used within 12 months because the germination rate steadily declines in storage. Some native plant seeds are best sown directly outside in the fall and left to germinate the next spring. To prevent moss from taking over in the winter, we've found it helps to topdress the sow flats with about 1/4 in. of sand.

Another reason to use seed for propagation of native plants is that some of the plants are difficult to propagate from cuttings. With *Gaultheria shallon,* for example, you can get more uniform flats and larger quantities from seed than from cuttings. Smaller native seeds like *Gaultheria* are sown in cold frames and germinated at cool temperatures of around 55F. Because they take 3 to 4 weeks to germinate and then grow slowly for another 3 to 4 weeks, it is easy for moss and liverwort to take over and suffocate the seedlings. We've found topdressing again a 30 grit sand and then spraying with greenshield provides good control against the liverwort. Because we're on non-chlorinated well water, we've also had to use Agribrom at 10 ppm through the mist system to help control the moss.

For seed, such as *Cornus canadensis*, that needs to be scarified, you can try sulfuric acid, sandpaper, or a rock tumbler. I prefer using a rock tumbler with a 120 grit sand for 5 to 7 days. After a cold treatment of 4 months at 40F, the seed can be sown. After germination, the seedlings are transplanted into plug cells. *Cornus*

canadensis is very sensitive to being handled at this stage and is very susceptible to *Thielaviopsis* and other root rots, so the mortality rate at transplant can be high.

Although native plants are adapted to harsh conditions, all the conditions must be just right for the seed to germinate. In nature, from all of the seeds that fall to the ground, only one or two seedlings may grow. In the nursery, we expect a higher percentage to germinate and grow into healthy plants. However, proper treatment of the seed and seedlings and a lot of patience are needed to produce a crop.