

A GUIDE TO SEEDLING SELECTION



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IDAHO FOREST,
WILDLIFE AND
RANGE EXPERIMENT
STATION

University of Idaho
College of Natural Resources

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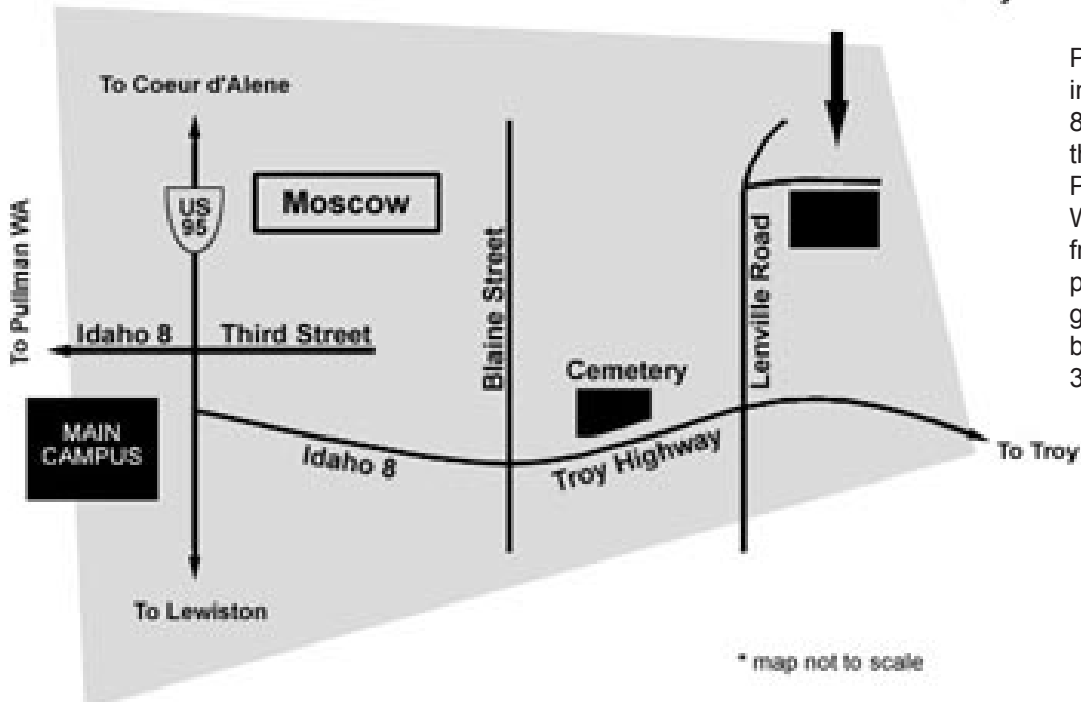


Eagerly serving Idahoans (L to R): Don Regan, Annette Brusven, Kea Woodruff, and Anthony Davis

About Us...

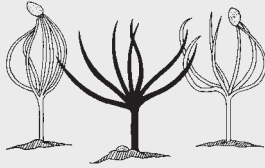
When the nursery was first established in 1909, it grew bareroot (field-grown) tree and shrub seedlings for conservation. In 1982, container-grown seedlings (grown in greenhouses) replaced bareroot production. Our operation emphasizes teaching, research, and service. We teach students about forest planting and nursery seedlings for private industry and the public. Almost all the revenue used to meet these obligations is received through seedling sales and outside grants. We are a proud member of the Idaho Nursery and Landscape Association and cooperate with Idaho's private nursery owners through an advisory committee, keeping them up-to-date with our research findings.

Frank Pitkin Forest Nursery



Please visit our nursery in Moscow along Idaho 8 (Troy Highway) on the University of Idaho Plant Science Farm. We're open weekdays from 8:00 am until 3:30 pm. Tours for larger groups can be arranged by calling (208) 885-3512.

A Guide to Seedling Selection



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Please direct all inquires to: Pitkin Forest Nursery, College of Natural Resources, 875 perimeter Dr MS 1137, Moscow, ID 83844-1137; phone (208) 885-3888; fax;(208)885-6564;e-mail seedlings@uidaho.edu



Center for Forest Nursery and Seedling Research

Franklin H. Pitkin Forest Nursery

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Get Paid to Plant Seedlings!

Cost-sharing is available for tree-planting in Idaho through both state and federal programs. Generally aimed toward rural situations, these programs help cover the costs of site preparation, seedlings, and planting. Often, small acreages are acceptable, so we encourage anyone planning to plant seedlings to check these programs for possible financial assistance.

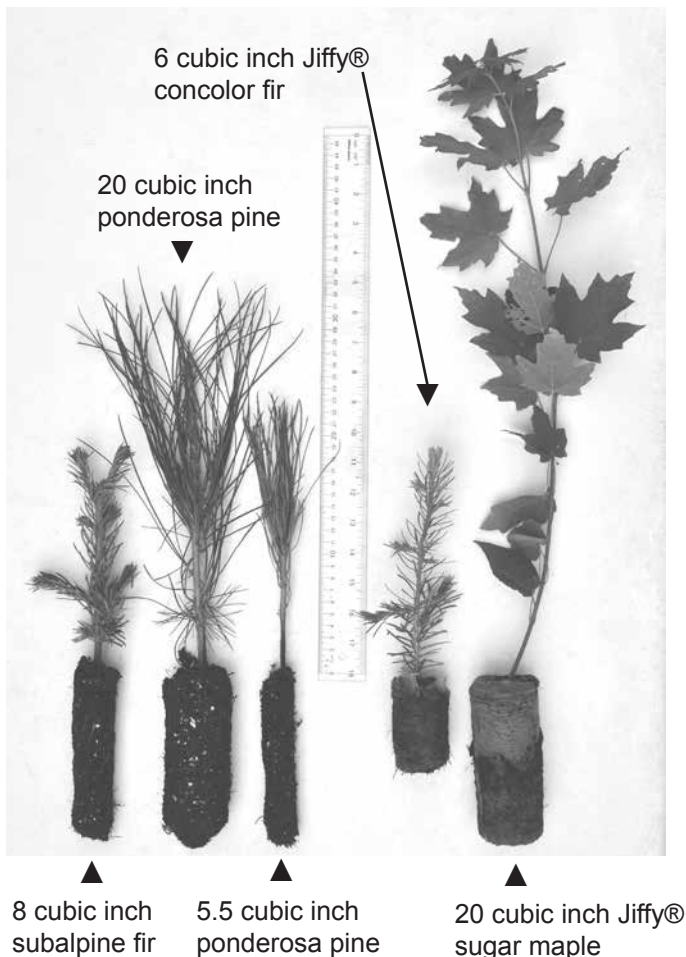
Habitat Improvement Program (HIP) targets improvements for upland game birds and waterfowl habitat on privately owned lands. Idaho Department of Fish and Game (IDFG) administers this program. Call your nearest IDFG office, and a HIP biologist will help you assess the potential of your land, plan projects to develop your land to benefit wildlife, and share the costs of buying and planting trees and shrubs.

Forest Lands Enhancement Program (FLEP) is a program administered by the Idaho Department of Lands. FLEP provides cost-sharing for a variety of tree-planting projects, including forest plantings, windbreaks, riparian enhancement, and wildlife habitat. For more

information, contact your nearest Idaho Department of Lands forester.

Conservation Reserve Program (CRP) and Environmental Quality Incentive Program (EQIP) are administered through the Consolidated Farm Service Agency. CRP pays owners of erodible, previously cultivated farm lands to remove them from production, and will cost-share tree and shrub planting. EQIP cost-shares tree and shrub planting onto qualifying land. For more information, contact your nearest Consolidated Farm Service Agency office or Natural Resources Conservation Service office.

Seedling Stocktypes - what are the differences?



Seedlings can be produced in a range of container sizes and shapes; this can have a major impact on the cost of seedlings and the performance following outplanting. With the many different species that we grow, and sites our seedlings end up on, we've listened to feedback from seedling users and expanded our seedling container sizes. For many years, we offered "Regular Stock" and "SuperStock" seedlings. These were grown in 5.5 and 20 cubic inch plugs, respectively. Typically, the regular stock seedlings are the same age as most of our SuperStock seedlings, but are grown in a smaller plug size, therefore limiting root growth, and subsequently, shoot growth. You might say that the greater plug size allows the seedling to better reach its growth potential. The more extensive fibrous root system of the SuperStock plugs often outperform smaller container stock when planted out in the field; this is especially evident on harsh sites.

As a research-based program, we work to find species and container combinations that best meet the needs of seedling users. To this end, we've added a 'soft-wall' container to our roster of seedlings. We produced a small number of species in 20 cubic inch plugs. You will notice an aesthetic difference, as Jiffy® pellet-grown seedlings have a biodegradable mesh that surrounds the root plug. You do not need to remove this mesh prior to outplanting.

Why Plant a Windbreak?

Windbreaks are for . . .

- **home energy conservation.** Windbreaks can decrease winter heating costs 10% to 40% and reduce cold air infiltration into your home by 75%.
- **improved crop yields.** Yields are higher on the lee sides of windbreaks — anywhere from 5% to 44%—because lower wind speeds evaporate less moisture from the soil and plants. True, the first few rows next to the windbreak will not grow as well, but the area of best soil and crop protection extends to 10 times the height of the windbreak.
- **reduced soil erosion.** A windbreak will decrease wind speed close to the ground up to 50%, lessening the wind's ability to blow away your topsoil and productivity.
- **better livestock performance.** The energy requirement for beef cows increases 13% for each 10° F drop in windchill temperature below 30° F. That means when it's 10° F and the wind is blowing 25 miles per hour (-29° F windchill), cows use 77% more energy, standing outside, just to stay warm. A windbreak would reduce that consumption by more than half.
- **snow drift control.** A properly placed windbreak will keep snow from drifting across your driveway, farm lane, or access roads — a big advantage when it's time to plow.
- **wildlife habitat.** Wildlife will use windbreaks for cover, food and reproduction. Studies have shown 50 to 80 bird nests per mile of windbreak! Don't forget, birds are important predators of insects and rodents too. Windbreaks planted east to west provide the best wildlife benefit. Plant food-bearing shrubs in the outer rows such as currants, plums, cherries, and roses. Good evergreens are types that don't grow too tall, but stay dense and bushy like Rocky Mountain juniper, Austrian pine, and blue spruce.
- **increased home value.** Healthy trees around your home add value to your property.

Are you interested in planning and planting a windbreak?

If so, then you don't want to miss reading our publication *Planning and Planting a Five-Row Windbreak*. This 4-page pamphlet is available to download from our website at www.uidaho.edu/seedlings, or call 208-885-3888 to have a free copy mailed to you.

For additional information on windbreaks, we also highly recommend *Trees Against the Wind*. This excellent 40 page publication with color photos is available for \$8.00 from UI Ag Publications. See page 4 for ordering information.

Animal Damage

Seedlings can be damaged by livestock, deer and elk, rodents, or other small animals. Broadleaf species are especially vulnerable to browsing. Here are a few hints to help you protect seedlings from animal damage.

Big Game

Deer and elk can inflict serious damage to seedlings, especially deciduous trees and shrubs. You can protect seedlings with mechanical barriers or by using chemical browse inhibitors.

Mechanical barriers - A 6- to 8-foot-tall fence is an option for keeping big game from your seedlings (see pub below). Another option is tree tubes, but they work well only for deciduous trees. Made of photodegradable plastic, tubes come in various lengths; a tube at least 6 feet tall is necessary to prevent deer and elk browsing. Trees grow taller and faster inside tubes. Soon they are above the browse line, and eventually the tube disintegrates. If you'd like more information on tubes, please contact us.

Chemical inhibitors -Your local Idaho Department of Fish and Game officer will have information on chemical inhibitors you spray on seedlings.

Rodents

Voles - Common throughout Idaho, voles attack the base of seedlings and small trees. If the tree is not completely girdled by gnawing, it may be left in such a weakened state that summer stress will kill it. Trees can be protected in several ways: clean cultivation, barriers, poisons, and traps. Clean cultivation is a simple way to keep these pests from your seedlings. Voles don't like to cross bare soil so a weed-free zone around your trees will help discourage feeding. Plowing or tilling a 6-foot-wide strip on either side of the row helps keep the pests away. This also improves seedling growth by reducing competition for water and nutrients by weeds. A piece of 4-inch PVC pipe or plastic drain tile, about 8 to 10 inches long, or a 8 to 12 inch tree tube placed around new seedlings, will help keep the rodents away. Wooden stakes may be needed to keep the pipe from blowing over. Finally, poisoning voles may be necessary when populations are very high. These pesticides often require a pesticide license to buy and apply.

Gophers - Pocket gophers can be a terrible problem. They usually gnaw off the roots, often leaving the above-ground portion of the seedling or tree standing. Sometimes gophers eat seedlings entirely. They are extremely difficult to eradicate from an area. Clean cultivation, as described for voles, will greatly reduce gopher feeding. Trapping and/or poisoning can be effective if you are persistent.

Ordering useful publications

Ag Publications at the University of Idaho has several helpful publications, including information on Christmas tree production, landscaping, fertilization, fencing, insects and disease problems, etc. They can be contacted at 208-885-7982. Their catalog and ordering information can be viewed on the Internet at: <http://www.cals.uidaho.edu/edcomm/catalog.asp>.

Some of the best information we've come across for controlling vole, gopher, mole, and ground squirrel damage is available through Oregon State University. Write them for their Educational Materials List (catalog) at Publication Orders, Extension and Station Communications, Oregon State University, 422 Kerr Administration, Corvallis, OR 97331-2119 (telephone 541-737-2513 or fax 541-737-0817). Their catalog can be viewed, and many publications downloaded, over the Internet at: <http://extension.oregonstate.edu/catalog>.

If you've any questions or suspect an insect, disease, or planting site problem, contact your local county extension agent, Idaho Department of Lands woodland forester, or give us a call.

Livestock

Your windbreak will grow best if you keep livestock out of it. Livestock trample and eat small seedlings. Once the trees are bigger, livestock can cause damage by rubbing off or eating the bark, and browsing on lower branches. Removal of lower branches by browsing reduces the effectiveness of your windbreak. Fencing is the easiest way to keep livestock away from your windbreak.

