Volume 2, Issue 1, 2004 January 2004

Northwest Native Plant Journal

A Monthly Web Magazine

(formerly NW Native Plant Newsletter)

David Douglas: Seeds of Destiny

Caring for BareRoot Plants

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(formerly NW Native Plant Newsletter)

Departments

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About this Monthly Web Magazine

This Journal was created under the direction of Wally Hansen – a dedicated Grower, Aficionado and Passionate Lover of Northwest Native Plants.

This Journal is not 'commercial.' Our goals are:

A — To generate interest, even passion, concerning the magnificent Native Plants of the Pacific Northwest.

B — To help you create your own Native Plant Gardens, large or small, for home or work.

C — To help you propagate and "grow on" those species that interest you the most.

D — To inform both Home Gardeners and interested Professionals of many disciplines concerning trends and news items from my little corner of the world.

E — To help the reader enjoy native plants more by understanding the historical and cultural role of native plants (i.e.–use by Native Americans, Pioneers, Early Botanists, etc.).

On the Cover

Bare Root Big-Leaf Maple

Our cover this month features Wally holding bundles of freshly harvested Northwest Native Big-Leaf Maple (Acer macrophyllum).

This landscape classic has been a favorite of Northwest gardeners for countless years. Nothing beats the Big-Leaf Maple for summer shade and fall color!

Wally and Big-Leaf Maples
Photo taken 1/23/2004 in the nursery

Hall's Isopyrum

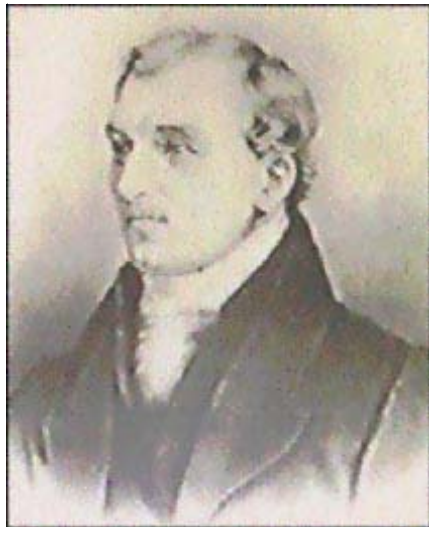
Hall's Isopyrum (Isopyrum hallii):

A rare and beautiful Northwest Native treasure, this wildflower is a member of the buttercup family.

If you have this plant in your garden, send me a photograph and get a nice little surprise!

David Douglas: Seeds of Destiny

Article by Heidi Hansen



Is there any botanist more influential than David Douglas in the globalization of Pacific Northwest Native Plants? When we think of the early naturalists and explorers who pieced together the first nomenclature of Northwest botany, it is David Douglas who stands out. He wasn't the only one. he wasn't the longest-lived, but his work certainly carried the most clout.

David Douglas' shining talent was as a collector of plant specimens, seeds, cuttings and starts. He had mastered the craft of drying and pressing plants at 18, under the guidance of Dr. William Jackson Hooker, Professor of botany at the University of Glasgow. His expertise in this area was unrivaled, earned him early fame and two years later got him the coveted position of collecting plants along the Columbia River, sponsored by the Hudson's Bay Company, at Ft. Vancouver, Washington.

Douglas first arrived in America in New York from Liverpool in June of 1823, working for the Royal Horticulture Society of London, given the charge to network with other botanists who had arrived earlier and send new plant specimens and seeds back to England. The ornamental gardeners as well as timber industry foresters of Europe were buying seeds faster than what could be produced. He spent the early Fall in South East Canada colleting fruit tree specimens. Back in Philadelphia he studied the Oaks and identified nineteen new species of Oak. He studied Meriwether Lewis' collection of pressed plant specimens obtained during the Corps of Discovery's expedition of 1804-1807, many of which he had already gardened with in England and Scotland. Douglas had tea with Archibald Menzies (primary discoverer of the Douglas Fir, named for himself and later on Douglas), went on many field expeditions with Thomas Nuttall in 1823, studied with John Torrey (America's foremost botanist at the time), Dr. David Hosack, and Frederick Pursh. The secretary of The Royal Horticulture Society, Joseph Sabine, forwarded Douglas' education by providing him with the leading botany texts of the day, containing color engravings of the latest North American plant identifications. These books were written by Pursh, Nuttall, and Michaux. After this intense period of field collecting, professional networking, and study, Douglas was given the post to collect plants along the Columbia River, sponsored by the Hudson's Bay Company. He set sail via cape Horn (8 months at sea) for Ft. Vancouver, Washington, in 1824.

