The Life of Seeds

Over 75% of the plants produced at the PMC are propagated from seeds that are directly sown into seedbeds. Needless to say, acquiring viable seed and ensuring their proper handling is of critical importance. That is compounded by the diverse array of species propagated from seed.

In the past year the PMC propagated 61 species from seed. In addition, many of those species are sown from multiple seed lots. The PMC propagated 109 different seed lots, which had a combined weight of 511 lbs. The real diversity actually lies in seed morphology, most notably in size. Seed size ranges from 80 seeds per pound for Oregon White Oak, to 2.75 million seeds per pound for Quaking Aspen.

Fall sowing does not work for all seeds. Conifer seed can be quite valuable and one does not want to leave them out in the field all winter at the mercy of the elements, pathogens and animals. However, they still need a cold moist period. That requirement is met artificially with stratification. Stratification usually involves mixing the seed with a moisture retaining medium like perlite in a bag and storing in the cooler for weeks or months. With proper timing, seed dormancy will be broken and the seed will be ready for sowing in early May when the soil warms up sufficiently. Spring seed sowing adds another 4.5 miles of seedbed.

In the future, ‘The Seedling’ will feature articles on seed propagation. This one just touches upon it. Other practices and considerations include seed collections, processing, provenance, and much more.
The Seedling

The Hedgerows of Whatcom County

“Hidden beneath the tunnel of shrubs is a salmon bearing stream,” informed Frank Corey with Whatcom Conservation District. Frank is the restoration planner that has taken the lead in successfully implementing more than 5 miles of hedgerows a year, which equates to over 70 miles of hedgerows since 2004.

Hedgerows are designed as a narrow dense buffer between active farm ground and stream drainage. Simple agreements with the landowners and Whatcom County Flood Control allow the projects to get started. Good communication with the Whatcom County Drainage District and help from the Centennial Clean Water Act, prove that hedgerows are a great solution to drainage and water quality issues. The narrow 15 foot required width of the hedgerow makes it an easy decision for farmers knowing that the small unfarmed area will not be noticed in the yields of their crops.

One year old bare root native plants, grown at the WACD Plant Materials Center, were used on all the plantings. Pacific Ninebark, Red Osier Dogwood, and Twinberry are the favorite combination to produce an effective canopy cover. Additional species that are used in the plantings are Nootka Rose, Red Elderberry, Douglas Spiraea and a variety of native willows. The landowner can choose from the list of native plants that will work for the plantings to create the right fit for their property.

Three rows on the stream edge within the 15 foot buffer are planted with 3 foot centers, allowing for the dense planting of 2,900 plants per acre. This creates a fast effective haven for wildlife to flourish. The root structures of the planted vegetation help stabilize the bank, which conserves soil by keeping it out of the streams and ditches. This virtually eliminates the need and the cost to dredge.

A 90% canopy cover is established within the first two years of the project. This dense canopy cover suppresses the invasive vegetation such as Reed Canary Grass and Himalayan Blackberry that do not do well in shaded areas. Without the invasive vegetation in the stream the water can flow freely keeping the drainage at optimal levels and even exposing the gravel layer on the bottom of the streambed, which is favorable to the fish that populate these streams.

Maintenance on the projects is minimal and cost effective. Two Whatcom County Correction Crews are utilized for the projects. They initially mow the site in the spring before they plant. Blue tube protectors and bamboo stakes are secured and each site is mowed for the first two years, once a month, during the summer. Two years of maintenance has proven to be enough for the plants to become established and the sites are then left alone.

Further studies and observations on air temperature in both the mature hedgerow canopy cover and in the field adjacent to the plantings, are in the works. They need to quantify the positive effect on the environment hedgerows produce. In the meantime, it is clearly visible that hedgerows are not only beneficial to wildlife, but are a cost effective solution for counties to help farmers with drainage and clean water.

Stream before planting  Plant growth after 2 years
Previous issues of ‘The Seedling’ have featured articles about attracting and promoting native pollinators. An important part of that is providing a variety of plants that bloom at differing times, which in turn provide a continuing source of food for the pollinators. There are numerous species of trees and shrubs that bloom in the spring. Finding ones that bloom in the summer proves more difficult. Here are a few to consider. These late bloomers have values other than enhancing pollinator habitat too. They can benefit wildlife, provide soil stabilization, or add to the beauty of their surroundings.