USDA Hardiness Zones for Idaho County Seats and Selected Cities in MT, WA, OR & UT

| | | | | | |
|----------------|---|---------------|-----|----------------|---|
| Aberdeen | 4 | Malad | 5 | Missoula, MT | 5 |
| American Falls | 4 | Marsing | 6 | Libby | 5 |
| Arco | 4 | McCall | 6 | Hamilton | 4 |
| Blackfoot | 4 | Moscow | 5 | Dillon | 4 |
| Boise | 6 | Mountain Home | 6 | | |
| Bonnars Ferry | 5 | Nezperce | 6 | | |
| Burley | 5 | Orofino | 6 | Spokane, WA | 5 |
| Caldwell | 6 | Paris | 4 | Walla Walla | 5 |
| Cascade | 6 | Payette | 5-6 | Pullman | 5 |
| Challis | 4 | Pocatello | 4 | Kettle Falls | 5 |
| Coeur d'Alene | 5 | Preston | 4 | | |
| Council | 6 | Rexberg | 4 | Pendleton, OR | 5 |
| Driggs | 4 | Rigby | 4 | LaGrande | 5 |
| Dubois | 4 | Rupert | 5 | Bend | 5 |
| Emmett | 6 | Salmon | 4 | Ontario | 5 |
| Fairfield | 5 | Sandpoint | 5 | | |
| Gooding | 5 | Shoshone | 5 | | |
| Grangeville | 6 | St. Anthony | 4 | Logan, UT | 6 |
| Hailey | 5 | St. Maries | 5 | Ogden | 6 |
| Idaho City | 6 | Stanley | 4 | Salt Lake City | 6 |
| Idaho Falls | 4 | Sun Valley | 5 | Sandy | 6 |
| Jerome | 6 | Soda Springs | 4 | | |
| Kamiah | 6 | Twin Falls | 5 | | |
| Lewiston | 6 | Weiser | 6 | | |

Average Annual Minimum Temperature for Each Zone

| | |
|--------|---------------|
| Zone 2 | -50° to -40°F |
| Zone 3 | -40° to -30° |
| Zone 4 | -30° to -20° |
| Zone 5 | -20° to -10° |
| Zone 6 | -10° to 0° |

If your city is not listed here, you can find your zone at the USDA website at <http://planthardiness.ars.usda.gov/PHZMWeb/>

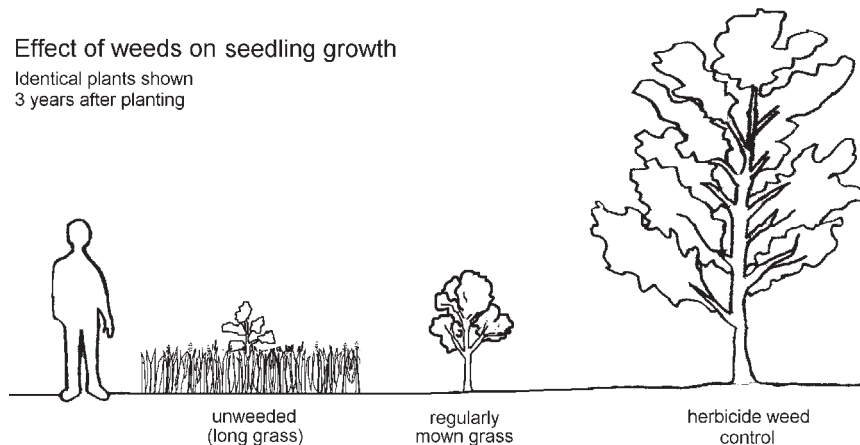
These zones are variable and based on average minimum temperatures. We recommend planting trees and shrubs that are cold hardy to a zone lower than what is indicated above. For example, in Moscow we suggest planting zone 4 species, even though Moscow is shown to be zone 5. This is to compensate for below average temperatures that we sometimes get in the winter. Extreme minimum temperatures indicate most of Idaho is a zone 3.

Weeds vs. Seedlings

Weed control is the key to successful tree planting, and without it even the best planting stock in the most expensive shelters will either fail or be very slow to establish. Seedlings which are weeded establish fast, grow quickly out of the reach of animals, and are not as prone to wind damage and disease. Weeds and grass growing next to seedlings are the number one cause of seedling mortality.

Effect of weeds on seedling growth

Identical plants shown
3 years after planting



Need more info on the need to control weeds? We highly recommend reading *Enhancing Reforestation Success in the Inland Northwest* by Paul Oester. This publication may be purchased for \$2 from UI Ag Publications. See page 4 for ordering information.

Groundcovers ... at a glance

| Species | Idaho native | Mature ht (in) | Evergreen | USDA zones | Drought hardy | Uses | Birds |
|---------------------|--------------|----------------|-----------|------------|---------------|------|-------|
| Kinnikinnick | x | 2-6 | x | 2-6 | x | S | F |
| Juniper, horizontal | x | 2-4 | x | 3-9 | x | S | F |

KEY

Uses

F = Reforestation
R = Riparian

S = Soil Stabilization

Birds

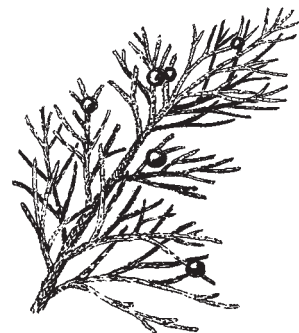
C = Cover
F = Food

Groundcovers ... descriptions

Kinnikinnick (*Arctostaphylos uva-ursi*), also known as bearberry, is a beautiful, spreading, evergreen groundcover. The whitish-pink, bell-shaped flowers are followed in fall by red berries that persist into winter, making the branches useful for fall and Christmas decorating. This common Idaho native has a moderate growth rate, likes the sun, and is excellent for erosion control since it does well on a variety of sites ranging from moist to dry. **Wildlife benefit:** The fruits are eaten by songbirds, gamebirds, including grouse and turkeys, deer, elk, and small mammals. Hummingbirds have been known to take nectar from the flowers. Zones 2-6 \$2.25 each (multiples of 5 only)



Juniper, Horizontal (*Juniperus horizontalis*), or creeping juniper, is an Idaho native groundcover that is highly drought tolerant making it an excellent choice for any xeriscape situation. It prefers full sun and adapts well to clay, sand, gravel, and compacted soils. It will also grow in acidic to slightly alkaline soils. This juniper rarely grows taller than 6 inches, but can spread up to 6 feet wide, making it a natural choice for soil stabilization and erosion control projects. In the cold of winter the dark green foliage takes on a purple hue. This juniper is also well suited for bonsai. **Wildlife Benefits:** Foliage is eaten by moose, mule deer, pronghorns, and grouse. The berries are eaten by sharp tailed grouse. Zones 3-9 \$2.25 each (multiples of 5 only)



Shrubs ... at a glance

| Species | Idaho native | Mature ht (ft) | Ever-green | USDA zones | Drought hardy | Uses | Birds | Showy flowers |
|------------------------|--------------|----------------|------------|------------|---------------|---------|-------|---------------|
| Alder, thinleaf | x | 15-30 | | 2-7 | | R, S | C, F | |
| Ash, native mtn- | x | 6-20 | | 3-6 | | R | C, F | |
| Bayberry | | 5-6 | x | 2-6 | x | H,S,W | C, F | |
| Bitterbrush, antelope | x | 3-4 | | 3-6 | x | S, W | C, F | x |
| Boxwood, mountain | x | 1-4 | x | 3-5 | | H, S | C, F | |
| Cascara | x | 20-30 | | 4-7 | | S | C, F | |
| Ceanothus, redstem | x | 3-10 | | 4-9 | | S | C, F | x |
| Cherry, bitter | x | 7-20 | | 4-7 | | R, S | C, F | x |
| Cherry, choke- | x | 10-25 | | 2-6 | x | S, W | C, F | x |
| Cherry, Western sand | | 3-6 | | 3-6 | x | S, W | C, F | x |
| Cinquefoil, shrubby | x | 4-6 | | 2-7 | x | S, W | C, F | x |
| Cranberry, highbush | x | 4-8 | | 3-7 | | H,R,S,W | C, F | x |
| Currant, golden | x | 6-15 | | 2-6 | x | H,S,W | C, F | x |
| Currant, red-flowering | x | 6-9 | | 4-8 | x | H,S,W | C, F | x |
| Dogwood, redosier | x | 6-15 | | 2-8 | | H,R,S | C, F | |
| Elderberry, blue | x | 6-15 | | 3-6 | | S, W | C, F | x |
| Hawthorn, black | x | 15-20 | | 4-7 | | R,S,W | C, F | |
| Huckleberry, Mtn | x | 4-6 | | 4-8 | | S | C, F | |
| Lilac, common purple | | 10-15 | | 3-7 | x | H,S,W | C | x |
| Maple, Rocky Mtn | x | 6-20 | | 4-6 | | R, S | C, F | |
| Ninebark, mallow | x | 5-7 | | 2-5 | x | H,S,W | C, F | x |
| Ocean-spray | x | 5-10 | | 3-7 | x | S, H | C | x |
| Plum, American | | 20-30 | | 3-8 | | S, W | C, F | x |
| Rose, rugosa | | 4-6 | | 2-7 | x | H,S,W | C,F | x |
| Rose, Woods | x | 2-6 | | 3-6 | x | S, W | C, F | x |
| Serviceberry | x | 20 | | 2-6 | x | S, W | C, F | x |
| Snowberry | x | 3-6 | | 3-6 | x | S, W | C, F | |
| Sumac, oakleaf | x | 3-6 | | 3-6 | x | H,S,W | C, F | x |
| Syringa, Lewis | x | 6-9 | | 3-6 | x | S, W | F | x |
| Waxflower | | 1-4 | | 4-7 | x | H, S | C, F | x |
| Willow, Arctic blue | x | 10-15 | | 3-7 | | H,S,W | C | |
| Willow, coyote | x | 20-25 | | 4-6 | | R, S | C | |
| Willow, Drummond | x | 9 | | 4-9 | | R, S | C | |
| Willow, Mackenzie | x | 10-12 | | 4-9 | | R, S | C | |

KEY

Uses

Birds

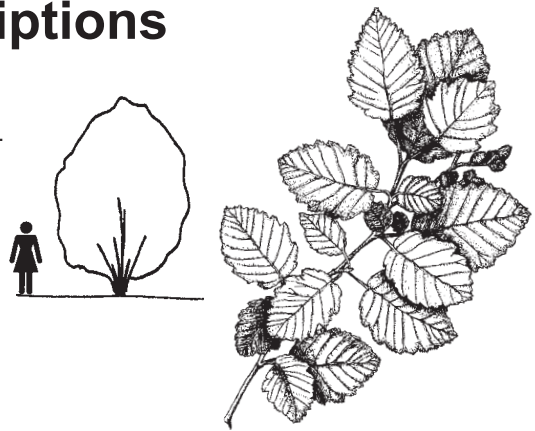
R = Riparian
H = Hedge

S = Soil Stabilization
W = Windbreak

C = Cover
F = Food

Shrubs ... descriptions

Alder, Thinleaf or Mountain (*Alnus incana* var. *tenuifolia*, previously known as *A. tenuifolia*) is the most common alder in Idaho. It is found throughout the state as a small tree or large bush from 2000 feet to low subalpine. Like other alders, it thrives in moist to wet places, and bacteria live on its roots and provide the tree with nitrogen. Thinleaf alder can reach 30 feet tall and is very useful in riparian revegetation. **Wildlife benefit:** Thinleaf alder provides food for upland gamebirds, songbirds, beaver and hare. Zones 2-7 \$2.25 each (multiples of 5 only)



Ash, Native Mountain-, or Greens Mountain- (*Sorbus scopulina*) grows 6 to 20 feet tall throughout the mountains of Idaho. It shouldn't be confused with the Sitka mountain-ash which also is native, but has rounded leaf tips and is found only in the subalpine zones of northern Idaho. White flower clusters, orange berries, and yellow and orange fall color make Native mountain-ash a great landscape shrub. **Wildlife benefit:** These multiple-stem shrubs provide good cover and nesting sites for birds. Robins, waxwings, and grosbeaks find the bright red-orange berries particularly tasty. Zones 3-6 \$2.25 each (multiples of 5 only)



Bayberry (*Myrica pensylvanica*) is a semi-evergreen shrub native to the East Coast of the U.S. and Canada. This fast-growing shrub can reach 5 to 6 feet tall with a mounded irregular shape and upright branching habit. The foliage is dark green, leathery, and very aromatic when crushed. During harsh winters, leaves may turn bronze or tan and fall, but in mild winters can remain green. Female plants produce small, gray-blue, waxy berries. The wax is widely used in bayberry candle making. Both male and female plants are needed to ensure fruit set. Bayberry is a very tough shrub, tolerating a variety of soils including swampy, dry, acidic, alkaline, and saline (salty). It prefers full sun but will tolerate partial shade. It responds well to pruning and can be shaped into a hedge or topiary. **Wildlife benefit:** The fruit attracts birds and squirrels and the thick branches provide good nesting sites for birds. Zones 2-6 \$2.25 each (multiples of 5 only)



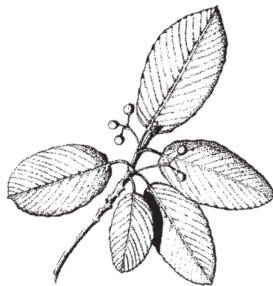
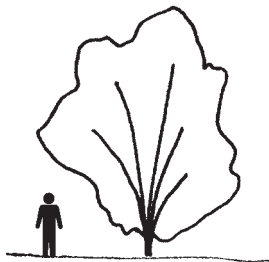
Bitterbrush, Antelope (*Purshia tridentata*) is a very drought and heat tolerant native shrub of central and southern Idaho. It usually grows 3 to 4 feet tall, but in lower elevations can be found up to 12 feet tall. This shrub has a silvery appearance and produces yellow flowers. Antelope bitterbrush is very long lived and has tremendously long tap roots, reaching 15 to 18 feet deep, which allow it to survive on rocky and arid sites. It is quite adaptable, and is found on all slopes and aspects, usually on well-drained soils from 3,000 to 10,000 feet elevation. It is intolerant, however, of shade and soils high in salt. **Wildlife benefit:** It is a very important food source for pronghorn, mule deer, elk, bighorn sheep, and moose, and provides cover for rodents, deer, and birds such as sage grouse and Lewis' woodpeckers. The seeds are eaten by rodents. Zones 3-6 \$2.25 each (multiples of 5 only)