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David Douglas: Seeds of Destiny, continued

Ponderosa Pine (Pinus Ponderosa)
Original watercolor © Heidi Hansen

By 1825, Douglas was deep in collecting along the Columbia River, traveling north, west and east along its tributaries and covering the mountains, hills and valleys along the route. He had charisma and charm, and was known for his ability to form warm relations with the Native Americans whose tribes numbered in the dozens along the Columbia and Willamette Rivers. Legend has it that he once fell in love with an Indian princess, though details are not known. In September of 1825, he sent the seeds of 499 plants back to England on “The William and Mary,” including the latest to be named: Noble Fir and Lovely Fir (Abies amabilis) which he had found earlier that same month. In his journal, Douglas write, “Pinus nobilis (NOBLE FIR reference) is by far the finest. I spent three weeks in a forest composed of this tree, and day by day could not cease to admire it.” (Location of entry: along the Willamette River, Oregon.

He carried his tools, supplies, and journals in his traditionally 60-pound pack, but carried little by way of personal comfort. All carrying space was reserved for the plants he would press along the way, and seeds he would collect. Sometimes he slept under his overturned canoe, but more often under the boughs of the firs and cedar trees, finding their shelter as good as a tent. He was often hungry and cold, and in 1826 lost the sight in one eye due to snow blindness. His personal mapping skills were considerable, as he would often have to return to the same sight at another point in the season when the seeds were ready to harvest, or when the leaves or flowers were in bloom. He covered nearly 7500 miles in the two years he spent in his first trip to the North West.

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David Douglas: Seeds of Destiny, continued

Silk Tassel(Garrya Elliptica)

In 1827 he returned to England after walking over the Northern Rockies and stopping at Hudson's Bay. He was the first European to climb these mountain ranges, and named Mt. Hooker after his University of Glasgow Professor.

Douglas spent the next two years in England, acclaimed and honored by London society. He was awarded Fellowships in the Geological, Linnaean, and Zoological Societies, but grew weary of society life and returned to the Columbia River in 1829. He went south from there, exploring the Redwood and Sequoia forests of California, collecting samples and seeds from over 800 species there, including gooseberry.

In 1833, after canceling his plans to walk back to Europe via Alaska and Siberia, he sailed for the Sandwich Islands (Hawaii), where he had made a brief stop on a previous voyage. There he climbed Mauna Loa and other volcanic mountains researching lichen, mosses and fern. On July 12, 1834, his mutilated body was found in a cattle pit on Mauna Kea. He had fallen into a trap set for cattle. Unfortunately a bull had also succumbed to the same trap, and gored David Douglas to death. Although only 35 years of age, David Douglas had 12,000 miles of travel and well over 1200 plant species to his name.

Red-Flowering Currant
(Ribes Sanguineum)
Original watercolor
© Heidi Hansen

Today, David Douglas is called "Founding Father" by the British Forestry industry. He introduced over 240 viable, hardy species to Britain (as well as other similar temperate zones across Europe) that are thriving as conifer forests and classical gardens today. Of these conifer forests, the most pronounced are the Douglas Fir and Sitka Spruce. The Radiata Pine populates Australia and New Zealand and is forecasted to be a major timber resource of the future.

