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Jack Pine

Uses: Canadian Indians used jack pine wood as frames in their canoes.

Commercial uses: Jack pine is important timber species in the Lake States of the United States and Canada. These trees produce pulpwood, lumber for construction, telephone poles, fence posts, mine timbers, and railroad ties. Jack pine is used as Christmas trees and for stabilization of watersheds.

Wildlife uses: Serves as habitat and breeding area for the endangered Kirtland’s warbler, federally endangered bird. These small birds utilize jack pine stands ranging from 1.5 and 6 m (5 to 20 ft) tall larger than 32 ha (80 acres) as nesting grounds. White-tailed deer browse saplings and young trees and snowshoe hares feed on young seedlings. Porcupines feed on bark that often leads to deformed trees. Red squirrels, chipmunks, mice, goldfinches, and robins consume seeds.

Description: Jack pine is a small to medium-sized, native, evergreen tree averaging 17 - 20 m (55 - 65 ft) high. Crown small, irregularly rounded or spreading and flattened irregular. Branches descending to spreading-ascending, poorly self-pruning; twigs slender, orange-red to red-brown, aging gray-brown, rough. Cones are retained for several years, resulting in a coarse appearance. Trunk straight to crooked; bark at first dark and scaly, later develops scaly ridges. Branchlets are yellow to greenish-brown when young, then turning gray-brown with age; very resinous buds. The leaves are evergreen, 2 - 3.75 cm (.75 - 1.5 in) long, and two twisted, divergent needles per fascicle, yellow-green in color all surfaces with fine stomatal lines, margins finely serrulate, apex acute to short-subulate. Fascicle sheath is short 0.3-0.6 cm, semi persistent. Seeds are compressed-ovoid, oblique; body 4-5 mm, brown to near black; wing 10-12 mm.

The minimum seed-bearing age of open-grown jack pine is 3 to 5 years old. Some seed is produced every year and serotinous cones accumulate in the crown. A mature stand of jack pine may have as many as 2 million seeds per acre (5 million/ha) stored in unopened cones. Because of abundant seed production, few mature trees are necessary to regenerate a stand. The serotinous cones are sealed close with a resinous bond that requires high temperatures to open and liberate the seeds. This heat is usually provided by fire, but hot, dry weather (temperatures of at 49 to 60 degrees C) also opens some cones. Because temperatures required to open cones typically occur in the warmest part of the summer, survival of new germinant may be poor because of drought conditions or lack of time to become established before winter. The winged seeds are the smallest of the native North American pines and are dispersed by gravity and wind. The effective dispersal range is about 110 to 130 feet (34-40 m) or two tree heights.

Seeds usually germinate rapidly after release when the 10-day mean maximum air temperature is 65 degrees Fahrenheit (18 deg C) or higher. Jack pine seeds occasionally exhibit partial dormancy, which is probably broken naturally by heat from fire. Seeds remain viable in closed cones for years, but viability decreases over time.

Distribution: Jack pine occurs in Canada from British Columbia to Nova Scotia; and in the United States from Illinois eastward to New Hampshire, and Maine.

Habitat: Widespread throughout Northwestern Ontario, jack pine is usually found on sandy soils of the Spodosol and Entisol soil orders. It also grows on loamy soils, on thin soils over the granites and metamorphosed rocks of the Canadian Shield, over limestone, on peat, and on soil over permafrost. Grows in mono-specific stands or in association with black spruce; less common in mixed woods with trembling aspen and other species.

Adaptation: Jack pine is the best adapted of all boreal conifers to fire. With medium thick bark, mature individuals have only moderate fire tolerance, but populations survive because of delayed seed release from serotinous cones, early reproductive maturity, fast growth in full sun, and preference for mineral soil seedbeds. Jack pine invades areas where mineral soil has been exposed by major disturbance such as fire. Jack pine is fire adapted and becomes a dominate species in areas that are exposed to frequently burned.

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**Establishment:** Jack pine is regenerated by planting, direct seeding, scattering cone-bearing slash on mechanically scarified ground, or using the seed tree silviculture method combined with prescribed fire. Usually grows in dry, acidic sandy soils with a lower pH limit of 4.0, but also loamy soil, thin soil over bedrock, peat, and soil over permafrost. Does not usually grow in moderately alkaline soil, but can grow in calcareous soils up to pH 8.2 if normal mycorrhizal fungi are present.

Jack pine occurs on level to gently rolling sand plains of glacial outwash, fluvial, or lacustrine origin, on eskers, sand dunes, rock outcrops, bald rock ridges, and lakeshores. At elevations between 300 to 700 m.