Shrubs ... descriptions



Boxwood, Mountain (*Pachistima myrsinites*), also known as Mountain lover or Oregon boxwood, is an Idaho native, evergreen shrub rarely growing over 3 feet tall. It is densely branched with many small, dark green, glossy leaves. This feature has made it popular as greenery in the florist industry. It grows on dry to moist sites in shaded and open mountain areas, and tolerates frost pockets well. It also is not too picky about the soil and can grow in well drained, shallow, gravelly soils as well as in clay and silt-loams. Mountain boxwood can be shaped easily and makes a great landscape plant, groundcover, or small hedge. We also recommend it for revegetating disturbed sites. **Wildlife benefit:** The leaves and branches of Mountain boxwood provide important forage for deer, elk, moose, big-horned sheep and grouse. Zones 3-5 \$2.25 each (multiples of 5 only)



Cascara (*Rhamnus purshiana*) is a tall, attractive shrub found on moist sites in northwestern Idaho at elevations of 3000 feet or less. It is shade tolerant and may reach 30 feet with adequate water and heat. In spring, small greenish-yellow flowers appear, followed by dark purple berries that shouldn't be eaten by humans. Cascara means "bark" in Spanish, and the bark is processed by pharmaceutical companies in the manufacture of laxatives. Native Americans in the Northern Rocky Mountains have historically made tea from the bark for this same purpose. Our seed is collected in northern Idaho. **Wildlife benefit:** Cascara is an important winter browse species for elk and mule deer. The berries provide food for black bear and many bird species including ruffed grouse and band-tailed pigeon. Zones 4-7 \$2.25 each (multiples of 5 only)



illustration from 'The Illustrated Flora of British Columbia'



Ceanothus, Redstem (*Ceanothus sanguineus*) is a 3 to 10 foot Idaho native shrub. Found mostly in moist to dry open woods at low to moderate elevations, redstem ceanothus is moderately drought tolerant, prefers full sun and a pH of 6.5-8.0. The deep root system is good for soil stabilization, especially in logged sites or road cuts. The nitrogen fixing ability of redstem ceanothus helps promote other species by improving soil quality, making this plant a great choice for mixed plantings, especially with conifers. The white, fragrant flowers and deep red stems also make it a desirable landscape choice. Native Americans used the dried and ground bark to treat burns and wounds, and the flowers were crushed to make a fragrant soap. **Wildlife benefit:** Redstem ceanothus is very important winter forage for Rocky Mtn elk and is also browsed by white tail and mule deer, and snowshoe hare. Birds, insects and rodents may eat up to 99% of the annual seed crop. Redstem ceanothus also provides excellent cover for many birds and small mammals, including towhees, bluebirds, warblers, chipmunks, and rabbits. Zones 4-9 \$2.25 each (multiples of 5 only)

Shrubs ... descriptions

Cherry, Bitter (*Prunus emarginata*) is one of our most common native cherries. It usually is found as a bush or single-stemmed tree generally from 7 to 20 feet tall. However, if there is plenty of moisture and fertile, deep soil, this cherry can reach 50 feet tall! It prefers cool, moist environments in valleys or mountain slopes with plenty of sun, but is easily adaptable to other sites as well. White, almond scented flowers emerge in the spring, followed by red to purple fruits that, as the name implies, are very bitter. Bitter cherry does not have a taproot, but many fibrous roots that send up new shoots, forming dense thickets. This characteristic makes it very desirable for erosion control, soil stabilization and in reclaiming disturbed or degraded sites. Like other cherries, the leaves, bark, and seeds are poisonous and should never be consumed by humans, while the fruit is the only edible part. Native Americans used the bark to weave baskets and make twine. **Wildlife benefit:** Blue grouse, songbirds, and small mammals eat the fruits, and the seeds are eagerly consumed by the Evening grosbeak. Bitter cherry thickets provide important cover for elk and deer and for the Columbian Sharp-tailed grouse. Zones 4-7 \$2.25 each (multiples of 5 only)



Cherry, Choke-, or Black Choke- (*Prunus virginiana* var *melanocarpa*) is a very hardy, large shrub or small tree, growing fast to a mature height of 10 to 25 feet. This Idaho native, common throughout Idaho, bears white flowers clustered in hanging spikes that later produce dark, purple fruits. The fruits are a wildlife favorite and make good jellies and pies. Because of its dense growth form, choke-cherry is an excellent choice for outer rows of multiple-row windbreaks. **Wildlife benefit:** The fruits are a prime source of food for chipmunks and many songbirds in the fall. Zones 2-6 \$2.25 each (multiples of 5 only)



Cherry, Western Sand (*Prunus besseyi*) is a very hardy shrub that grows 3 to 6 feet tall. This cherry withstands heat, cold, wind, and drought. Spring-blooming white flowers are replaced with large, purplish, sweet cherries good for jams, jellies, and pies. Glossy foliage make it a nice ornamental. This species will do well in the outer rows of multiple-row windbreaks. **Wildlife benefit:** The cherries provide a great food source for many species of birds. Zones 3-6 \$2.25 each (multiples of 5 only)



Cherry Dessert Cake

2 cups pitted sand cherries
(or other wild sweet cherry)
3/4 cup water
1/2 cup sugar

2 Tablespoons butter
1 Tablespoon lemon juice
2 Tablespoons cornstarch
1 yellow or chocolate cake mix

In sauce pan combine cherries and 3/4 cup water. Bring to boil. Lower heat and simmer 2 minutes. Add sugar, butter, lemon juice. Mix cornstarch in 1/4 cup cold water and add slowly, stirring constantly until mix thickens. Pour into a 9x9x2 baking dish. Prepare cake mix as directed on package. Spoon over cherry mixture and bake at 350 degrees for approximately 40 minutes. Serve warm with whipped cream or ice cream.

This and other tasty recipes may be found in 'Fruits of your Labor' published by the Colorado State Forest Service Nursery. To order a free copy of this booklet, call 1-970-491-8429.

Shrubs ... descriptions



Cinquefoil, Shrubby or Bush (*Dasiphora floribunda* - recently changed from *Potentilla fruticosa*)

is a flowering shrub that sounds almost too good to be true! This Idaho native grows from low valleys to mountain peaks — in wetland to upland sites and rock ledges. It is tolerant of cold, heat, drought, flooding, saline, acidic and alkaline soils. It thrives in calcareous soils and full sun, and to top it off, it blooms continuously with inch-wide yellow flowers from June until frost! Shrubby cinquefoil can reach heights of 4 to 6 feet, although at high elevations (>6000 feet), they grow like a cushion plant and may only reach 10 to 12 inches in height. We recommend it for stabilizing streambanks and revegetating disturbed sites, roadcuts, and mine tailings. Shrubby cinquefoil can also be used in the outer row of a windbreak and as a landscape ornamental. According to published reports, another benefit is that it is seldom browsed by deer! **Wildlife benefit:** Shrubby cinquefoil provides cover for upland game, birds, and mammals and is an important source of nesting and cover for numerous songbirds. Seeds are eaten by many birds and mammals. Zones 2-7 \$2.25 each (multiples of 5 only)



Cranberry, American Highbush (*Viburnum trilobum* or *V. opulus var. americanum*) goes by many common names including bush cranberry and cranberry tree, although it is unrelated to cranberries. It is a very attractive, 4 to 8 foot tall shrub which is native to north Idaho near the Canadian border. Showy, white flowers in early summer give way to clusters of red berries that persist into winter. Highbush cranberry can be very colorful in the fall with leaves turning yellow-red or reddish-purple. It is easy to grow, withstands many soil types, and is adaptable to pH ranges of 4 through 7. This shrub prefers moist conditions with full sun and tolerates soils with high calcium deposits, but not soils high in salt. The berries, high in vitamin C, can be boiled, strained, and made into jam and jelly. Native Americans used the bark to relieve muscle spasms, hence the common name 'cramp bark.' We recommend this plant for hedges, landscapes, bird habitat, wetland restoration, and for the outer row of a windbreak. **Wildlife benefit:** This dense plant provides hiding and nesting places for many species of birds. Cedar waxwings, robins, and other birds eat the berries. Zones 3-7 \$2.25 each (multiples of 5 only)



Currant, Golden (*Ribes aureum*) is an Idaho native shrub.

This deciduous plant has many desirable characteristics: attractive form, height growth of 6 to 15 feet, yellow flowers very early in spring, edible fruits, no spines, drought tolerant, works well as a natural hedge, good wildlife browse, and is excellent for soil stabilization. This plant would look good in a yard or would be a valuable addition to outer rows of multiple-row windbreaks. Grows best with moderate summer watering. **Wildlife benefit:** Provides good cover for upland game birds and the edible fruits are eaten by an assortment of songbirds and small animals. Also browsed by big game. Zones 2-6 \$2.25 each (multiples of 5 only)

Shrubs ... descriptions

Currant, Red-flowering (*Ribes sanguineum*) bears pendulous, red flower clusters on 6 to 9 foot shrubs in spring, followed by blue to black berries in fall that are unpalatable to humans. It is most commonly found west of the Cascade and Sierra Nevada mountains, but a few isolated clumps are found in northern Idaho, so we can claim it as a native! Some think this shrub is the most striking of the flowering currants and consider it the best ornamental of the *Ribes* genus. The leaves are maple-like and turn yellow in autumn. This shrub prefers dry to moist, well-drained sites in full sun to partial shade. It would be an excellent choice as a landscape plant, soil stabilizer, natural hedge, or in the outer row of multiple-row windbreaks. **Wildlife benefit:** Provides cover for upland game birds and small mammals. Fruit is eaten by a variety of songbirds and small mammals. Zones 4-8 \$2.25 each (multiples of 5 only)



Dogwood, Redosier (*Cornus sericea*). Redosier dogwood is a very common Idaho native, deciduous shrub that grows 6 to 15 feet tall. It thrives in our coldest areas. Osiers were the thin, supple branches used to weave baskets in Europe, so red osier refers to the bright red twigs that set this shrub apart from many others. This dogwood, unlike domestic dogwoods which have large, single flowers, bears clusters of small, white flowers in spring. The foliage is brilliant red in fall. Redosier dogwood prefers moist, rich soils in either sun or shade. Our seed source is northern Idaho. **Wildlife benefit:** Small whitish berries are eaten by a variety of birds and small animals, and the multi-stem growth habit provides ideal nesting sites for birds. Zones 2-8 \$2.25 each (multiples of 5 only)



Elderberry, Blue or Blueberry Elder (*Sambucus cerulea* or *S. nigra* ssp. *cerulea*) is another of Idaho's wonderful native shrubs. It grows 6 to 15 feet tall and has large, creamy white flower clusters in the spring that develop into abundant clumps of bluish-black berries. This shrub is not too picky about soil type and is found in gravelly to heavy clay loam soils. It does prefer moist, sunny, acidic conditions and does not fare well in alkaline or dry sites. Elderberry is one of the favorites for revegetating sites because of its wildlife value, productivity, adaptability, and ease of establishment. It is also widely used for stabilizing banks and riparian restoration. Perhaps it's best known for its berries, and the wonderful wine, jelly, jam, and syrup they make. A cautionary note, though - the berries should be cooked first before eaten as they are mildly toxic. The leaves and stems are poisonous as well and should not be consumed. The leaves can be crushed to make mosquito repellent or boiled to make a caterpillar repellent for garden plants. **Wildlife benefit:** This shrub provides cover, food, and nesting sites for many species of birds including bluebirds, magpies, vireos, western tanager, house finch, towhees, woodpeckers, grosbeaks, grouse, quail, and pheasants. The buds and dried fruit are eaten in winter by big game animals. Zones 3-6 \$2.25 each (multiples of 5 only)



Hawthorn, Black or Douglas (*Crataegus douglasii* var. *douglasii*) is a slow-growing large shrub or small tree reaching 20 feet at maturity. This western Idaho native forms dense, thorny thickets that provide excellent soil and streambank stabilization, as well as cover and nesting sites for magpies and thrushes. This species would also do well in the outer rows of multiple-row windbreaks. Our seed is collected in northern Idaho. **Wildlife benefit:** Black hawthorn is browsed heavily by big game when young, but much less as the plant ages and grows larger. The black lustrous fruit provides food for grouse, songbirds, and other small animals. This shrub is one of the most important wildlife shrubs on the Palouse. Zones 4-7 \$2.25 each (multiples of 5 only)



Shrubs ... descriptions



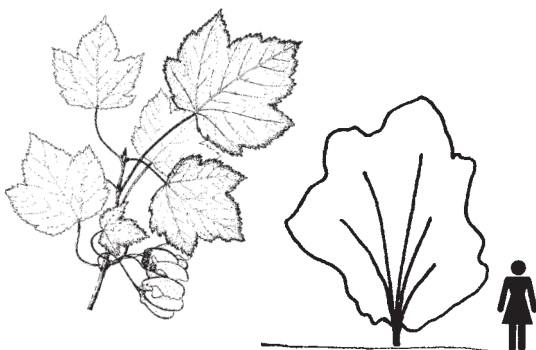
Huckleberry, Mountain or Black (*Vaccinium*

membranaceum) is familiar to nearly everyone who has grown up in the west. Many memories have been made of trips to the mountains to pick these tasty berries and the possible run-ins with bears that love them too! For those that are unfamiliar with it, mtn huckleberry is a long-lived native shrub that grows slowly to 4 to 6 feet tall. It produces a flavorful blackish-purple fruit that is highly sought out by humans and animals alike. The berries are often collected in large quantities and sold commercially at farmer's markets, roadside stands and to restaurants. Besides eating them fresh, they are also used in jams jellies, sauces, pancakes, muffins, wines, etc, etc, etc! The Native Americans ate them fresh, but also sun- or smoke-dried many for winter use. The plants themselves require a moist, well-drained, acidic soil (pH 4.0-5.5) that is high in organic matter. They are typically found on northwest to north slopes in old clearcuts and burned areas. As an added bonus, mtn huckleberry has outstanding fall color with orange to red to maroon hues. Huckleberries require freezing temperatures in the winter and do best when covered with 1 to 2 feet of snow throughout the winter. **Wildlife benefit:** The berries are a significant part of the grizzly and black bear diet, and many birds enjoy the fruit as well. Deer, moose, and elk browse the leaves and twigs. Zones 4-8 \$5 each (multiples of 5 only)



Lilac, Common Purple (*Syringa vulgaris*) has a moderate

growth rate and reaches 10 to 15 feet in height. Its dense growth and adaptability to a wide range of environments make it an excellent choice for outer rows of windbreaks. The large, fragrant blossoms add aesthetic value in spring. Lilacs do well on alkaline or acid soils, are highly resistant to drought and cold and are very long lived. This is not a relative of Lewis syringa, Idaho's state flower (see pg 15). **Wildlife benefit:** Lilac provides cover and nesting sites for many species of birds. Zones 3-7 \$2.25 each (multiples of 5 only)