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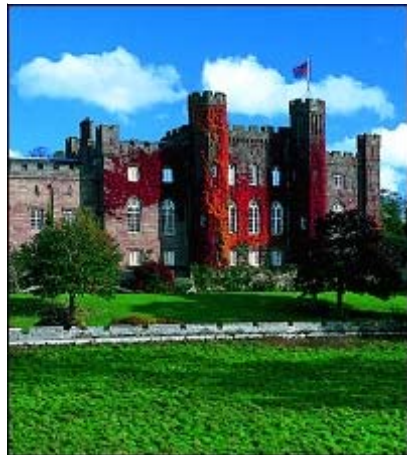
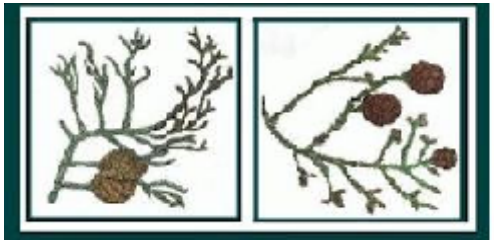
David Douglas: Seeds of Destiny, continued

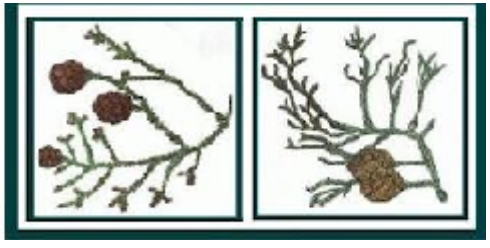
Scone Palace



David Douglas wrote in his journals and correspondence early on that he had the British Islands clearly in mind when collecting his favorite, the conifer seeds. Having lived close to the Scottish Highlands, he knew the barrenness of the land, and the economic implications of barren, rocky soil. His vision of sweeping evergreen forests have come true, 150 years later, with Douglas Fir trees from his seeds measuring over 200 feet, covering the hillsides of Great Britain. This is quite a story.

As a young boy, raised as a stonemason's son on the estate of the Earl of Mansfield, Scone Palace, David Douglas was familiar with the idea of legend, mystery and magic. Scone Palace was the home of The Stone of Destiny for hundreds of years. For a thousand years, Scone Palace was the crowning place of Scottish Kings and a central hub of early pagan vs. Christian religious events. The idea of destiny, of purpose in lineage, of greatness in a clan name or historical lore was the backdrop of his formative years. At eleven, David dropped out of school and became apprenticed to the head gardener in the Earl's extensive nurseries. When he was 18, his apprenticeship was over and he went to work and study with Dr. Hooker at the University of Glasgow. After two years there, he became a member of the Royal Horticulture Society, who was looking for a skilled collector to bring back seeds from America. His destiny unfolded from there. From a humble working class clan, with lucky breaks and a lot of tenacity, David Douglas changed the landscape of a great chunk of Europe. His work streamlines the science of nomenclature. His walking astounded and inspired a generation of explorers of the Great West. Was all this destiny, or all for the love plants? This is the question worth pondering as you take a long winter's walk through a conifer forest, or as you watch the Red-Flowering Currant bloom in March. Ponder how you, too, might cast your seeds of destiny upon the waters, and wonder how your stories will be told in the generations that follow.





The Legacy of David Douglas

David Douglas sent over 800 different seeds back to England, 249 of which had not been seen before. From this extensive collection, approximately 182 were successfully grown in Britain.

Many of the plants he sampled are native to the Northwestern United States, and are available from our nursery. Some of our most popular trees and shrubs:

Orange Honeysuckle
(Lonicera ciliosa)
Original watercolor
© Heidi Hansen

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Botanical Name	Common Name
Abies grandis	White fir
Acer circinatum	Vine maple
Acer macrophyllum	Broad-leaved maple
Amelanchier alnifolia	Juneberry
Arbutus menziesii	Madrona
Arcctostaphylos columbiana	Manzanita
Camassia quamash	Camas
Cornus stolonifera	Red-osier dogwood
Crataegus douglasii	Hawthorn
Erythronium grandiflorum	Dog-tooth Violet
Garrya elliptica	Quinine or tassel brush
Gaultheria shallon	Salal
Holodiscus discolor	Ocean spray
Iris tenax	Tough-leaved iris
Lonicera ciliosa	Orange honeysuckle
Mahonia aquifolium	Tall Oregon Grape
Mahonia nervosa	Cascade Oregon Grape
Mimulus guttatus	Monkey-flower
Picea sitchensis	Sitka spruce
Pinus contorta	Lodgepole pine
Pinus monticola	Western white pine
Pinus ponderosa	Western yellow pine
Pseudotsuga menziesii	Douglas fir
Ribes aureum	Golden currant
Ribes cereum	Squaw currant
Ribes sanguineum	Flowering red currant
Rubus leucodermis	Black raspberry
Rubus parviflorus	Thimbleberry
Rubus spectabilis	Salmonberry
Xerophylum tenax	Bear grass

Propagating From Live Stakes

Easy way to propagate!