Jack pine seeds germinate best on mineral soil or soil with less than 0.2 inch or organic matter. The organic material level can be reduced by fire or mechanical raking and disking. The slash on seedbed left by harvesting must be reduced because it will provide too much shade. Some shade might be good for germination but young Jack pine seedlings require full sunlight to become established.

**Pests and Potential Problems:** The jack pine budworm defoliates mature jack pine. The jack pine budworm, native to North America, has a range that coincides almost exactly with jack pine, its preferred host. Root borers, root feeders, shoot and stem borers, leaf feeders, needle miners, and sucking insects affect the survival and growth of seedlings. Many other insects feed on jack pine cones. Young stands of jack pine are susceptible to defoliation by the redheaded pine sawfly. Jack pine is susceptible to many fungi, diseases and rust.

**Red Pine**

**Alternate Names:** Norway pine, eastern red pine, pin rouge

**Uses:** *Economic:* Red pine wood is moderately hard and straight grained. It is grown primarily for the production of wood used for poles, lumber, cabin logs, railway ties, post, pulpwood, and fuel. The bark is occasionally used for tanning leather.

*Ethnobotanic:* The inner bark of red pine was pounded as a poultice for any kind of inflamed wound, sore, or ulcer when white pine bark was not available.

*Landscaping & Wildlife:* Red pine is an attractive tree that is used in recreational areas because of its colorful bark. Red pine provides cover for many species of mammals and birds. Deer, small mammals and songbirds feed on the seed.

*Agroforestry:* Red pine is used in tree strips for windbreaks. They are planted and managed to protect livestock, enhance crop production, and control soil erosion. Windbreaks can help communities with harsh winter conditions better handle the impact of winter storms and reduce home heating costs during the winter months and cooling cost in the summer.

**Description: General:** Red pine is a medium sized tree, up to twenty-five meters high and seventy-five centimeters in diameter. The leaves are soft and flexible evergreen needles, in clusters of two, slender, 4”-6” long, dark green borne in dense tufts at the ends of branchlets. The fruit is ovoid-conic, with thin scales, becoming light chestnut-brown at maturity. The bark is thick and slightly divided by shallow fissures into broad flat ridges covered by thin loose red-brown scales. The root system is moderately deep, wide spreading, and very wind firm.

**Distribution:** Red pine is native to northeastern United States. This species ranges from Newfoundland and Manitoba, south to the mountains of Pennsylvania, west to Minnesota.

**Adaptation:** Red pine occurs most often on well drained, dry, highly acid, sandy soils of outwash plains, and gravelly ridges. It is frequently found where the soil fertility is low, in pure stands or mixed with species such as jack pine, white pine, aspens, oaks, and white birch. This species prefers full sun and is shade intolerant and extremely cold tolerant. *Red pine* is easily cultivated in nurseries and easily raised in plantations.
Establishment: Propagation by Seed: Cones ripen from August to October with natural seed dispersal occurring between October and November. However, seeds can be artificially harvested by kiln drying ripe cones for nine hours at 130°F. Fresh seed has no dormancy and will germinate immediately upon sowing. Stored seed requires two months cold stratification. Optimum temperature for germination is 77°F.

Management: Most red pine natural stands originate after a forest fire. Fire is necessary for regeneration because it prepares a seedbed by reducing much of the humus, and competition from other trees and shrubs, decreases the number of cone-destroying insects, and thins out the overstory. Once established, red pine requires little care. Tip and shoot moths sometime attack it.

White Pine

The eastern white pine has played a very important role throughout the history of America. In colonial days, the best of the trees were set apart by the king for masts on British ships. As the nation grew, the lumber of white pines built our homes and businesses. Today it is still a valuable commercial tree but also favored in parks and spacious yards—both for its beauty and its fast growth. It has also been named the state tree of both Maine and Michigan.

Hardiness Zones: The eastern white pine can be expected to grow in Hardiness Zones 3–8.

Mature Size: The eastern white pine grows to a height of 50–80’ and a spread of 20–40’ at maturity.

Growth Rate: This tree grows at a fast rate, with height increases of more than 24” per year.

Sun Preference: Full sun and partial shade are best for this tree, meaning it prefers a minimum of four hours of direct, unfiltered sunlight each day.

Soil Preference: The eastern white pine grows in acidic, moist, well-drained and dry soils. While it does best in moist soil, the tree can has been known to tolerate everything from dry, rocky ridges to bogs.