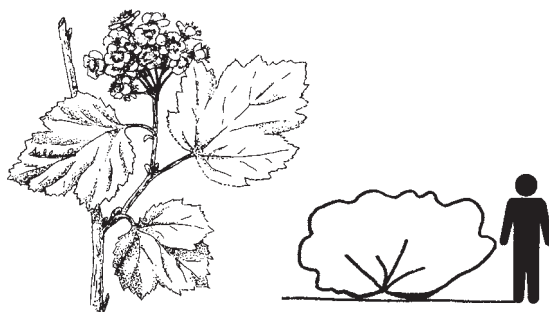


Maple, Rocky Mountain or Douglas (*Acer glabrum* var.

douglasii) is a long lived, multiple-stemmed, shade tolerant shrub or small tree. This northern Idaho native usually grows from 6 to 20 feet, but it may reach heights of 40 feet. It favors moist-wet sites and does well on north exposures. In arid areas it is found in mountains and moist canyons. Rocky Mountain maple prefers a well-drained, acidic-neutral soil comprised of silt, sand, gravel, or rock. Fall color is beautiful — yellow and orange. Our seed comes from northern Idaho. **Wildlife benefit:** This maple is a very important winter food for big game — moose, elk, mule deer, and white-tailed deer. Seeds and buds are also eaten by squirrels, chipmunks, and grouse while flowers provide food for numerous birds and mammals. Zones 4-6 \$2.25 each (multiples of 5 only)

Shrubs ... descriptions

Ninebark, Mallow or Common (*Physocarpus malvaceus*) is a common, hardy Idaho native shrub with rounded clusters of white flowers and peeling bark. It can reach 7 feet at maturity, forming dense thickets that provide good cover for many animals from small birds to large mammals. The thick growth also makes it a good choice for the outer rows of multiple-row windbreaks. This drought tolerant shrub provides brownish-red fall color. Zones 2-5 \$2.25 each (multiples of 5 only)



Ocean-spray (*Holodiscus discolor*) is an erect, usually multistemmed shrub that grows 5 to 10 feet tall. In late June and into July, when you see the tiny, cream-colored flowers packed into a large, dense, drooping plume at the end of each branch, you'll know why it's called ocean-spray and is considered one of our most beautiful native shrubs. It can be used in the exterior rows of multiple-row windbreaks or as a landscape plant. Faded flowers persist into winter, giving the plant a shaggy appearance. American Indians ate the seeds and used the long, straight branches for making arrow shafts. **Wildlife benefit:** Dense stands provide visual and thermal cover for deer and elk as well as supply nesting habitat, cover and food for a variety of nongame birds and animals. Zone 3-7 \$2.25 each (multiples of 5 only)



Plum, American (*Prunus americana*), a large shrub or small tree (20 to 30 feet tall), is best adapted to moist soils. It has rapid growth with wide-spreading branches and grows well in outer rows of multiple-row windbreaks. This plum flowers profusely in late spring, making it an attractive addition to any planting. Plums can be used to make jams, jellies, and pies. **Wildlife benefit:** Its dense growth provides cover and nesting sites for many species of birds. Bears and songbirds, including robins, woodpeckers, grosbeaks, finches and waxwings, eat the fruits. Zones 3-8 \$2.25 each (multiples of 5 only)



Rose, Rugosa (*Rosa rugosa*), from Europe and central Asia, is an extremely hardy rose, withstanding hard freezes, wind, and drought, while still showing off good fall color. This rose grows 4 to 6 feet tall, making it good for single-row hedges or exterior rows of multiple-row windbreaks. Deep purple to pink to white flowers, up to 3 inches in diameter, give way to large red fruits (hips). They may flower the same year planted! **Wildlife benefit:** Birds, chipmunks, and deer eat the hips. Deer and elk will also browse the foliage. Zones 2-7 \$2.25 each (multiples of 5 only)



Shrubs ... descriptions

According to Jean Gordon, author of *The Art of Cooking with Roses* (The Noonday Press, a division of Farrar, Straus and Giroux, New York), "There are innumerable recipes for rose sauces, jellies and marmalade. Sauce Saracen is made of rose hips and almonds pounded together and cooked in wine sweetened to taste. A tart marmalade for deer and venison is favored by French chefs, while the English use a seasoning for these same dishes by soaking dried rose hips, then mashing and blending them with salt, pepper and marjoram. Rose wine or rose hips added to gravies in the cooking of rabbit and other small game provide a delicate flavor which often disguises the objectionable 'gamey' taste." Here's one recipe that will tempt your taste buds!

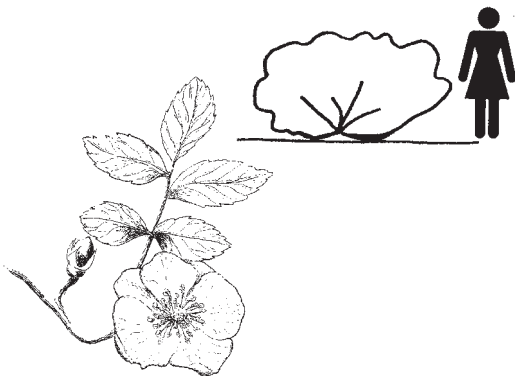
ROSE HIP JAM

2 pounds rose hips and seeds
4 tart apples

2½ pounds sugar
1/3 cup lemon juice

Boil rose hips and seeds in 2 pints of water and cook until tender. Rub through a fine sieve, making a puree. Peel and core the apples, and cook in very little water until tender. Rub through a sieve. Combine rose hip puree with the apple puree, the sugar and lemon juice. Boil 15 minutes after reaching the boiling stage. Put in sterilized jars and seal. **Reprinted by permission of Walker & Co., all rights reserved.**

Rose, Woods (*Rosa woodsii*), an Idaho native shrub, grows in a wide range of soil types and textures, although it favors moist, well-drained soils. It flourishes in moderate shade to full sun and tolerates high pH and limestone-derived soils. This hardy, drought tolerant, 2 to 6 foot high shrub spreads by rhizomes, making it an effective tool in revegetating sites along streambanks and road cuts. The 1 to 2 inch pink flowers are followed by rose hips that provide vitamin C and can be dried and used in teas, jellies, fruitcakes, and puddings. Our seed source is northern Idaho. **Wildlife benefit:** Dense thickets are used for nesting and cover by many birds and small mammals. Rose hips sustain many birds and mammals such as mule deer, squirrels, and sometimes coyotes and bears when the ground is covered with snow. Zones 3-6 \$2.25 each (multiples of 5 only)



Serviceberry (*Amelanchier alnifolia*) is an Idaho native called many things: Juneberry, shadblow, sarvisberry, Saskatoon, and amelanchier. Serviceberry is a large shrub or small tree, growing to about 20 feet. In early spring, it has drooping white or pinkish flowers that fade rapidly, replaced with purple, edible fruits. New foliage is purplish — fall color is red. Plants are extremely cold-hardy and drought resistant once established and ideal for exterior rows of multiple-row windbreaks. **Wildlife benefit:** The fruits are prized by birds — often eaten by grosbeaks and orioles before they even have a chance to ripen! Fruits are also eaten by bears and chipmunks and foliage is browsed by deer, moose, and elk. Zones 2-6 \$2.25 each (multiples of 5 only)



Shrubs ... descriptions

Snowberry (*Symphoricarpos albus*) is a common Idaho native shrub that grows in a wide variety of soil types and environmental conditions. It produces white berries in the fall and usually grows 3 to 4 feet high but can reach 6 feet in riparian areas. Snowberry spreads by underground rhizomes, forming dense thickets. This characteristic makes it a great plant for bank and soil stabilization and erosion control. It is classified as a "survivor" due to its resistance to fire. After a fire has killed the top, it sends sprouts up from its rhizomes. **Wildlife benefit:** Bighorn sheep and white-tailed deer browse the branches. Snowberry provides cover and food for sharp-tailed, ruffed, and blue grouse, wild turkey, kingbird, western flycatcher and western bluebird. Zones 3-6 \$2.25 each (multiples of 5 only)



Sumac, Oakleaf (*Rhus trilobata*), also called skunkbush sumac, is very drought tolerant and native in southern Idaho. Growing 3 to 6 feet tall, it forms clumps and is suited to the outer rows of multiple-row windbreaks. The deep green summer foliage changes to bronzy red in fall, and clusters of red fruit develop in late summer. It prefers a well-drained soil. **Wildlife benefit:** The shrubby growth provides cover for upland game birds, and small animals and songbirds eat the fruits. Zones 3-6 \$2.25 each (multiples of 5 only)



Syringa, Lewis or Mockorange (*Philadelphus lewisii*), a widespread Idaho native and the state flower, grows 6 to 9 feet tall. It is not to be confused with *Syringa vulgaris*, our common lilac (pg 13). This beautiful shrub is named after Captain Meriwether Lewis who first discovered it along the Clearwater River in 1806. In early summer, delicate and fragrant white flowers appear, making it an attractive addition to any landscape. Western syringa is very drought tolerant, often growing on rocky hillsides and in cracks in basalt fields. It could probably be used in outer rows of multiple-row windbreaks. **Wildlife benefit:** Chipmunks and birds eat the seeds. Zones 3-6 \$2.25 each (multiples of 5 only)



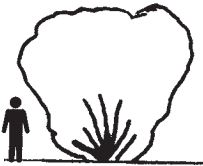
Waxflower (*Jamasia americana*) is a little known, attractive, 1 to 4 foot shrub growing native just south of Idaho in Wyoming, Colorado, Utah, Nevada, and California. Waxflower is named so because of the fragrant, glossy, five-petaled white flowers that appear in clusters in mid-summer. It has flaking, reddish-brown bark and orange and pink fall color and is frequently found growing in rocky outcrops in the wild. It is drought tolerant and prefers a well-drained, loamy or gravelly soil with pH ranging from 6.5 to 8.5. These attributes make it very popular in xeriscaping. **Wildlife benefit:** Small birds and mammals eat the seeds and the twigs are browsed by deer and rodents. The branches provide cover and nesting sites for birds. Zones 4-7 \$2.25 each (multiples of 5 only)



Shrubs ... descriptions



Willow, Arctic Blue (*Salix purpurea*) grows into a very dense mound, making it a superb living snow fence or hedge. It's also ideal for planting as a single-row windbreak or in exterior rows of multiple-row windbreaks. Arctic blue willow has a moderate growth rate, prefers moist soils, and reaches a mature height of 10 to 15 feet. **Wildlife benefit:** This dense plant is a fine source of cover for rabbits and birds. In Moscow, pheasant, quail, and partridge roost and scratch under them during winter. Zones 3-7 \$2.25 each (multiples of 5 only)



Willow, Coyote (*Salix exigua*) is an Idaho native shrub that is probably found in every county in the state. It can reach 22 feet at maturity and spreads by underground roots, forming colonies. It grows in moist sands and gravel and requires a minimum of 20 to 25 inches annual precipitation if not on a perennial stream. This willow is used in conservation plantings for streambank stabilization, riparian site restoration, and wildlife habitat. We grow the USDA NRCS release 'Silvar' from eastern Washington. Zones 4-6 \$2.25 each (multiples of 5 only)



Willow, Drummond (*Salix drummondiana*) is an Idaho native shrub reaching 9 feet at maturity with a canopy width of 15 feet. It's commonly found in montane portions of Idaho, especially on steep, stony-lined streams. This willow has yellow to yellow-orange stems making it a striking ornamental. The leaves are green on top with a silvery velvet underside. It grows in moist sands and gravel and requires a minimum of 20 to 25 inches annual precipitation if not on a perennial stream. Drummond willow is recommended for erosion control, riparian site restoration and wildlife habitat. Willow pollen is an important food source in the spring for honeybees. We grow the USDA NRCS release 'Curlew' from eastern Washington. Zones 4-9 \$2.25 each (multiples of 5 only)



Willow, Mackenzie (*Salix prolixa*, previously known as *Salix rigida* var. *mackenzieana* and *S. eriocephala* ssp. *mackenzieana*) grows rapidly to a mature height of 10 to 12 feet. This Idaho native is found in moist sands and gravel and requires a minimum of 20 to 25 inches of annual precipitation. It is used in conservation plantings for streambank stabilization, riparian site restoration, landscaping, wildlife habitat, and shelterbelts. We grow the USDA NRCS release 'Rivar' from eastern Washington. Zones 4-9 \$2.25 each (multiples of 5 only)

Deciduous trees ... at a glance

| Species | Idaho native | Seedling ht (in) | Mature ht (ft) | USDA zones | Drought hardy | Uses | Birds | Showy flowers |
|----------------------|--------------|------------------|----------------|------------|---------------|---------|-------|---------------|
| Apple, common wild- | | 8-15 | 25-30 | 3-8 | | W | C, F | x |
| Aspen | x | 8-14 | 30-40 | 2-8 | | F, R | C | |
| Birch, Western paper | x | 10-15 | 60-80 | 2-6 | | F, R | F | |
| Birch, water | x | 10-17 | 15-30 | 4-6 | | R, S | C, F | |
| Cherry, black | | 10-15 | 40-50 | 3-9 | | C, W | F | x |
| Chestnut, American | | 12-22 | 75-90 | 4-8 | | C, W | C, F | x |
| Cottonwood, black | x | 10-16 | 60-150 | 3-9 | | F, R, W | C | |
| Hackberry, common | | 13-18 | 60-100 | 2-9 | x | S, W | C, F | |
| Maple, bigtooth | x | 6-15 | 30-50 | 3-6 | x | F, S | C, F | |
| Maple, sugar | | 8-24 | 60-70 | 3-8 | | C | C | |
| Oak, bur | | 8-17 | 60-75 | 2-8 | x | C, W | C, F | |
| Oak, bur-gambel | | 5-13 | 20-40 | 3-8 | x | C, W | C, F | |
| Poplar, Idaho hybrid | x | 10-16 | 50-80 | 3-7 | | R, W | C | |
| Walnut, black | | 10-22 | 50-75 | 4-9 | | C, W | C, F | |