Live stakes are long hardwood cuttings that are planted outdoors with rooting hormone. Live stakes can be used only if the soil is fairly wet at the time of planting, and the stakes need to be long enough to reach the moisture. As with other hardwood cuttings, cut the lower end of the stake at an angle, and the upper end flat across.

Twinberry
(Lonicera Involucrata)
Original watercolor © Heidi Hansen

- Live stakes can be planted in late fall through early spring. If they are going to be stored before planting, bundle them in groups 50-100 and place in plastic bags. They can be left outdoors - normal freezing should not harm them. However, if the stakes have been sitting around for a while and have developed roots, they need to be kept just above freezing, since freezing will kill the roots.

- Live stakes can be driven into the ground with a mallet, and should be placed in a random fashion (not in rows). Spacing should take into account how large the plants will eventually become and the fact that some of them will probably die. Leave the top two nodes above ground. To make sure no one trips over them, paint the tops of the cuttings a bright color or fence off the area.

- Water the cuttings occasionally through at least the first growing season, and cut back any encroaching vegetation.

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Native Plants That Propagate Well From Live Stakes

Cornus sericea (red-osier dogwood)

Lonicera involucrata (black twinberry)

Physocarpus capitatus (Pacific ninebark)

Populus trichocarpa (black cottonwood)

Rosa nutkana (Nootka rose)

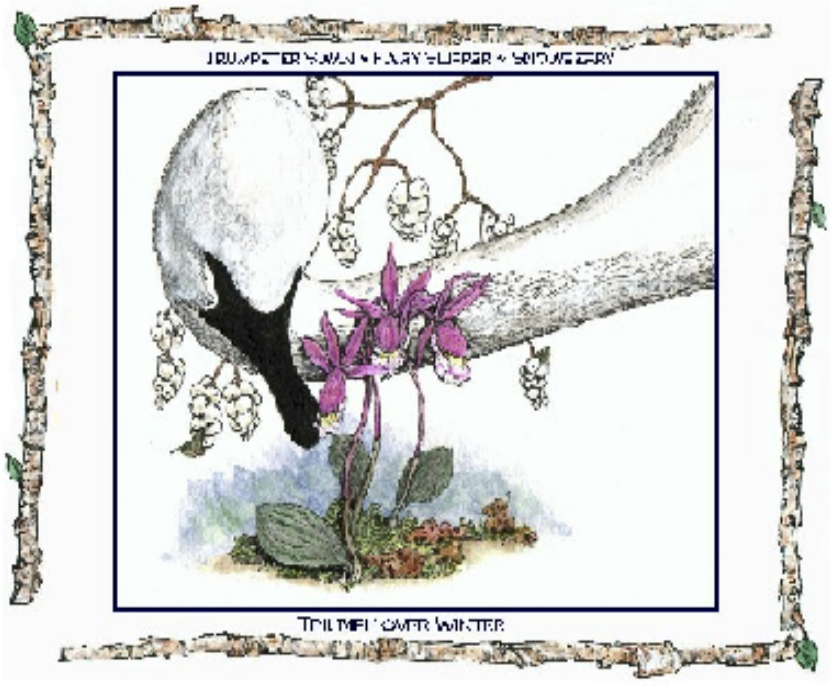
Rubus spectabilis (salmonberry)

Salix species (willows)

Sambucus species (elderberries)

Red-Osier Dogwood
(Cornus sericea)
Original watercolor © Heidi Hansen

Propagating Native Plants from Hardwood Cuttings



Acknowledgement By Wallace W Hansen – Jan 2004

The following excellent article has been copied from “Grow Your Own Landscape by Michael Leigh” – See acknowledgement above. This is to encourage readers to grow their own native plants and gives good, practical information to grow native plants of the Northwest.

Propagation from cuttings involves removing certain parts of a living plant and putting them in a growing medium so they form roots. Cuttings are a good way to obtain new plants, and often produce useable plants more quickly than seeds.