Attributes - this tree:
- Transplants easily.
- Works well for windbreaks.
- Is widely used as a Christmas tree.
- Features long, slender, blue-green needles, sometimes reaching 5” in length, grown in bundles of 5 that are soft and flexible.
- Produces elongated brown cones that are 3–8” in length. Each is curved slightly and has smooth scales.
- Grows in an oval, pyramidal shape.
- Is sensitive to air pollution, road salt and soil compaction.

Wildlife Value: Eastern white pine seeds are favored by black bears, rabbits, red squirrels and many birds, especially red crossbills. While potentially damaging to the trees, the bark is eaten by mammals such as beavers, snowshoe hares, porcupines, rabbits and mice. White pines provide nesting sites as well for many birds including woodpeckers, common grackles, mourning doves, chickadees and nuthatches.

Concolor Fir

Long ago, naturalist Donald Peattie recognized the beauty and adaptability of the white fir and accurately predicted that its future “lies in its value as an ornamental.” Its shape, color and ability to thrive on harsh sites has made the tree a favorite for urban landscaping. It has also become a major component of the Christmas tree industry.

Hardiness Zones: The white fir can be expected to grow in Hardiness Zones 4–7.

Tree Type: This is an evergreen tree, keeping its foliage year-round.

Mature Size: The white fir grows to a height of 30–50’ and a spread of about 20’ at maturity.

Growth Rate: This tree grows at a slow to medium rate, with height increases of anywhere from less than 12” to 24” per year.
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**Sun Preference:** Full sun and partial shade are best for this tree, meaning it prefers a minimum of four hours of direct, unfiltered sunlight each day.

**Soil Preference:** The white fir grows in acidic, loamy, moist, sandy and well-drained soils. It prefers normal moisture but has moderate drought tolerance.

**Attributes - this tree:**
- Is a popular Christmas tree choice.
- Features needles that are bluish or silvery-green and roughly 1½–3” in length. They extend from all sides of the twig and curve upward.
- Grows in a pyramidal shape.
- Yields oblong cones 3–6” in length that start out olive green, turning purplish and then brown at maturity. The cones are held upright on the branches and disintegrate while on the tree.
- Can do a reasonably good job as a windbreak tree.
- Tolerates heat and winter cold.

**Wildlife Value:** Grouse like to eat the buds and needles and find white fir a good roosting tree. The seeds are eaten by squirrels, rodents, chickadees, crossbills and Clark’s nutcrackers. Deer browse on seedlings, buds and needles, and porcupines gnaw on the bark.

**Douglas Fir**

Botanist-explorer David Douglas—this tree’s namesake—described it as “one of the most striking and truly graceful objects in nature.” Tree expert Michael Dirr heralded it as “one of the noblest forest trees.” To say the Douglas fir is beloved by the tree people of the world is definitely accurate.

The general public has a number of reasons to appreciate this tree as well. Douglas fir is one of the nation’s most important lumber species, it makes up nearly half of all Christmas trees grown in the U.S., and its attractive appearance and growth rate make it popular in yards and parks.

**Hardiness Zones:** The Douglas fir can be expected to grow in Hardiness Zones 4–6.

**Tree Type:** This is an evergreen tree, keeping its foliage year-round.

**Mature Size:** The Douglas fir grows to a height of 40–70’ and a spread of 12–20’ at maturity.

**Growth Rate:** This tree grows at a medium rate, with height increases of 13–24” per year.

**Sun Preference:** Full sun and partial shade are best for this tree, meaning it prefers a minimum of four hours of direct, unfiltered sunlight each day.

**Soil Preference:** The Douglas fir prefers acidic or neutral soil that is well-drained, thought it can also be found in its native habitat of rocky mountain slopes. It is sensitive to drought.

**Attributes - this tree:**
- Features needles that are spiral, simple and roughly 1½” in length. The coloring of the needles depends on the variety: Coast Douglas fir has dark yellow-green (occasionally bluish-green needles); Rocky Mountain Douglas fir has bluish-green (occasionally yellow-green) needles.
- Yields light brown, 3–4” cones which hang downward on the branches with distinctive 3-pointed bracts protruding from between the scales.
- Is a popular Christmas tree choice because of the nice shape and soft, short needles that do not easily fall off.
- Does best on a roomy site with an abundance of atmospheric moisture.
- Grows in a pyramidal shape.
- Can be injured by high winds.
- Makes an excellent specimen, grouping or mass.
Wildlife Value: Douglas fir seeds are used by blue grouse, songbirds, squirrels, rabbits and other small animals. Antelope, deer, elk, mountain goats and mountain sheep eat the twigs and foliage. It provides excellent cover for a wide range of animals.