KEY

Uses

C = Specialty crop
F = Reforestation
R = Riparian

S = Soil Stabilization
W = Windbreak

Birds

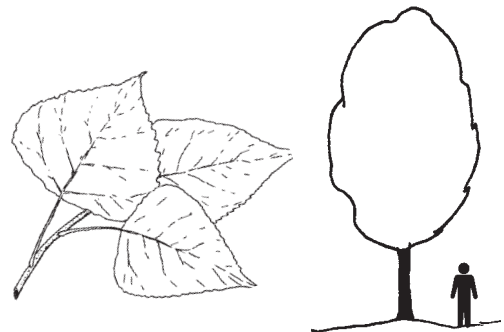
C = Cover
F = Food

Deciduous trees... descriptions

Apple, Common Wild (*Malus pumila*), introduced from Europe and Asia, is now commonly naturalized throughout Idaho. With full sun and moderate moisture, it grows to about 25 to 30 feet with a nearly equal spread. It is used in the outer rows of multiple-row windbreaks. Edible apples follow fragrant white flowers. **Wildlife benefit:** The apples provide food for bears, chipmunks, robins, woodpeckers, waxwings, pheasants, and deer. If left unpruned, the drooping lower branches provide winter cover for upland game birds. Zones 3-8 \$2.25 each (multiples of 5 only)



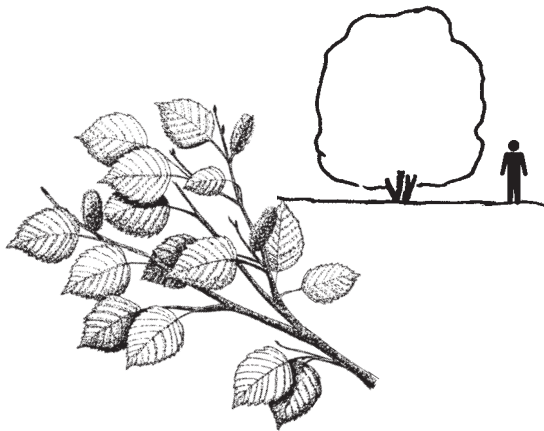
Aspen, Quaking (*Populus tremuloides*) is an Idaho native which quickly grows to about 40 feet. The limbs and trunk are smooth, white to light-green to gray in color. Its leaves are round and "quake" or flutter in even a slight breeze and turn a splendid golden color in fall. Quaking aspen spread by rhizomes and will form groves over time. Hardy throughout Idaho and not too particular about soil as long as the soil is moist. Our seed comes from northern Idaho. **Wildlife benefit:** A valuable browse species for big game, a favorite of beaver, and often drilled for sap by red-naped sapsuckers. Zones 2-8 \$2.25 each (multiples of 5 only)



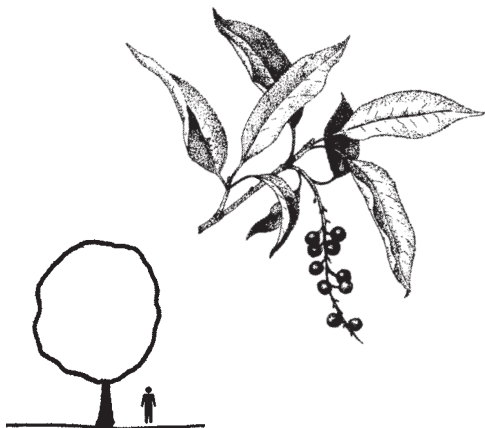
Deciduous trees... descriptions



Birch, Western Paper (*Betula papyrifera* var *commutata*), also called American white birch and canoe birch, is native in northern Idaho and may grow to 80 feet. Its crown, more open than on other birches, is rounded or pyramid-shaped with leaves sometimes 4 inches long. The bark turns white and peels in long, narrow, papery, horizontal strips and was used as a writing material by Native Americans. They also used the waterproof bark as the outer covering on their canoes. Paper birch is hardy throughout Idaho and not too particular about soil as long as the soil is moist. It is a prime hardwood species for use in revegetating disturbed sites such as mine tailings. As with sugar maple, this tree can be tapped for syrup in the spring, although it is not as sweet as maple syrup. Lack of moisture during the growing season will make this tree susceptible to borers. Our seed is collected in northern Idaho. **Wildlife benefit:** Songbirds, especially juncos, chickadees, pine siskins, and redpolls eat the scale-like seeds each winter. Ruffed grouse eat the catkins and buds. Zones 2-6 \$2.25 each (multiples of 5 only)



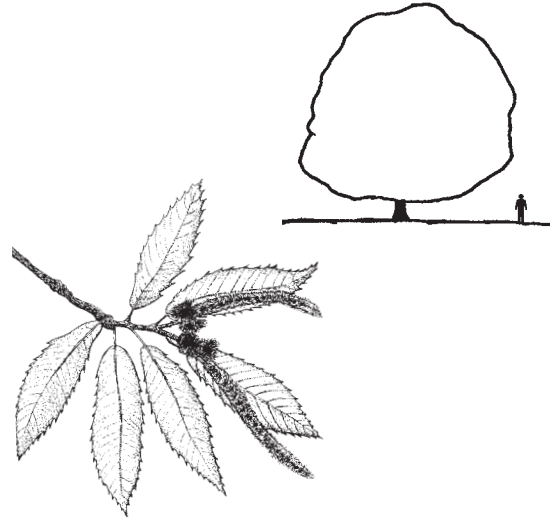
Birch, Water (*Betula occidentalis*) is an Idaho native tree found along our streams. It may reach heights of 30 feet with several trunks, but it is more commonly found as large shrubs with dense thickets of stems which make it a great species for streambank stabilization. The bark is reddish brown to yellowish brown and doesn't peel like paper birch. It does, though, hybridize easily with paper birch which makes for some interesting hybrids in the wild. Water birch grows in a wide variety of soils and elevations and is very flood tolerant. The wood is hard and heavy and good for firewood and fenceposts although it doesn't get big enough to use as commercial-grade lumber. This species is more resistant to wood borers than other birches. Our seed is collected from stands in northern Idaho. **Wildlife benefit:** Dense stands provide excellent thermal and hiding cover for many wildlife species. Beavers build dams and lodges with the stems, and catkins, buds, and seeds are eaten by several grouse species, redpolls, pine siskins, chickadees, and kinglets. Hummingbirds and red-naped sapsuckers feed on sap oozing from holes in the bark made by sapsuckers. Zones 4-6 \$2.25 each (multiples of 5 only)



Cherry, Black (*Prunus serotina*), most commonly known for its use in fine furniture, is a 40 to 50 foot tree. Growing best in deep, well-drained soils, it has proven to be very hardy in Idaho, easily withstanding late spring and early fall frosts. This species is moderately drought resistant, but may need supplemental water for establishment. Black cherry is one of our most handsome domestic woods, long sought for its excellent quality and high value. With a reddish-brown color and high luster when properly finished, this wood has excellent working qualities, low shrinkage, and freedom from checking and warping, making it a favorite material of cabinetmakers. These wood qualities, combined with its hardness, high wildlife value, and the relative scarcity of this species, make it an ideal tree for planting in plantation and conservation settings. **Wildlife benefit:** Produces abundant, red fruits eaten during the fall by robins, waxwings, finches, towhees, and grosbeaks. Zones 3-9 \$2.25 each (multiples of 5 only)

Deciduous trees... descriptions

Chestnut, American (*Castanea dentata*) was once considered the queen of eastern American forests but is now reduced to a memory due to the devastating chestnut blight. This great tree grew over 100 feet tall, 4 feet in diameter, with massive, wide-spreading branches and a broad crown. The good news is that it can be grown in the west blight-free! The valuable wood is rot-resistant, light, and durable and used in a variety of ways, from furniture to railroad ties. It prefers a well-drained soil with a pH of 5.5 to 6.5 and will not tolerate high pH or poorly drained soils. Once established they are quite drought-tolerant. The demand for roasting chestnuts was first inspired by the abundance and sweetness of American chestnuts, which are produced in huge quantities every year starting at about age 10. **Wildlife benefit:** The nuts are very nutritious and are relished by bears, deer, squirrels, grouse, and other animals. Zones 4-8 \$2.25 each (multiples of 5 only) *Quantities are limited - order early!*



Chestnuts have been a part of the human diet for at least 6000 years. They have helped keep entire nations from starvation in times of war and have titillated the palates of nobility over the ages. Enjoy them hot roasted or in any of the other wonderful recipes found in Annie Bhagwandin's "The Chestnut Cook Book" (\$14.45 from Shady Grove Orchards, 183 Shady Grove Rd, Onalaska, WA 98570 or e-mail shadygrove@myhome.net).

To Roast a Chestnut...

First pierce the shell to create a steam vent by cutting a slit or X with a sharp paring knife through the skin but not into the meat. Roast the nuts by shaking in a chestnut pan or dry skillet over a medium heat for about 15 minutes. The nuts are done when the shell curls away from the cut and the meat turns a translucent yellow, softens and smells sweet. Peel the nuts while they are still hot. Use your fingers to 'pop' the nuts free from the outer leathery shell and its inner papery brown pellicle. For oven roasting place pierced nuts in a roasting pan with a good fitting lid and bake at 400° F for 15 minutes. For microwave roasting place a dozen evenly sized pierced nuts around the outer edge of a paper plate. Cook on high for 2 minutes. Enjoy! **Reprinted by permission of Annie Bhagwandin, Shady Grove Orchards.**

Cottonwood, Black (*Populus trichocarpa*), reaching 60 to 150 feet tall or taller and 2 to 3 feet in diameter, is the tallest native western hardwood and the largest of the poplars. This fast growing Idaho native is found mostly in moist to wet soils of valleys, stream banks and floodplains. Black cottonwood prefers deep river soils and full sun. The buds are covered with a sweet-smelling resin which perfumes the air in springtime and gives it its other common name of Balm-of-Gilead. An interesting feature of the black cottonwood is the "summer snow" created by the white cotton-like seed blowing in the wind. The wood from black cottonwood is used to make boxes and crates. **Wildlife benefit:** Black cottonwood is browsed by beaver, deer, and other game. Wood ducks and raccoons use the snags and dead hollows for nesting. The buds, flowers, and seeds are eaten by birds, and the tree provides general cover and shade for many smaller animals. Zones 3-9 \$2.25 each (multiples of 5 only) *Not available this year*



Deciduous trees... descriptions

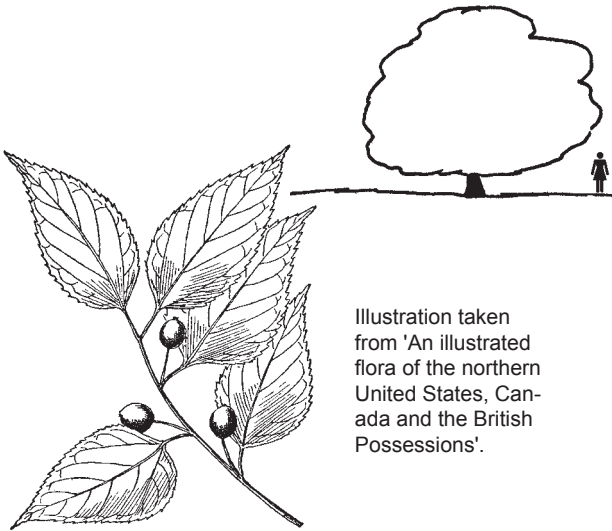
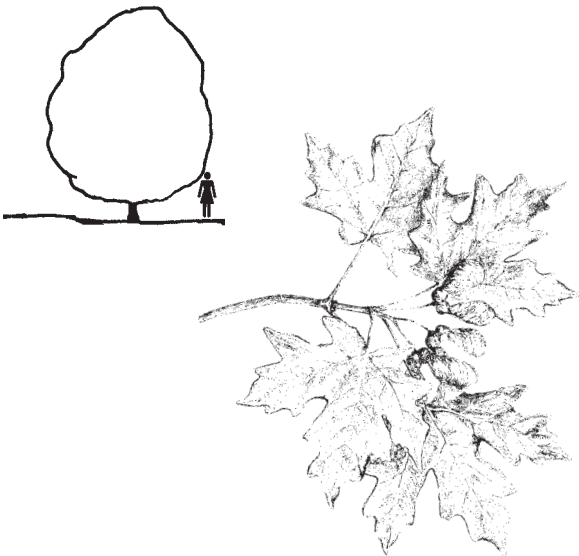
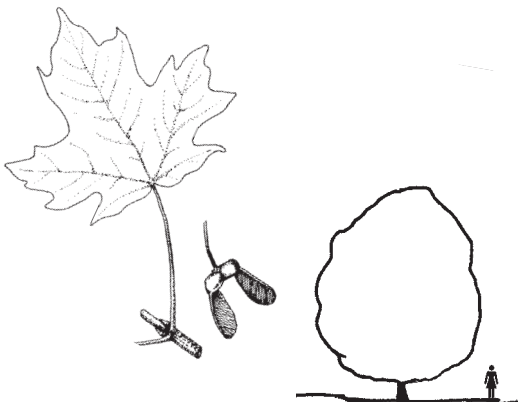


Illustration taken from 'An illustrated flora of the northern United States, Canada and the British Possessions'.