Hardwood cuttings are cuttings taken when the plant is not actively growing – usually late fall through winter. Hardwood cuttings can be taken from both deciduous and evergreen plants. (Hardwood cuttings from broadleaf and conifer evergreens are sometimes called semi-hardwood cuttings.) Because hardwood cuttings from deciduous plants are collected after their leaves have fallen off, the cuttings can focus on developing roots and require less care than other types of cuttings.

Cuttings from deciduous plants can be taken as soon as the plant has dropped its leaves. Wait until early winter to take cuttings from needle or broadleaf evergreens.

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Propagating Native Plants from Hardwood Cuttings, continued

To avoid spreading disease, clean your pruning shears with rubbing alcohol or a 10% bleach solution (1 part bleach to 9 parts water) before using them in a new area. Protect the donor plant by using only sharp tools, making all of your cuts just above the leaf node (so you don't leave stubs that will die back), and taking no more than 1/20 (5%) of the branches for cuttings.

Select young, straight shoots growing up from the center of the plant or from near the ground, as these usually root better than those taken from other regions. Take shoots that are at least the diameter of a pencil (except snowberry, which can be thinner). Collect long branches – you will be dividing them into individual cuttings later.

Put the cuttings in a plastic bag, and keep them cool, moist, and out of direct sunlight.

To prepare individual cuttings:

a. Clean your sheers again with rubbing alcohol or a 10% bleach solution to avoid spreading disease.

b. Cut the branches into pieces long enough to have at least two leaf nodes – preferably three or four (about six inches long for most species). The end of the cutting closest to the roots (the "bottom") should be cut at a 45-degree angle, just below a node. In order to avoid confusing the bottom with the top of the cutting (which is critical), cut the top at a right angle (straight across).

c. Continue making cuttings out of the branch until it becomes too short or too thin, then discard the remainder into your compost pile.

d. For cuttings from needle or broadleaf evergreens, strip off all needles or leaves on the lower half of each cutting (the end near the slant cut).

e. If you are not planning to plant the cuttings immediately, store them in bundles, covered with damp sawdust or bark, in a cool place. Be sure to label them!

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Propagating Native Plants from Hardwood Cuttings, continued

Oceanspray
(Holodiscus discolor)
Photo taken by Wally in the nursery

Before planting, treat the bottom inch of the cutting with rooting hormone. (Follow the directions on the hormone container; usually you have to wet the cutting, then dip the slanted end in rooting hormone.) This will stimulate the cutting to produce roots. Always wear rubber gloves when using rooting hormone. A few species, such as willows, do not require rooting hormone, but the success rate for most species will improve dramatically with it, and many species will not root without it.

Cuttings can be planted in pots (one-gallon containers work well) or into outdoor beds. Garden soil will work fine, but you may want to add vermiculite, perlite, or well-composted sawdust to help retain water and avoid soil compaction. Plant the cuttings with the top (straight-cut) ends up, deep enough that only one or two nodes protrude above the soil.

Cuttings can stay outside over the winter, but they should be protected from freezing, wind, and full sunlight. Cuttings from needle and broadleaf evergreens need to be kept under plastic and misted at least once a day to keep them from losing too much moisture through their leaves. Cuttings from deciduous plants can be left exposed to the rain, but need to be in containers that drain well; if kept inside, they need to be kept in a spot that is cool and humid. By the end of their first growing season, most cuttings should be well established and ready to plant.

⇨More⇨

Native Plants that Propagate well from Hardwood Cuttings:

Cornus sericea (red-osier dogwood)
Holodiscus discolor (oceanspray)
Lonicera ciliosa (orange honeysuckle)
Lonicera involucrate (black twinberry)
Oemleria cerasiformis (Indian-plum)
Philadelphus lewisii (mock-orange)
Physocarpus capitatus (Pacific ninebark)
Populus trichocarpa (black cottonwood)
Ribes sanguineum (red-flowering currant)
Rubus parviflorus (thimbleberry)
Rubus spectabilis (salmonberry)
Rubus ursinus (wild blackberry)
Salix species (willows)
Sambucus species (elderberries)
Spiraea douglasii (spirea)
Symphoricarpos albus (common snowberry)
Taxus brevifolia (western yew)
Thuja plicata (western red cedar)

Indian Plum
(Oemleria cerasiformis)
Original watercolor
© Heidi Hansen

Care and Planting Instructions For Bare Root Plants

Tree and Shrub seedlings, usually one or two years old, are dug from the field in November through March. This is a period of maximum dormancy for both evergreen and deciduous trees and shrubs in the Northern Hemisphere. Deciduous plants will have lost their leaves but evergreen plants will still be green.