**Serbian Spruce**

The Serbian Spruce is one of the most graceful and beautiful spruces. And once you see its thin, arching branches and slender, straight trunk, you’ll understand why. But this tree is much more than a pretty face, with sturdy branches and tolerance of most urban conditions. Its beauty and adaptability make it ideal for home landscapes, screening, buffer strips, salt-free median strips and parking lots.

**Hardiness Zones:** Can be expected to grow in Hardiness Zones 4–7.
**Tree Type:** This is an evergreen tree, keeping its foliage year-round.
**Mature Size:** It grows to a height of 50–60’ and a spread of 20–25’ at maturity.
**Growth Rate:** It grows at a slow to medium rate, with height increases of anywhere from less than 12” to 24” per year.
**Sun Preference:** Full sun and partial shade are best for this tree, meaning it prefers a minimum of four hours of direct, unfiltered sunlight each day.
**Soil Preference:** Grows in acidic, loamy, moist, rich, sandy, well-drained and clay soils.
**Attributes:**
- Features flat, pointy, dark green needles that are up to 1” in length.
- Yields oblong or egg-shaped cones that are 1½–1¾” long, have finely toothed scales and hang downward. They are purple when young but mature to a reddish-brown.
- Grows in a pyramidal shape.
- Tolerates most urban conditions but cannot tolerate salt.

Wildlife Value: While not particularly attractive as a food source, this tree provides protective cover for rabbits, deer and a variety of birds.

**Norway Spruce**

Norway spruce is a familiar sight in much of the United States, but it’s really a tree of Europe. Throughout the globe, this tree has many uses including lumber, pulpwood, Christmas trees and landscape specimen trees. Its dense branching pattern and tolerance of soil variations has also made it a popular tree for windbreaks.

If you have enough space and want to add a sense of formal dignity to your landscape, the Norway spruce will suit you well.

**Hardiness Zones:** The norway spruce can be expected to grow in Hardiness Zones 3–7.
**Mature Size:** The Norway spruce grows to a height of 40–60’ and a spread of 25–30’ at maturity.
**Growth Rate:** This tree grows at a medium to fast rate, with height increases of anywhere from 13” to more than 24” per year.
**Sun Preference:** Full sun is the ideal condition for this tree, meaning it should get at least six hours of direct, unfiltered sunlight each day.
Soil Preference: The Norway spruce grows in acidic, loamy, moist, sandy, well-drained and clay soils. It has some drought tolerance.

Attributes - this tree:
- Is the fastest growing of the spruces.
- Is easy to transplant.
- Can be planted on a wide variety of sites.
- Works well for windbreaks.
- Features dark green needles that are roughly ½–1" in length and feel square when rolled between your fingers.
- Yields light brown, stiffly scaled, 4–6" cones that sit upright on the branch until fertilized. Once fertilized, they gradually turn downward.
- Grows in a pyramidal shape.
- Can begin to look a little unkempt in its old age.

Wildlife Value: Norway spruce trees support a wide variety of wildlife. They are important as winter cover for deer and small game including grouse, hare and woodcock. Song birds and fur bearers also frequent these forest types. Norway spruce also makes a good roosting tree for hawks and owls.

White Spruce

This tree has often been heralded as a beautiful tree, whether lining the banks of a North Country river or gracing someone’s front yard. But the white spruce is more than just a pretty face. Commercially it, it is a mainstay of the pulp and paper industry and well-used for construction lumber. In landscape, it is a lovely specimen tree or grouping, a sturdy option for windbreaks and buffer strips, and serves as a great visual screen.

Hardiness Zones: The white spruce can be expected to grow in Hardiness Zones 2–6.

Tree Type: This is an evergreen tree, keeping its foliage year-round.

Mature Size: The white spruce grows to a height of 40–60’ and a spread of 10–20’ at maturity.

Growth Rate: This tree grows at a medium rate, with height increases of 13–24" per year.

Sun Preference: Full sun is the ideal condition for this tree, meaning it should get at least six hours of direct, unfiltered sunlight each day.

Soil Preference: The white spruce grows in acidic, loamy, moist, sandy, well-drained and clay soils. It has some drought tolerance.