Hackberry, Common (*Celtis occidentalis*), also called American or northern hackberry, is extremely drought and cold tolerant, long-lived, and highly adaptable to many adverse soil conditions. It has been said that this tree will live and bear seed in situations where almost any other tree would die. Native to the Great Plains, it is found as far west as Montana and Utah, nearly to the Idaho border. Common hackberry is a fast growing tree and can reach 60 to 100 feet tall. The gray bark is distinctive with its corky, bumpy ridges. The wood is very heavy, but soft and weak, and used for firewood and fenceposts. Small green flowers in the spring give way to an abundance of orange to purplish, sweet, cherry-like fruits that are devoured by the birds. We recommend this tree for windbreaks and shelterbelts, wildlife plantings, revegetating disturbed sites, and xeriscaping projects. It also makes a wonderful shade tree because of its fast growth rate and low water use. **Wildlife benefit:** The fruits are eaten by over 25 species of birds including wild turkey, ring-necked pheasant, robin, Cedar waxwing, grouse, quail and towhee. Mammals such as squirrel, fox, white-tailed deer and coyote also eat the fruit. The dense branches provide perfect nesting sites and cover for many birds. Zones 2-9 \$2.25 each (multiples of 5 only)



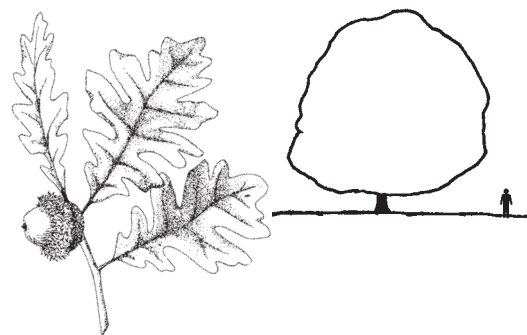
Bigtooth or Canyon Maple (*Acer grandidentatum*), native to southeast Idaho, is closely related to the sugar maple, though it is a smaller tree. Bigtooth maple is found in canyon bottoms, draws, and moist mountain sites growing with chokecherry and gambel oak, but can also be found on dry mountain slopes with rocky mtn juniper. It is very drought hardy and only requires 16-20 inches of rainfall a year. This versatile maple grows well in a wide range of sites and soil types in both dry and moist locations and is adaptable to pH ranges of 6-8. It has a medium growth rate, and can reach heights of 30 to 50 feet on a moist site, and up to 25 feet in a dry area. We recommend it for revegetation of disturbed riparian sites, wildlife cover or roadside stabilization. Spectacular fall colors make it a nice choice for landscaping. **Wildlife benefit:** Maple groves provide cover for mule deer and are a good source of food for moose. The seeds, buds and flowers provide food for various species of birds and small mammals including squirrels and chipmunks. Zones 3-6 \$2.25 each (multiples of 5 only) *Grown in 20 cu in Jiffy® plugs*



Maple, Sugar (*Acer saccharum*) is a large, long-lived, deciduous tree native to the northeastern U.S. A source of maple syrup, it grows moderately fast to about 60 to 70 feet or more. Good fall color of yellows, oranges, and reds. Plant where it has access to plenty of water — deep watering and periodic fertilizing will help keep roots down below the soil surface. The wood is tough, hard, heavy, and strong and used in making furniture, flooring and veneer. **Wildlife benefit:** Squirrels feed on seeds, buds, twigs, and leaves and numerous songbirds nest in the branches. Zones 3-8 \$2.25 each (multiples of 5 only) *Grown in 20 cu in Jiffy® plugs*

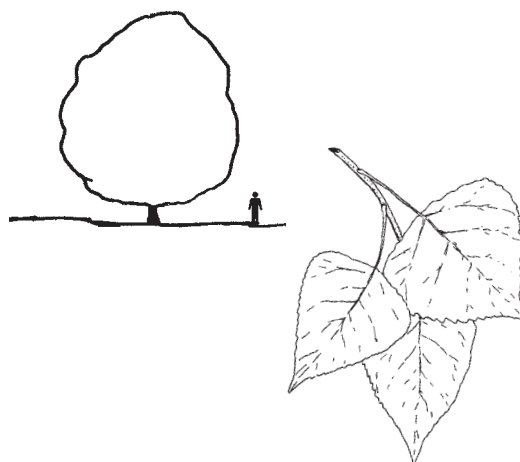
Deciduous trees... descriptions

Oak, Bur (*Quercus macrocarpa*), lovely, rugged and tolerant of adverse conditions, ranges westward into the Great Plains and eastern Montana. It will grow about 60 to 75 feet tall with a 30-foot spread. Its leaves are large (8 to 10 inches) with deep lobes. We grow seedlings from acorns collected near Filer, Idaho. Like other oaks, it should be watered during the first 2 to 3 dry seasons. **Wildlife benefit:** Squirrels, chipmunks, deer, birds, and turkeys eat the acorns. Zones 2-8 \$2.25 each (multiples of 5 only) *Grown in 20 cu in Jiffy® plugs*

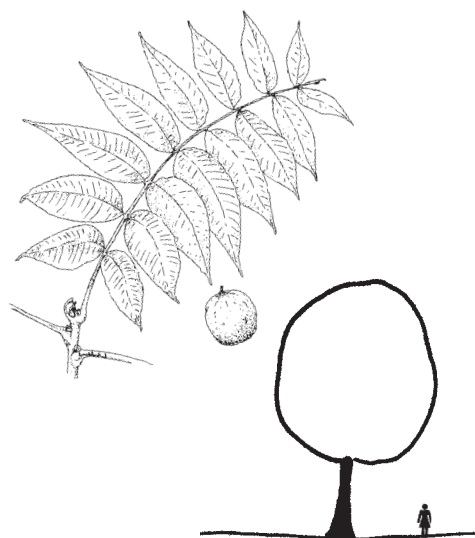


Oak, Bur-Gambel (*Quercus macrocarpa x gambelli*) is a Bur oak hybrid which is vigorous, fast growing, and produces heavy crops of acorns at a young age. The drought tolerance of the Gambel oak combined with the cold tolerance of the bur oak make this hybrid one of the hardiest oaks available. Zone 3-8 \$2.25 each (multiples of 5 only) *Grown in 20 cu in Jiffy® plugs*

Poplar, Idaho Hybrid (*Populus* sp.) grows rapidly, as much as 6 to 10 feet a year under irrigated conditions. Discovered approximately 50 years ago, this variety is especially well adapted to the climate, soil, and growing conditions encountered in Idaho. If properly cultivated, this hybrid will offer quick wind protection or screening. In 5 to 7 years this tree will be large enough to harvest as firewood. Hybrid poplar wood burns more quickly than many conventional firewood sources. The two most important aspects of planting poplars are: 1) the soil; and 2) weed control. Poplars grow best on well-drained soils with high water and nutrient availability. They will grow on just about any type of soil, but as available water and nutrient levels decrease, or drainage becomes limited, growth is reduced. Controlling weeds in your plantation allows all the available nutrients and moisture to be used by the trees, thus improving their growth. **Wildlife benefit:** Good roosting and nesting tree for hawks and owls, and nesting by many species of birds. Zones 3-7 \$2.25 each (multiples of 5 only)



Walnut, Black (*Juglans nigra*), from the eastern U.S. forests, has one of the most valued woods in the country. It's used in cabinet making, gunstocks, and furniture. There is a tremendous call for walnut veneer. This tree is medium to fast growing with a single, long smooth trunk, reaching 50 to 75 feet in height, although it can get as high as 150 feet under optimum conditions. It does well in the interior rows of multiple-row windbreaks. Black walnut prefers deep, well-drained neutral soils but will tolerate drier sites. The walnuts are used as food by humans and harvested commercially. Nut production may be increased by interplanting with alder, since alders will increase the available nitrogen in the soil. Black walnut leaves contain a toxic compound which is injurious to nearby crops such as tomatoes, potatoes, apples and blackberries. Our seed comes from a Purdue #1 black walnut plantation in north central Idaho. Zones 4-9 \$2.25 each (multiples of 5 only) *Grown in 20 cu in Jiffy® plugs*



Coniferous trees ... at a glance

| Species | Idaho | Seedling native | Mature ht (in) | USDA ht (ft) | Drought zones | Uses hardy | Birds |
|------------------------|-------|-----------------|----------------|--------------|---------------|------------|-------|
| Cedar, incense | | 12-16 | 60-150 | 5-8 | x | H, S, W | C |
| Cedar, Western red- | x | 8-14 | >100 | 5-7 | | H, F | C |
| Douglas-fir, Rocky Mtn | x | 7-14 | 60-100 | 4-6 | | F, W, X | C, F |
| Fir, Canaan | | 7-13 | 40-60 | 4-7 | | X | C, F |
| Fir, concolor | x | 5-11 | > 100 | 3-7 | | W, X | C, F |
| Fir, corkbark | | 7-15 | 30-60 | 4-7 | | C, X | |
| Fir, fraser | | 6-11 | 40-60 | 4-7 | | X | C, F |
| Fir, grand | x | 6-12 | > 100 | 4-7 | | F, X | C, F |
| Fir, subalpine | x | 5-12 | 40-100 | 2-6 | | C, F, X | |
| Fir, trojan | | 6-10 | >100 | 4-8 | | X | C, F |
| Hemlock, Western | x | 6-12 | 170-200 | 4-7 | | F, R | C, F |
| Juniper, Rocky Mtn | x | 7-14 | 20-30 | 3-7 | x | H, W | C, F |
| Larch, Western | x | 8-15 | >100 | 3-7 | | F | |
| Pine, Austrian | | 5-10 | 40-60 | 3-7 | x | W, X | C, F |
| Pine, bristlecone | | 4-8 | 20-30 | 4-7 | x | C | C, F |
| Pine, limber | x | 5-9 | 20-40 | 3-7 | x | C | C, F |
| Pine, lodgepole | x | 6-16 | 50-100 | 3-8 | | F | F |
| Pine, pinyon | | 5-12 | 20-30 | 4-8 | x | C, X | C, F |
| Pine, ponderosa | x | 4-15 | 60-100 | 3-6 | x | F, W | C, F |
| Pine, Scotch | | 5-16 | 40-70 | 3-7 | x | W, X | C, F |
| Pine, Western white | x | 3-9 | >100 | 3-9 | | F | C, F |
| Redwood, dawn | | 10-18 | 70-100 | 4-8 | | C | C |
| Spruce, blue | x | 5-13 | 50-60 | 2-7 | x | W, X | C |
| Spruce, Engelmann | x | 9-17 | >100 | 2-6 | | F | C |
| Spruce, Norway | | 9-18 | 60-80 | 2-7 | | W, X | C |

KEY

Uses

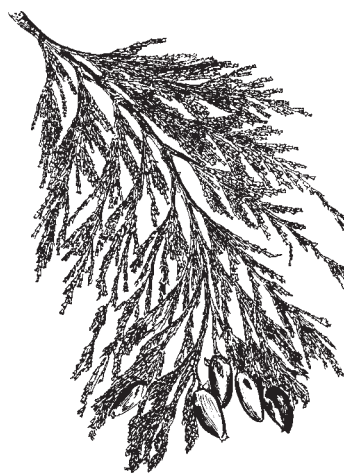
C = Specialty crop **S = Soil Stabilization**
F = Reforestation **W = Windbreak**
R = Riparian **X = Christmas trees**
H = Hedge

Birds

C = Cover
F = Food

Coniferous trees ... descriptions

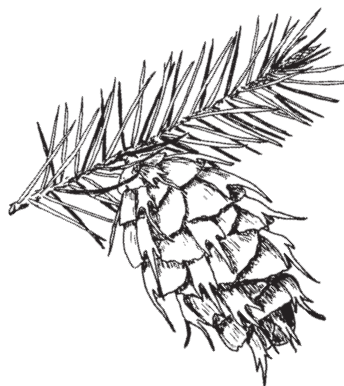
Cedar, Incense (*Calocedrus decurrens*- recently changed from *Libocedrus decurrens*) is a moderate to fast-growing conifer native to southern Oregon and the mountains of California. This false cedar grows in a conical shape and can reach heights of 60 to 150 feet. The Latin name means 'beautiful cedar,' perhaps in reference to its rich red-brown bark and lush, shiny foliage. Drought-tolerant once established, incense cedar prefers dry areas and does well on southwestern slopes. In Idaho, we recommend planting it at or below 4,000 feet in elevation. Classified as a zone 5 plant, this cedar can withstand temperatures down to -20°F. It endures shade as a seedling, but requires more sunlight as it matures. The wood is strong, straight-grained, and resists rot, making it ideal for exterior siding, decking, cedar chests and pencils. We recommend incense cedar as a windbreak, hedge or ornamental. **Wildlife benefit:** Incense cedar provides shelter for birds and small animals. The seeds are eaten by songbirds. Zones 5-8 \$2.25 each (multiples of 5 only)



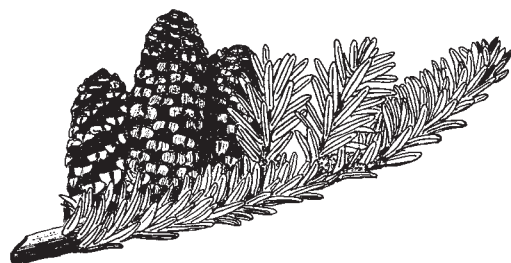
Cedar, Western Red- (*Thuja plicata*) is a northern Idaho native recommended for reforestation and riparian enhancement. It can reach mature heights of 150 feet and 4 feet in diameter, although in the wild trees grow to over 18 feet in diameter. The heartwood of the western redcedar is one of Idaho's most useful and valuable primarily because it resists decay. It is used for almost every purpose requiring exposure to the elements such as shingles, shakes, fence posts, outdoor furniture, and siding. In the wild, this cedar is found on moist slopes and along stream banks. Some of our ancient redcedars are claimed to be over 3,000 years old! Western redcedar is a fast grower, but it must have ample water. It also makes a nice hedge if planted close together and sheared yearly. **Wildlife benefit:** Deer and elk browse the sweet-smelling leaves and twigs in winter. Zones 5-7 \$2.25 each (multiples of 5 only)



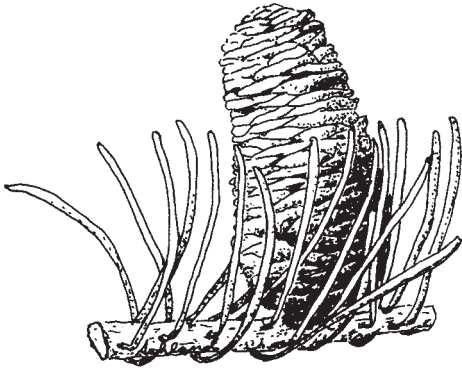
Douglas-fir, Rocky Mountain (*Pseudotsuga menziesii* var. *glauca*), also known as red fir, is an Idaho native with a medium to high growth rate. It is considered the most valuable timber tree in the United States and is the most harvested tree in Idaho for timber. Douglas-fir are also used extensively as Christmas trees. It needs a well-drained soil for best growth and can reach mature heights of 60 to 80 feet in a windbreak or 100 to 130 feet in a forest. Douglas-fir is more difficult to establish under irrigation than Scotch pine or Norway spruce. Growth is generally slow without supplemental watering in areas with less than 18 inches of annual precipitation. Our seed is collected near Moscow, ID. **Wildlife benefit:** Seeds are eaten by many species of birds, including crossbills, nuthatches, and chickadees. Hawks and owls use it for roosting. Zones 4-6 \$1.00 each (multiples of 20 only) and \$2.25 each (multiples of 5 only)