Typically, growers wash off all soil from the roots and then grade and sort these plants into bundles of different sizes. If proper care is taken, these plants can be stored for a short while before planting out. Growers typically store freshly harvested bare root plants in refrigerated areas at about 33 – 34 degrees F.

Gardeners can store bare root plants also by temporarily “planting” in a pile of sawdust in a deeply shaded area. As soon as plants are received, open and check for any damage, which must be reported to the carrier (UPS.) Then soak the roots of the plants for about an hour in a bucket of water. Then scoop out a cavity in the sawdust pile and plant the bundle of plants so the roots are well covered and the tops are vertical and in the air.

Never let the bare roots be exposed to light, especially sun light, which will kill the plant quickly.

As soon as possible, plant the bare root seedlings into their permanent location. Big timber companies use special crews of planters who can often plant 800 plants or more per day. These men use sharp shovels, plunge the blade vertically into the ground and then move the shovel handle back and forth to open a “V” in the soil. They then insert the bare roots into this opening, making sure the roots are straight down. Caution: always make sure the roots are vertical and the opening is deep enough. If the roots are folded so they go down part way and then double back, pointing upward, you have a classical “J” root. Such a plant will do very poorly and may die. Beware of “J” roots!

Original watercolor © Heidi Hansen

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Care and Planting Instructions For Bare Root Plants, continued

Coast Redwood
(Sequoia empervirens)
Original watercolor © Heidi Hansen

Professional planters then stomp on both sides of the newly planted tree with the heel of their boots so the soil is packed tight, and then move on.

I suggest you do not follow this “professional” method. You are much safer to first dig a round hole, six to ten inches wide and a bit deeper than the root. Usually it is best to dig the holes early and fill with water. Let it stand overnight and when the water is absorbed, go ahead and set the plant.

NOTE – Before planting, soak the bare root plants in a bucket of water, for about an hour. Keep plants in shade until planting out– SUNLIGHT KILLS PLANTS WITH EXPOSED BARE ROOTS, VERY QUICKLY.

When setting the plant, hold the root so when planted, the line between the top of the root and the start of the stem is at the original soil level. Hold carefully, backfill and pack the soil (you can pack soil with water from a water hose.) If you purchased a big plant with wide roots, dig the hole larger than the root spread. Place the roots in a nice round pattern and backfill carefully. If the soil is poor, such as heavy clay or mostly sand or gravel, first modify the soil before backfilling. If you do not understand your soil, get some advise. Each county in the USA has a County Extension office, which is funded by the Dept of Agriculture. This is a good resource for you. Get in contact for soil advice. You cannot be too far wrong if you mix in plenty of compost and/or peat moss. Pack the soil down good and scoop out a little hollow around the stem to maintain water for a while – a “saucer.”

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Care and Planting Instructions For Bare Root Plants, continued

Staking The Plant

If the plant is not as straight as you want use a bamboo stake and loosely tie the plant to the stake. Cut ties after 2 – 3 months. Don't make hard ties with wire - the tree may die as the truck grows around the wire. Use soft plastic ties.

Summer Watering

Make a summer watering plan and follow carefully. This depends on he summer rain patterns in your area. You might water once per month or twice per month, May – Sep. Water deeply to saturate the roots.

Fertilizing

I suggest several applications of liquid fertilizer in the summer – perhaps "Miracle Grow." Rhodies and Huckleberries need an acid fertilizer.

Useful Plant Databases on the Web

Here is a good collection of web data bases that will be useful to professional growers and all native plant gardeners. This list started from a larger list compiled by Lawyer Nursery in 2002 which was published in one of their flyers. We've added some discoveries of our own to their original list. I wish to thank Lawyer Nursery for getting us started on this public service.