Attributes - this tree:
- Transplants readily.
- Can withstand wind, heat, cold, drought, crowding and some shade.
- Works well in cities and rural windbreaks.
- Is widely used as a Christmas tree.
- Features slightly curved, pale green needles that are roughly ½–¾" in length and crowded on the upper side of the stem.
- Yields slender, cylindrical cones that are light brown in color and 1½–2½" long with flexible scales.
- Grows in a pyramidal shape, becoming more columnar with age.

Wildlife Value: Besides providing nesting sites and shelter, white spruces provide food for many kinds of wildlife. Crossbills, evening grosbeaks and red-breasted nuthatches prefer the seeds. The foliage is eaten by grouse, rabbits and deer. Red squirrels cut open cones to eat the seeds, and they feast upon young, tender spruce shoots. The bark is enjoyed by both porcupines and black bears, sometimes to the detriment of the trees.
Black Hills Spruce

While not as widely known as other spruces, tree experts claim that it is “ornamentally superior to the standard white spruce” and can be planted just about anywhere that the more common Colorado spruce will grow.

**Hardiness Zones:** It can be expected to grow in Hardiness Zones 2–6.

**Tree Type:** This is an evergreen tree, keeping its foliage year-round.

**Mature Size:** It grows to a height of 30–60' and a spread of 15–25' at maturity.

**Growth Speed:** This tree grows at a slow rate, with height increases of less than 12" per year.

**Sun Preference:** Full sun and partial shade are best for this tree, meaning it prefers a minimum of four hours of direct, unfiltered sunlight each day.

**Soil Preference:** It grows in acidic, moist, gravelly or sandy loam and fine clay soils. It is drought-tolerant.

**Attributes:**
- Offers a denser, more compact habit than the white spruce.
- Is adapted to cold and is very resistant to winter injury.
- Features dark green to blue-green needles that are somewhat rigid, sharply pointed and roughly ¼–⅜” in length. They are spirally arranged on the branch.
- Yields cylindrical tan cones that are 1–2" long and mature in a single season. They appear in July and may persist through January.
- Requires little pruning.
- Grows in a pyramidal shape.
- Works well as a windbreak/shelterbelt, privacy screen, accent planting, group planting in recreation areas and public grounds and even as a Christmas tree.
- Cannot tolerate flooding and is sensitive to soil compaction.

**Wildlife Value:** It provides nesting sites for birds and makes a good winter cover. The seeds provide food for songbirds, upland ground birds and small mammals. The bark serves as food for porcupines, and the foliage is lightly browsed by deer.

American Chestnut

The American Chestnut is a large, broad tree that produces an edible chestnut. Large leaves turn yellow and brown in autumn. At least two trees are planted no more than 200' apart are required for producing chestnuts. This tree was very common before blight wiped out most of them in the early 1900's.

**Zones:** 4 to 8

**Soil Type:** Clay, Loamy and Sandy soils

**Site Selection:** Full Sun

**Mature Height & Width:** 60-80' Height and 30-40' Spread

**Growth Rate:** Medium to Fast - 18-24”+ per year is common

**Moisture Requirements:** Average to moist but well drained soils

**Common Uses:** Large shade tree; produces an edible chestnut; and provides an excellent source of food for wildlife.

**Wildlife Value:** produces a nut which many types of wildlife enjoy. The chestnut is a valuable food source for deer, black bear, raccoon, chipmunk, hares, squirrels turkey, grouse and quail.
American Hazelnut
The American hazelnut (also known as the American filbert) is a native shrub of the eastern United States. The tasty nuts are highly prized by cooks for their easy-to-crack shells and small, sweet kernel. Squirrels love them as well... most likely for the same reasons. Hazelnut hedges can be used as windbreaks, visual screens, and to attract wildlife. If you're interested in planting hazelnuts for their nuts, be sure you have a bit of space. You'll need to plant 2 or more shrubs to ensure a good crop.

**Hardiness Zones:** The American hazelnut can be expected to grow in Hardiness Zones 4–9.

**Tree Type:** This is a nut-producing shrub, yielding nuts for human and wildlife consumption.

**Mature Size:** The American hazelnut grows to a height of 15–18' and a spread of 10–12' at maturity.

**Growth Rate:** This shrub grows at a medium to fast rate, with height increases of anywhere from 13” to more than 24” per year.

**Sun Preference:** Full sun and partial shade are best for this shrub, meaning it prefers a minimum of 4 hours of direct, unfiltered sunlight each day.

**Soil Preference:** The American hazelnut grows in acidic, alkaline, loamy, moist, rich, sandy, well-drained and clay soils. It is drought-tolerant.