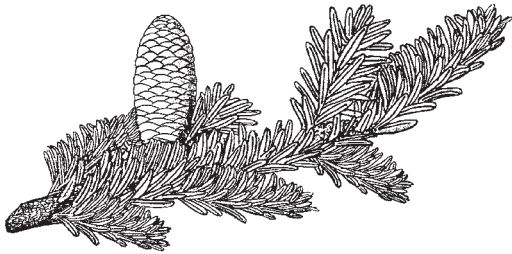
Fir, Canaan (*Abies intermedia*) has been deemed the "up and coming" Christmas tree by tree growers. It's native to the Virginias, and is named after the Canaan Valley in West Virginia where it was first discovered. It has many of the characteristics of Fraser fir but will better tolerate adverse conditions than Fraser, such as wet sites and late frosts. Some consider it an intermediate or hybrid between Fraser fir and Balsam fir - others think it is a subspecies of Balsam fir — in either case it thrives in northern to central Idaho and deserves attention as a potential Christmas or landscape tree. This fir prefers a deep, fertile loam, but does well in a variety of soil types. It will not tolerate a dry, upland site on a western or southern exposure. Our seed source comes from selected stands in Virginia. Zones 4-7 \$2.25 each (multiples of 5 only)



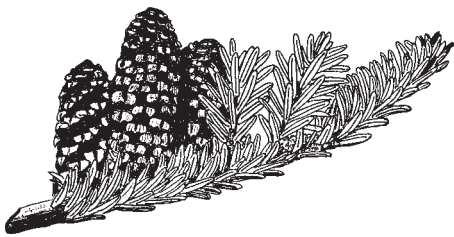
Coniferous trees ... descriptions



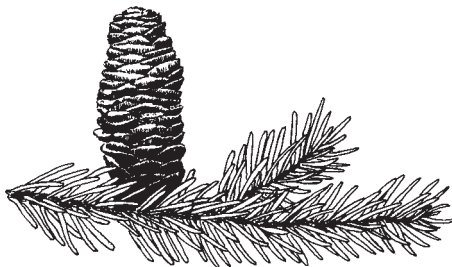
Fir, Rocky Mountain Concolor (*Abies concolor* var. *concolor*), or white fir, is a tree with nice symmetry and beautiful blue-gray needles. It's a large tree, reaching over 125 feet at maturity, and may live for 250 to 300 years. Concolor fir is found on higher elevation, cool, dry northern exposures but is adaptable to a wide range of soil types and moisture, making it useful in a windbreak. This fir is used extensively in the Christmas tree industry not only because of its beauty but because the needles on the cut trees stay green and fresh and last far into spring. We grow seed collected in the Sante Fe National Forest in New Mexico as recommended by the Inland Empire Christmas Tree Association. **Wildlife benefit:** Needles are an important part of the blue grouse diet, and chickadees, red crossbills, and Clark's nutcracker feed on the seeds. Zones 3-7 \$2.25 each (multiples of 5 only)



Fir, Corkbark (*Abies lasiocarpa* var. *arizonica*) has the same spire-like shape of the subalpine fir, but with whitish, corky bark and blue foliage. It is native to the Rocky Mountains of southern Colorado, Arizona and New Mexico and attains a height of 30 to 60 feet. Like the subalpine fir, it is also found at high elevations and prefers a moist, acid soil. Corkbark fir is a popular Christmas tree and ornamental because of its narrow, pyramidal habit and beautiful blue foliage. Zones 4-7 \$2.25 each (multiples of 5 only)



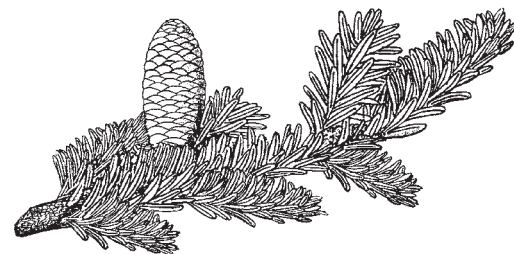
Fir, Fraser (*Abies fraseri*) is considered the "Cadillac" or "Ultimate" of Christmas trees by many. It is new to this part of the country, its native range being the Appalachian Mountains in the southeastern United States. Research trials by the Inland Empire Christmas Tree Association have shown this fir responds well to the climate and acidic soils of northern and central Idaho. It is a beautiful, fast-growing tree, with its shiny, dark green needles, wonderful fragrance, and narrow, spire-like form. The underside of the needles are silvery — making the tree almost glisten, and the branches are stiff — great for holding ornaments. For obvious reasons, this fir would make a wonderful landscape tree as well as a Christmas tree. The literature says it prefers well-drained soils, but it has been shown to also do well in the clay soils of the Palouse region of Idaho. Our seed comes from selected stands in the Roan Mountains of North Carolina. Zones 4-7 \$2.25 each (multiples of 5 only)



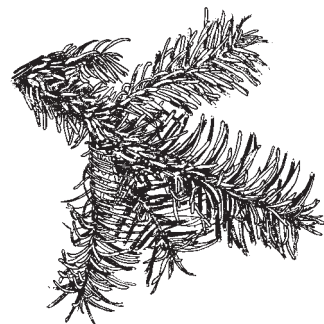
Fir, Grand (*Abies grandis*), a northern Idaho native also known as white fir, may exceed 120 feet high and 3 feet in diameter. Beautiful, aromatic, glossy green needles on sweeping branches make this tree a popular Christmas tree and ornamental. Grand fir grows well in a variety of environments and is tolerant of fluctuating water tables and floods. It occurs most frequently on deep, moist alluvial soils, in gulches, along streams, and on gentle slopes of northerly exposure. Our seed comes from the Clearwater River drainage, which has been said to contain the best commercial stands of grand fir. **Wildlife benefit:** The sweeping boughs provide good thermal and hiding cover for big game and nesting sites for birds. Fir needles are a major part of the diet of grouse. Birds, the Douglas squirrel, and other mammals eat the seeds. Zones 4-7 \$2.25 each (multiples of 5 only)

Coniferous trees ... descriptions

Fir, Subalpine or Alpine fir (*Abies lasiocarpa*), as its name implies, is native throughout the mountains of western North America, including Idaho. It grows from 40 to 100 feet tall and has a dense, conical crown tapering to a sharp point, similar to a church steeple. It is very tolerant of cold, and prefers cool summers and cold winters with deep winter snowpacks. It requires a moist, acid soil with a pH between 4.5 and 6, but is very adaptable to soil type, responding well in gravelly soil as well as heavy clay soil. Subalpine fir is used frequently as an ornamental and Christmas tree because of its beautiful spire-like shape and bluish-green color. **Wildlife benefit:** Blue grouse feed on the buds and the branches provide cover for deer and pine martins. Zones 2-6 \$2.25 each (multiples of 5 only)



Fir, Trojan (*Abies equi-trojani*) is native to western Asia Minor. There are few of these in cultivation and relatively little is known about them. This fir seems to do best on heavy, moist, well-drained soils and has dark green, glossy, long needles. It tolerates soils that are high in calcium deposits (limestone-derived). Trojan fir makes an excellent Christmas tree or ornamental. Zones 4-8 \$2.25 each (multiples of 5 only)



Helpful hints on growing firs

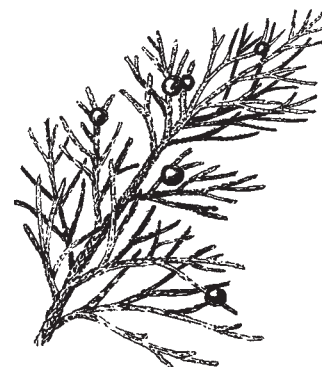
According to Bob Girardin, exotic tree specialist, many people have trouble growing true firs in hot, dry conditions because the soil temperature is allowed to get too high. Some recommendations that should improve survivability and growth include:

- Planting your seedlings under existing shade that allows sufficient sunlight (ie shadeboards and stumps left from cut trees).
- Planting on sites that receive only morning sun.
- Utilizing ground covers, mulch and drip irrigation.

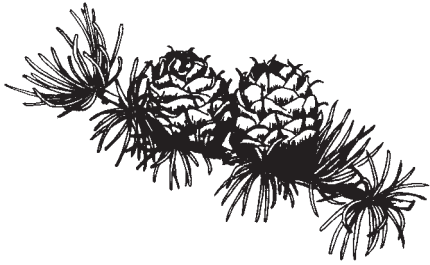
Hemlock, Western or Pacific hemlock (*Tsuga heterophylla*), one of our most beautiful native conifers, has down sweeping branches and feathery foliage. It is also one of our largest conifers, reaching 170 to 200 feet tall. Western hemlock is easy to pick out in a forest because of its drooping top, a very uncommon trait among conifers. It is not drought tolerant, but prefers moist, cool climates at elevations of 1600 to 4200 feet. This tree is not related to poison hemlock, but was named after a European weed which has a similar smell. Native Americans carved the wood into spoons, combs, and dishes, and today it is used commercially for pilings, poles, and railway ties. The small 1 inch cones are popular in arts and crafts projects and potpourri. This is the state tree of Washington. Zones 4-7 \$2.25 each (multiples of 5 only)



Juniper, Rocky Mountain (*Juniperus scopulorum*), native to east central and southeastern Idaho, attains heights of 20 to 30 feet with a medium to rapid growth rate. Although highly drought tolerant, Rocky Mountain juniper grows on a wide range of soils and will tolerate a high water table. It forms a very dense, symmetrical crown and is a superior small tree for windbreaks in this region. In winter it changes color from shades of gray to purple gray. We grow the NRCS release 'Bridger Select' from Montana, which is selected for its uniform broad conical shape, vigorous growth, and greater than average foliage density. **Wildlife benefit:** This tree is an important source of food, shelter, and nesting for numerous birds and mammals, including waxwings, robins, turkeys, jays, big horn sheep, and deer. Zones 3-7 \$2.25 each (multiples of 5 only)



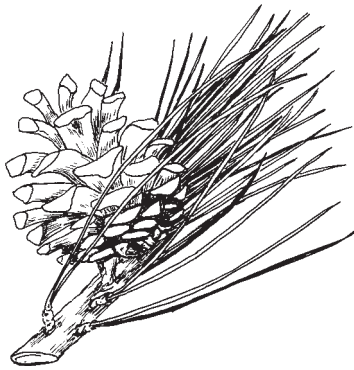
Coniferous trees ... descriptions



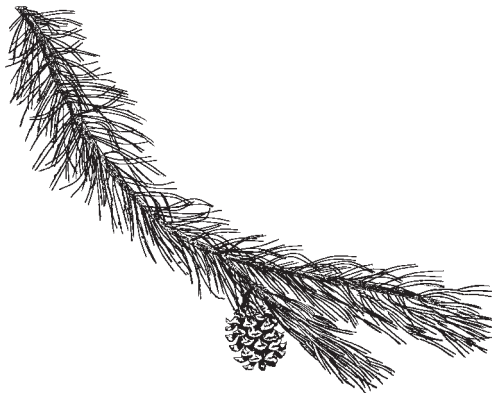
Larch, Western (*Larix occidentalis*) is a northern Idaho native recommended primarily for reforestation. It attains maximum growth on deep, moist, porous soils in high valleys, and on northerly or westerly exposed slopes. Seedling growth is exceptional, as 4-year-old plants may exceed 8 to 10 feet in height. Zones 3-7 \$1.00 each (multiples of 20 only) and \$2.25 each (multiples of 5 only)



Naked Larch! Western larch is one of very few deciduous conifers, that is, it loses its needles each winter. If you ordered larch seedlings, you'll notice they have very few needles, if any, and the needles are a deep red to maroon. Although the seedlings look dead, don't worry — this spring the buds will open and new, green needles will grow. Next fall the needles will begin their annual ritual of turning yellow and falling to the ground.



Pine, Austrian (*Pinus nigra*) grows 18 to 24 inches a year eventually reaching 40 to 60 feet tall. It has a dense, dark green crown and holds its lower branches well, making it ideal for irrigated windbreaks. If planted without supplemental watering in localities with less than 20 inches of annual precipitation, it needs a deep, fertile soil with good moisture-holding capacity. We grow seed from Macedonia selected for high density, excellent shape, and dark green foliage. **Wildlife benefit:** If the lower branches are retained, this tree will provide excellent winter cover for pheasant, quail, and partridge, as well as for small animals and other birds. Songbirds, including nuthatches, crossbills and chickadees, eat the seeds. Zones 3-7 \$2.25 each (multiples of 5 only)



Pine, Bristlecone or Rocky Mountain Bristlecone (*Pinus aristata*) grows slowly into a multi-trunked tree or shrub and is native to the high mountains of Arizona, Colorado, New Mexico, and Wyoming. The needles of this pine are very unusual in that they are covered with white dots of dried resin giving the tree a 'frosted' appearance. Another attribute of this pine is its remarkable tolerance of adverse conditions. It can adapt to alkaline, acidic, rocky, cold, or dry sites, and will almost stop growing during adverse years and resume growth in favorable years. Bristlecone pine can eventually reach 30 feet tall and 10 feet wide, although 1500 year old specimens have been found that are 60 feet in height and over 36 feet in diameter. Due to its picturesque growth habits, slow growth, and low water requirements, we highly recommend this pine for a smaller landscape, rock garden, bonsai plant, or as an outdoor container plant. **Wildlife benefit:** Small animals and birds, such as Clark's nutcracker, eat the seeds. The bushy foliage provides some cover for birds and mammals. Zones 4-8 \$2.25 each (multiples of 5 only) *Grown in 20 cu in Jiffy® plugs*

Coniferous trees ... descriptions

Pine, Limber (*Pinus flexilis*), is found in the mountains of east central Idaho. This slower growing, long-lived tree reaches 20 to 40 feet tall and 15 to 30 feet wide, making it an excellent choice for many landscaping situations. Its drought, cold, and high elevation tolerance also make it a great candidate for revegetation projects. Limber pine can withstand severe environments and a range of soils, but grows best in full sun and well-drained soil. This pine has deep tap roots, and is very windfirm. As the name implies, *limber* pine has very flexible branches which bend to withstand heavy snow and ice loads. **Wildlife benefit:** Nuts provide critical food for rodents, birds, and bears. The seeds are highly nutritious providing amino acids and lipids while the needles provide a good source of vitamin C. Limber pine also provides an ideal winter range for deer and elk. Zones 3-7 \$2.25 each (multiples of 5 only) *Grown in 20 cu in Jiffy® plugs*