Wally

American Bonsai Society

http://www.absbonsai.org/abs_home.html

Bonsai web

http://www.bonsaiweb.com
Portal of links to educate about the art of bonsai.

CalPhotos

http://elib.cs.berkeley.edu/photos/

Over 33,000 plant images from the University of California, Berkley

Cornell University online grafting course

http://instruct1.cit.cornell.edu/courses/hort494/graftage/hort494.index.html

Fire effects on plant species

http://www.fs.fed.us/database/feis/
USDA, Forest Service site.

Flora of North America Web Site

http://hua.huh.harvard.edu/FNA/
Taxonomic relationships, distributions, and morphological characteristics of all plants native and naturalized found in North America.

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Useful Plant Databases on the Web, Continued

Forest Types of the United States

http://forestry.about.com/library/tree/bltypdex.htm
Maps of the most common forest types.

Forestry index

http://forestryindex.net/
Links to news & info on the forestry industry.

Growit.com Rooting Database

http://www.growit.com/Know/Rooting.htm
"Extensive information on rooting cuttings of woody plants, organized by botanical name. Developed for commercial growers."

National Agroforestry Center

http://www.unl.edu/nac/
NAC conducts research on how to design and install forested buffers to protect water quality and develops agroforestry technology for natural resource professionals who directly assist landowners and communities.

The Native Plant Network

http://nativeplants.for.uidaho.edu/network/
Information on how to propagate native plants of North America.

Native Plant Society of Oregon

http://www.npsoregon.org/
Dedicated to the enjoyment, conservation, & study of Oregon's native vegetation.

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Useful Plant Databases on the Web, continued

Native Plants of British Columbia

http://rbcm1.rbsm.gov.bc.ca/nh_papers/nativeplants/index.html
Photo and data for native British trees which are often used in the North American landscape.

OSU

http://extension.oregonstate.edu/index.php
Oregon State University Extension Service

River Corridor and Wetland Restoration

http://www.epa.gov/owow/wetlands/restore/
Environmental Protection Agency (EPA) site

Soils

http://homepages.which.net/~fred.moor/soil/links/10102.htm
A website about soil fertility, chemistry, and pH with many interesting links.

Soil Science Society of America

http://www.soils.org/
Website for soil science professionals. Offers information and links.

Woody Plant Seed Manual

http://www.wpsm.net/
Manual by the US Forest Service covering seed biology, genetic Improvement of forest trees, seed testing, certification of tree seeds and other woody plant materials, and nursery practices.

Personal notes from Wally

“Beauty Is It’s Own Excuse For Being”

Why is Beauty so important to us mortals? Especially, why does the beauty of our gardens seem to calm us, to heal us, to touch some primitive awareness, deep within? Our great poets may understand this better than our scientists or physicians. My favorite poet, Ralph Walso Emerrson, touches on this in the famous poem “The Rhodora” (1834). Rhodora is the woodland Rhododendron –it could easily be our wonderful Northwest native Pacific Rhododendron.

The Rhodora
Waldo Emerson

On being asked, whence is the flower?
In May, when sea winds pierced our solitudes,
I found the fresh Rhodora in the woods,
Spreading its leafless blooms in a damp nook,
To please the desert and the slugglsh brook,
The purple petals, fallen in the pool,
Made the black water with their beauty gay;
Here might the red -bird come his plumes to cool,
And court the flower that cheapens his array.
Rhodora! If the sages ask thee why
This charm is wasted on the earth and sky,
Tell them, dear, that if eyes were made for seeing,
Then beauty is its own excuse for being:
Why thou were there, O rival of the rose!
I never thought to ask, I never knew:
But, in my simple ignorance, suppose
The self-same power that brought me there, brought you.

Good Luck!

Wally

In November 2010, Wallace W Hansen Northwest Native Plants Native Plant Nursery and Gardens closed permanently.

Many thanks to all our gardening friends for your interest in the native plants of the Pacific northwest. It has been our pleasure to serve you.

Good luck!
Good gardening!

www.nwplants.com

Our website, www.nwplants.com, is no longer commercial. Our goal is to continue Wally's legacy of generating interest, even passion, in the magnificent native plants of the Pacific Northwest through information and illustration.