**Attributes - this shrub:**
- Yields ½
- Can be harvested typically from September to October.
- Will begin producing nuts approximately 2–3 years after planting, 8 years if grown from seed.
- Grows in a rounded shape.
- Takes on a multi-stemmed form with an open, often wide-spreading base.
- Produces red female flowers and yellowish-brown male catkins on the same plant (but it is not self-fertile).
- Should be planted in multiples (2 or 3) to ensure cross-pollination.

**Wildlife Value:** The nuts produced by this shrub are a preferred by squirrels, deer, turkey, woodpeckers, pheasants, grouse, quail and jays. The male catkins are a food staple of ruffed grouse throughout the winter.

American Larch-Tamarack
The American Tamarack certainly looks and acts like a pine tree during the growing season. However, unlike most conifers which keep their color and needles year round, the blueish green needles on these trees turn yellow and orange in autumn. The needles then fall off at the end of the season. In spring, soft new growth emerges and the cycle starts over once again. The silhouette is interesting in form with its branches showing during the winter months. This Tamarack makes a good choice for your low lying areas that such as wetlands and bogs. This tree will grow well in other areas as long as there is adequate moisture.

**Soil Type:** Clay, Loamy & Sandy soils

**Site Selection:** Full Sun

**Mature Height & Width:** 50-70' Height and 20-30' Spread

**Growth Rate:** Slow to Moderate - 10-18'' per year on average

**Moisture Requirements:** Average to wetter soils

**Common uses:** unique foliage; naturalizing lowland areas in and around wetlands; commonly used as a bonsai tree

The American Tamarack has minimal value to wildlife. Some birds will use the limbs for perching and basic cover. Snowshoe hares sometimes feed on twigs and bark and porcupines feed on the inner bark. Spruce, Blue and Sharp-Tailed Grouse will consume the needles and buds. Red squirrels will cache tamarack cones. The Pine Siskin, crossbills and a few other seed-eating birds consume the seeds from its cones.
Black Walnut

Practicality and aesthetics combine in the black walnut to make this species one of the most treasured trees in American history. The valuable dark brown wood is strong with a handsome grain that polishes easily and gleams forever. And the rich, flavorful nuts are enjoyed fresh and retain their flavor and texture during cooking.

Whether you love it more for the stunning wood or the delicious nuts, it is an upstanding tree.

**Hardiness Zones:** The black walnut can be expected to grow in Hardiness Zones 4–9.

**Tree Type:** This is a nut-producing tree, yielding nuts for human and wildlife consumption.

**Mature Size:** The black walnut grows to a height of 50–75’ and a spread of 50–75’ at maturity.

**Growth Rate:** This tree grows at a medium rate, with height increases of 13–24” per year.

**Sun Preference:** Full sun is the ideal condition for this tree, meaning it should get at least six hours of direct, unfiltered sunlight each day.

**Soil Preference:** The black walnut grows in in acidic, alkaline, loamy, moist, rich, sandy, well-drained, wet and clay soils.

**Attributes - this tree:**
- Yields a ripened nut crop in early to mid-autumn. The fruit consists of three layers: a green, fleshy husk; a black inner shell that is hard, thick and corrugated; and the kernel, which is oily and sweet.
- Begins to bear nuts in 12–15 years.
- Is prized in the woodworking world for its handsome grain.
- Features pinnately compound, alternate leaves that are 12–24” in length and consist of 15–23 dark green leaflets that are 2–5” long. The leaflets are finely toothed.
- Is self-fertile but requires wind for pollination. Plant more than one tree to ensure a better crop.
- Grows in a rounded shape.
- Develops a deep taproot, making it difficult to transplant.
- Can be toxic to certain trees and plants--such as serviceberries, chestnuts, pines, arborvitae, apples, cherries, tomatoes, potatoes, peas, peppers, cabbages, alfalfa, blueberries, blackberries, azaleas, rhododendron, lilacs, hydrangeas, privets and plants in the heath family--if planted too close.

**Wildlife Value:** The nuts are eaten by woodpeckers, foxes and squirrels.

Hybrid Poplar & Hybrid Poplar Poles

Hybrid poplars are the thoroughbreds of the tree world. Their claim to fame is speed, with vertical growth of 5–8’ per year not being uncommon. This cottonless hybrid can be harvested for firewood in five to seven years, making it a sustainable source. It also works well for visual screens and hillside or sand dune stabilization. While nice for quick shade, the hybrid poplar should only be planted in landscape where occasional limb breakage is not a problem.