Pine, Lodgepole (*Pinus contorta* var. *latifolia*) is an Idaho native that rapidly grows into a 50 to 100 foot, straight, slender, branch-free tree. Native Americans used the long, slim saplings to make their buffalohide lodges, hence the name "lodgepole pine." This pine does well in a wide range of soil types and environments, although it prefers it cold and performs best on moist, well-drained, sandy or gravelly loam soils. It is commonly used to reclaim disturbed sites, and areas with dry soils or frost pockets where other species won't grow. It does have problems with bark beetles in stagnated stands. This pine is cut for plywood, posts, poles, house logs, railroad ties, and paper. Our seed source is from western Montana. **Wildlife benefit:** Seeds are an important food for pine squirrels, chipmunks, and songbirds. Needles are eaten by grouse in winter. Zones 3-8 \$1.00 each (multiples of 20 only) and \$2.25 each (multiples of 5 each)



Pine, Pinyon or Two-needle Pinyon (*Pinus edulis*) is a slow-growing, long-lived, 20 to 30 foot tree native just south of Idaho in the mountains of Nevada, Utah, Wyoming, Colorado, Arizona and New Mexico. It is extremely drought and cold tolerant, and adapted to a wide range of soils, moisture conditions and temperatures. It is found at higher elevations between 4500 and 9000 feet where the summers are hot and the winters very cold. Pinyon pine is perhaps known best for its 'pine nuts' which are second only to pecans in commercial value among the uncultivated nuts of the U.S. Annual harvest of pine nuts exceed 1-2 million pounds! The fact that they are not typically cultivated might be because trees do not start bearing seed until they are 25 years old, and reach prime seed production between 200 to 250 years of age! This may account for the high price of pine nuts at the store! Pinyon pine are also popular as Christmas trees in the southwest because of their bluish color and aromatic needles. The rot-resistant wood is used for fence posts and firewood. This is the state tree of New Mexico. **Wildlife benefit:** The nutritious seeds are extremely important in the diet of a variety of birds including quail, wild turkeys, Clark's nutcracker, pinyon jays, and the Western scrub jay. Zones 4-8 \$2.25 each (multiples of 5 only)



Coniferous trees ... descriptions



Pine, Ponderosa (*Pinus ponderosa* var. *ponderosa*), also known as yellow pine or bull pine, is an Idaho native with a fast growth rate (18 to 24 inches a year once established), and attains a mature height of 60 to 80 feet in windbreaks and 150 to 180 feet in the forest. It is aptly named, for *ponderosa* means "large" and this pine is one of the largest pines in the world! It has excellent wood and is one of Idaho's most valuable timber trees. Ponderosa pine withstands hot, dry sites well, and adapts to a variety of soil conditions but must have good drainage and full sunlight. Many consider this pine to be the most reliable evergreen for windbreaks. Our seed is collected near Moscow, ID. **Wildlife benefit:** Ponderosa pine provides excellent cover and nesting sites for many birds. Chipmunks, ground squirrels, and birds, including grosbeaks, chickadees, finches, siskins, crossbills, nuthatches, and turkeys will eat the seeds. Zones 3-6 \$1.00 each (multiples of 20 only) and \$2.25 each (multiples of 5 only)
Ponderosa pine is in high demand - call early to order!



Pine, Scotch (*Pinus sylvestris*), native to northern Eurasia, has a rapid growth rate, reaching mature heights of 40 to 70 feet. Widely used for windbreaks, this pine is generally easy to establish, adapting well to a variety of soil conditions. They are also used extensively for Christmas trees. The greatest problem with this species is the tremendous variability in color, hardiness, habit, and adaptability. We grow seed highly selected for excellent shape, fast growth, blue/green needles, and disease resistance. **Wildlife benefit:** Chipmunks and birds eat the seeds. Zones 3-7 \$2.25 each (multiples of 5 only)



Pine, Western White (*Pinus monticola*) is a northern Idaho native and the state tree. We recommend it only for reforestation or landscape usage in northern portions of the state. This rapid growing evergreen with blue-green foliage grows best on rich, porous soils in moist valleys and on middle and upper slopes of northerly exposure. Our seed source, the University of Idaho white pine seed orchard, offers blister-rust resistance. It's the same seed source used by the Idaho Department of Lands and private industry. Zones 3-9 \$1.00 each (multiples of 20 only) and \$2.25 each (multiples of 5 only)



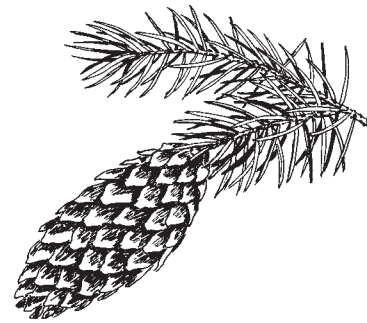
Redwood, Dawn (*Metasequoia glyptostroboides*), thought to only be a fossil, was re-discovered in China in the 1940's and re-introduced shortly after throughout the U.S. Dawn redwood, a 'living fossil', has been growing on earth since prehistoric times, and may have been grazed by dinosaurs. Growing rapidly to 70 to 100 feet tall, dawn redwood is one of few deciduous conifers. A true member of the redwood family, dawn redwood looks similar to the conical-shaped coastal redwood, but is much hardier. Not drought tolerant, it needs plenty of moisture and prefers full sun and well drained, slightly acidic soils; but will tolerate heavy soils and other adverse conditions. As a deciduous conifer, dawn redwood is noted for its lovely feathery, fern-like foliage which turns gold and russet in the fall. Its twisted and fluted trunk with fibrous shredding and peeling bark also adds great interest. It makes a great bonsai or landscape specimen, and we also recommend it for a fast-growing screen or privacy hedge. **Wildlife benefit:** Provides winter coverage for birds, small mammals and deer. Zones 4-8 \$2.25 each (multiples of 5 only)

Coniferous trees ... descriptions

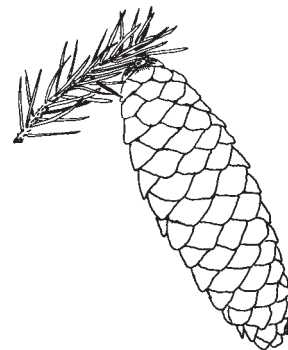
Spruce, Colorado blue (*Picea pungens*), native to far southeastern Idaho, can grow unusually slowly the first 1 to 3 years after planting, but has a medium growth rate after that. Its crown is very dense with attractive pyramidal form, reaching heights of 50 to 60 feet. It makes an excellent windbreak species in most regions of the state and traps and holds snow well. The color varies from green to blue, but we grow seedlings from seed collected on the Kaibab National Forest in Arizona to ensure a higher percentage of blue foliage. **Wildlife benefit:** Blue spruce provides excellent winter cover for upland game birds and small animals. Zones 2-7 \$1.00 each (multiples of 20 only) and \$2.25 each (multiples of 5 only)



Spruce, Engelmann (*Picea engelmannii*), adapted to high elevations, has a slim, rapidly tapering crown that sheds heavy snow. This Idaho native prefers deep, loamy soils of high moisture content. It is primarily used for reforestation of cool, moist sites near timberline. The wood is high quality — strong, white and very low in resins. It's used for lumber, pulp and even musical instruments. Engelmann spruce is generally greener than blue spruce, although specimens have been found that range from gray-green to silver-blue. **Wildlife benefit:** Branches provide excellent hiding and thermal cover for big game. Buds and needles are eaten by grouse; squirrels, chickadees, chipmunks, mice, and voles eat the seeds. Zones 2-6 \$2.25 each (multiples of 5 only)



Spruce, Norway (*Picea abies*), a native of Europe, attains heights of 60 to 80 feet. Although spruce in general are slow growers compared to other conifer species, Norway spruce has one of the fastest growth rates of the spruces. Its crown is dense and extends to the ground unless the base is in heavy shade. Norway spruce grows in many soil conditions and environments, but prefers moist, deep soils with high fertility. Growth rates are higher with increased organic matter and are positively correlated to the nitrogen content of the soil —so go ahead and fertilize this tree! It does fairly well in dryland plantings if soil is deep and fertile. **Wildlife benefit:** Grouse eat spruce needles, and seeds are consumed by birds and small mammals. Provides good winter cover for birds and small animals, and it's a good roosting tree for hawks and owls. Zones 2-7 \$2.25 each (multiples of 5 only)

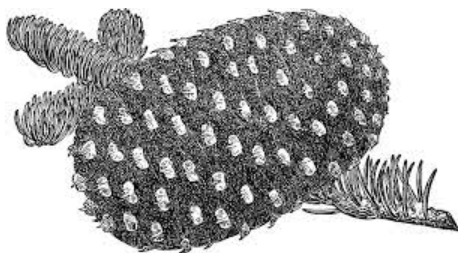


Rare plants ... available this year only

We had some leftovers from a special project, so we are offering them to the public.



Brewer's spruce (*Picea breweriana*) or Weeping spruce is considered one of the most attractive conifers in the world as well as one of the rarest. In the wild, it is only found in the Klamath Mountains of SW Oregon and NW California. It is, however, highly prized in British gardens, where it is appreciated for its long curtains of strikingly pendulous foliage which develops when the tree reaches 5 to 7 feet tall. This unique foliage is also quite adept at shedding buildups of snow and ice in the winter. Brewer's spruce grows slowly to a height of 65 to 100 feet and is adaptable to a wide range of soils. It isn't as drought tolerant as blue spruce and relies on heavy snow to provide a steady source of meltwater through the spring and summer. Zones 5-8



Shasta Fir (*Abies magnifica* var. *shastensis* or *Abies procera* x *magnifica*), native to SW Oregon and NW California, is related to both the California red fir and Noble fir. It grows to be a beautiful, large tree which can reach 125 feet tall in the wild. It has characteristic red bark and large, purple cones and does well in high mountains with dry summers and deep snow in winter. It likes well drained, moist soils that are slightly acidic, but has also done well in the clay soils of the Palouse region in Idaho. This fir is a highly desired Christmas tree because of its attractive symmetrical form, dark color and its ability to keep its needles. The rigid dark-green needles curl upward along the top sides of the twigs giving it a bottlebrush appearance. It would also make a beautiful ornamental. Zones 5-8



Cuyamaca Cypress (*Cupressus arizonica* var. *stephensonii* or *Hesperocyparis stephensonii*) is the rarest of named cypresses and is found only in/near Cuyamaca State Park in southern California and in Baja, Mexico. Only 200 mature trees now remain in the US population after the fires of 2003 wiped out over 70% of the population. This variety now meets the criteria for listing as critically endangered. Cuyamaca cypress grows 30 to 35 feet tall with blue-green scalelike foliage and smooth, cherry-red or mahogany brown, exfoliating bark. It usually forms a spreading tree with a central leader, only slightly taller than it is wide. The cones are 1 inch long and stay closed on the tree until heat, such as a fire, causes the cones to open and release the seed. They prefer dry, open sites and well-drained soil. The literature states this tree can grow in zones 7-9, but there are so few planted that little is truly known on how cold hardy they are or what zone they could survive in.

Books, publications, journals, and organizations

This section is comprised of plant-related educational materials that we have found very helpful. Hopefully you will find them useful too!

WILD TREES OF IDAHO - A Tremendous Field Guide Manual

This book by noted forestry professor Fred Johnson is about wild trees - native, escaped, and naturalized trees one might encounter in Idaho. Wild Trees of Idaho is a 288-page field guide with over 100 illustrations, maps, and color plates featuring the wild and beautiful natural environment of Idaho. It is currently out of print, but is available to download for free at <http://info.ag.uidaho.edu/pdf/CNR/WildTreesOfIdaho.pdf>

WOODLAND NOTES

Woodland Notes is a popular online newsletter for owners and managers of private woodlands in Idaho published by U of I Extension Forestry. It provides practical information about woodland management as well as news of events and issues facing private forests.

Subscribe to *Woodland Notes* at: www.uidaho.edu/extension/forestry/content/news/woodland

NATIVE PLANT JOURNAL

Growers and planters of native plants will find this colorful illustrated journal a useful guide for ideas on conservation, restoration, and landscaping. Native Plants Journal is published three times annually and is filled with beneficial information and beautiful photographs of native flora.

Annual subscription rates are: \$55.00 - Personal; \$145 - Library/Institutional.

Order your subscription now! Call toll-free 608-263-0668, Fax 608-263-1173, or visit <http://npj.uwpress.org/>. You may also mail your order to: Native Plants Journal, University of Wisconsin Press - Journals Division, 1930 Monroe St, 3rd Floor, Madison, WI 53711-2059.

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Contact: The Inland Empire Christmas Tree Association, P.O. Box 235, Garfield, WA 99130-0235
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University of Idaho
College of Forestry, Wildlife and Range Sciences
Forest Nursery Advisory Committee

CHARTER

Adopted February 10, 1986

The College's recent planning process, called a "Quest for Excellence," identified topical areas in which the College could excel. The Nursery is identified in the Plan by faculty and resource leaders as such an area. The College is unique among western forestry schools in having an operational nursery for student training, faculty and student research, and public service. The College Nursery, due to Dr. David Wenny's efforts, has received both a regional national reputation for the quality of seedlings, graduates, and operational research. The Nursery is a laboratory for continuous exploration and product refinement concurrent with the University of Idaho's mission: teaching, research and service.

Establishment of an Advisory Committee was proposed in the new Forest Nursery Role and Mission Statement developed during fall 1985 during discussions with the Kootenai Valley Nursery Exchange and private seedling producers. Private, state, and federal advisors, selected from nominees by these organizations—the objective being a balanced representation from all user groups. The Committee is organized into Seedling Production and Reforestation Working Groups. The role of the Advisory Committee is to provide a forum for communication to facilitate the open and honest exchange of ideas to solve and prevent misunderstandings and problems. The basic premises are that several heads are better than one, external advice can guide the program to greater excellence, relevance, and service while also providing mutual support.

The responsibilities of the Nursery Advisory Committee are to:

1. Assist the Nursery in developing goals, objectives and programs toward greater excellence and relevance to needs.
2. Help keep the nursery informed of emerging resource problems, needs and situations that can be addressed within the framework of the College's mission.
3. Become informed about the Nursery activities, problems and operations and advise the College on their implementation and resolution.
4. Help promote communication, understanding and support for nursery programs among constituent groups.
5. Help generate funding, internships, and jobs to support nursery teaching and research.

Notes from each meeting with information, suggestions and recommendations developed by the Advisory Committee will be presented by the Committee Chairman in writing to the Dean of the College of Forestry, Wildlife and Range Sciences with copies to the Forest Resources Department Head. The Chairman of the Forest Nursery Advisory Committee will be a member of the CFWR Guidance Council so as to represent Nursery interests in that larger advisory body that focuses on total College programs.

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