**Baldhip Rose** (*Rosa gymnocarpa*) Baldhip Rose is a smaller native rose. It grows from 3 to 5 feet tall. It is often found growing in light to moderate shade on medium to coarse textured soils. It blooms from June through August with 1” diameter single pink blossoms that have 5 petals. Baldhip Rose is considered an excellent wildlife species. As noted above, its summertime bloom period is important for promoting native pollinators after the spring bloomers are finished. The rose hips that follow the blossoms are an important food source for small mammals and birds through winter.

**Douglas Spirea** (*Spiraea douglasii*) Douglas Spirea is a versatile shrub. It is most commonly found growing in wetlands and other areas with moist, fine-textured soils. It will also grow in drier soils and one benefit of planting it on these sites is that it is less likely to spread and naturalize. It grows to 7’ tall and is thicket forming in areas with ample moisture. It tolerates prolonged periods of inundation and can compete with perennial wetland grasses. Its pink, spike-like flowers occur from June through September and attract a variety of pollinators. Birds eat the seeds through winter and find shelter within the thickets.

**Mock Orange** (*Philadelphus lewisii*) One does not need to be a pollinator to be attracted to the flowers of Mock Orange. These showy white, sweetly-scented flowers also attract the attention of larger bipedal mammals. They bloom from May through July. It is a drought and fire-tolerant shrub that can be found in course, well-drained soils. It is an excellent species for upland soil stabilization. It also provides browse for larger ungulates, which it seems to tolerate remarkably well. In the absence of browsing, it can reach 8’ tall with a similar spread.

**Nootka Rose** (*Rosa nutkana*) Nootka Rose is found primarily west of the Cascades which is interesting since it was first described on a site near present day Weippe Prairie, Idaho in July of 1806 by Meriwether Lewis. He described it as “A thorny shrub with pale pink flowers. The largest (often only) thorns in pairs near leaf stalks. Flowers 2 - 3 in. wide Fruit: berrylike, 0.5-0.8 in. long, round, smooth, reddish-purple. Height 2 - 13 ft.” It blooms from May through July. The large singly-born hips are an important food for birds and mammals alike.

**Oceanspray** (*Holodiscus discolor*) Oceanspray is a very adaptable shrub. It tolerates sun or shade, along with a variety of moisture regimes. It is found growing natively from British Columbia south into Central California and eastward into Idaho. It grows from 6 to 20’ tall with multiple long arching stems. It produces large terminal clusters of small, creamy-white flowers from May through July. In addition to being an important species for our native pollinators, its stems are browsed by large and small foragers alike. The seeds that persist through winter are eaten by a variety of bird species.

**Peafruit Rose** (*Rosa pisocarpa*) *Rosa pisocarpa* has several different common names including Cluster Rose and Swamp Rose. This species can be found in moist bottomland soils to drier upland soils. It is perhaps our regions most shade and moisture-tolerant Rose. It is also the regions smallest one, often only growing 2 to 3’ tall. Its small, pink flowers occur in clusters that can vary from 2 to 10 flowers. They are mildly fragrant and occur from May through July. Its common name Peafruit Rose is derived from its small purplish-red hips that persist through winter, providing food for birds and mammals.

**Woods Rose** (*Rosa woodsii*) Woods Rose is a widely distributed rose that can be found throughout Western North America. In our region it is found primarily east of the Cascades. It usually occurs on open, exposed sites with medium to coarse textured soils, although it can also grow in riparian systems. It grows to 8’ tall with a rhizomatous root system that are well suited for soil stabilization. It blooms from May through July. Its flowers are light to rose-pink and are born singly or in clusters of up to 5.
Helping to put conservation on the ground.

Coming Attraction: The New PMC Website

The Plant Materials Center will soon have a new web site. Our current website will still be there, but some had difficulty finding it linked off of the WACD website. The new website will have its own URL and will have both new features and familiar ones.

The Plant Availability page has a printable PDF with a complete list of species we offer, an order form and other important documents that may be needed when placing an order.

The Production and Harvest pages are informational pictorials showing step by step how plants are produced. The Publications page includes all our printable PDF brochures such as:

- Attracting Wildlife
- Live Stakes
- Fire Resistant Plants
- Bare Root Planting Guide
- Native Plants for Wet Sites
- Planting is for the Birds
- Planting Windbreaks/Snow Fences
- Right Plant Right Place

The Plant Descriptions page is divided into Conifers, Hardwoods, Shrubs and Live Stakes for easy navigation. The species in each category are linked to printable fact sheets that include photos and detailed descriptions. Other useful pages include Ordering, Shipping and Contact pages. Contact us today with any questions, to receive pricing or to reserve your plant material for 2013!

Find us at this website in the coming weeks and bookmark it. Let us know what you think.