**Hardiness Zones:** The hybrid poplar can be expected to grow in Hardiness Zones 3–9.

**Tree Type:** This is a shade tree, featuring a spreading canopy capable of blocking sunlight.

**Mature Size:** The hybrid poplar grows to a height of 40–50’ and a spread of around 30’ at maturity.

**Growth Rate:** This tree grows at a fast rate, with height increases of more than 24” per year.
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**Sun Preference:** Full sun is the ideal condition for this tree, meaning it should get at least six hours of direct, unfiltered sunlight each day.

**Soil Preference:** The hybrid poplar grows in acidic, alkaline and wet soils.

**Attributes - this tree:**
- Grows at a very rapid rate, as much as 5–8’ per year.
- Is a cottonless hybrid.
- Features triangular leaves that are 3–6” long and 4–5” wide with slightly rounded teeth around the margin. The leaves are dark to silvery green on top with paler undersides.
- Can be grown for a number of uses including firewood, chemical runoff filtration, windbreak protection (while slower-growing species mature), paper and fuel.
- Grows in an oval shape.
- Has a relatively short lifespan.
- Is prone to limb breakage and is therefore not recommended for planting next to play areas, patios, sidewalks or anywhere else damage may be caused.

**Wildlife Value:** Hybrid poplar bark, twigs and leaves are eaten by rodents, rabbits, deer, beavers and porcupines. It provides forage for browsing wildlife such as white-tailed and mule deer up through the sapling stage. It also provides important nesting and roosting habitat for various species of birds.

*Poplar Poles are made from cuttings; they come in stick form of about 7-9 feet and can be planted by inserting into the ground by using a pipe to make a hole. These grow at a very fast rate.*

### Red Maple

Red maple is one of the best named of all trees, featuring something red in each of the seasons—buds in winter, flowers in spring, leafstalks in summer, and brilliant foliage in autumn. This pageant of color, along with the red maple’s relatively fast growth and tolerance to a wide range of soils, makes it a widely planted favorite.

The natural range of red maple begins roughly at the eastern edge of the Great Plains north to Lake Superior, extending eastward to the Atlantic. But homeowners and urban foresters are growing this tree all across the United States.

**Hardiness Zones:** The red maple can be expected to grow in Hardiness Zones 3–9.

**Tree Type:** This is an ornamental tree, typically planted for the visual interest and beauty it can bring to landscape.

**Mature Size:** The red maple grows to a height of 40–60’ and a spread of around 40’ at maturity.

**Growth Rate:** This tree grows at a medium to fast rate, with height increases of anywhere from 13” to more than 24” per year.

**Sun Preference:** Full sun is the ideal condition for this tree, meaning it should get at least six hours of direct, unfiltered sunlight each day.

**Soil Preference:** The red maple grows in acidic, loamy, moist, rich, sandy, silty loam, well-drained and clay soils. It prefers wet soil conditions but has slight drought tolerance.

**Attributes - this tree:**
- Provides amazing fall color that is yellow to red.
- Produces red (sometimes yellow) clusters of small flowers winter to spring.
- Features simple, medium to dark green leaves 2–6” in length with 3 or 5 lobes and sinuses that are irregularly toothed.
- Yields twin seeds bound at their tips to a long, drooping stems. The seeds ripen in late spring and have attached wings that are up to 1” in length.
- Can grow in an oval, rounded, upright or erect shape.
- Can be toxic to horses if dry, wilted leaves are consumed.
Wildlife Value: The fruits (samaras) provide food for squirrels and many other rodents. Rabbits and deer eat the tender shoots and leaves of red maples.

Red Oak

The northern red oak has been called “one of the handsomest, cleanest, and stateliest trees in North America” by naturalist Joseph S. Illick, and it is widely considered a national treasure. It is especially valued for its adaptability and usefulness, including its hardiness in urban settings. This medium to large tree is also known for its brilliant fall color, great value to wildlife and status as the state tree of New Jersey.

Whether you’re selecting a tree to plant in your front yard or out on the farm, it’s a fast-growing species worth keeping in mind.

Hardiness Zones: The northern red oak can be expected to grow in Hardiness Zones 3–8.

Tree Type: This is a shade tree, featuring a spreading canopy capable of blocking sunlight.

Mature Size: The northern red oak grows to a height of 60–75’ and a spread of around 45’ at maturity.

Growth Rate: This tree grows at a fast rate, with height increases of more than 24” per year.

Sun Preference: Full sun is the ideal condition for this tree, meaning it should get at least six hours of direct, unfiltered sunlight each day.

Soil Preference: The northern red oak grows in acidic, loamy, moist, sandy, well-drained and clay soils. While it prefers normal moisture, the tree has some drought tolerance.

Attributes - this tree:
- Grows more than two feet per year for 10 years.
- Provides great fall color, with leaves turning russet-red to bright red.
- Is easier than most to transplant.
- Features alternating leaves that are 4–8” long and have 7–11 waxy, spine-tipped lobes.
- Produces pale yellow-green catkins that appear at about the same time new foliage is expanding, typically April–May.
- Yields acorns that are round and ¾–1” long with a flat, thick, saucer-like cap.
- Offers great shade due to a dense crown.
- Tolerates pollution and compacted soil.
- Grows in a rounded shape.

Wildlife Value: Acorns from this tree are at the top of the food preference list for blue jays, wild turkeys, squirrels, small rodents, whitetail deer, raccoons and black bears. Deer also browse the buds and twigs in wintertime.

Sugar Maple

The sugar maple is one of America’s best-loved trees. In fact, more states have claimed it as their state tree than any other single species—those states being New York, West Virginia, Wisconsin and Vermont.

While commercially planted for its delicious syrup and value as lumber, this tree makes a great addition to any yard or park. And one of its most prominent features is amazing fall color. As the seasons change, the leaves turn vibrant shades of yellow, burnt orange and red.

Hardiness Zones: The sugar maple can be expected to grow in Zones 3–8.

Tree Type: This tree is considered both a shade tree and an ornamental tree. It features a spreading canopy capable of blocking sunlight and adds visual interest and beauty to landscaping.
**White Birch**

Beauty and romance may be the first images many people associate with the gleaming white paper birch. But this symbol of the North Country—and state tree of New Hampshire—has earned its place in history as a continuously useful tree that has served North Americans since the earliest days of human activity. Today it is one of the best-loved trees of the New England landscape, planted often for the beauty of its distinctive bark and golden fall color.

**Hardiness Zones**: The paper birch can be expected to grow in Zones 2–7.

**Tree Type**: This tree is considered both a shade tree and an ornamental tree. It features a spreading canopy capable of blocking sunlight and adds visual interest and beauty to landscaping.

**Mature Size**: The paper birch grows to a height of 50–70’ and a spread of around 35’ at maturity.

**Growth Rate**: This tree grows at a medium to fast rate, with height increases of anywhere from 13” to more than 24” per year.

**Sun Preference**: Full sun and partial shade are best for this tree, meaning it prefers a minimum of four hours of direct, unfiltered sunlight each day.

**Soil Preference**: The paper birch grows well in acidic, loamy, moist, sandy, well-drained and clay soils. While it prefers normal moisture, the tree has some drought tolerance.

**Attributes - this tree:**
- Develops a smooth white bark that curls and peels (once mature).
- Provides bright yellow fall color.
- Features simple leaves that are 2–4” long, borne on leaf stems about 1” in length and medium green in color. Margins are double-toothed and leaves are arranged alternately.
- Produces brown or green catkins in April and May.
- Grows in an oval shape.
- Yields very small seeds that are smooth and oval or elliptical in shape, nestled between two wings.

**Wildlife Value**: Wintering moose find the sheer abundance of paper birch in young stands important, despite the poor nutritional quality. White-tailed deer eat considerable amounts of paper birch leaves in the fall. Snowshoe hares browse paper birch seedlings and saplings, beavers find it a good second choice food and porcupines feed on the inner bark. Voles, shrews, Redpolls, siskins and chickadees eat the seeds. Numerous cavity-nesting birds nest in paper birch, including woodpeckers, chickadees, nuthatches and swallows. Pecking holes in the bark, the yellow-bellied sapsucker finds the paper birch a favorite tree. Hummingbirds and red squirrels then feed at sapwells created by sapsuckers. Ruffed grouse eat the flowers and buds.
White Oak

Respected 20th century naturalist Donald Peattie once said, “If oak is the king of trees, as tradition has it, then the white oak, throughout its range, is the king of kings.” It is a bold statement to be sure, but many agree with him. Perhaps this is why it is the state tree of Connecticut, Illinois and Maryland.

This beautiful tree can be found presiding over pastures, providing shade in urban parks and suburban neighborhoods and thriving in natural stands throughout the eastern United States and southeastern Canada.

**Hardiness Zones:** The white oak can be expected to grow in Zones 3–9.

**Tree Type:** This is a shade tree, featuring a spreading canopy capable of blocking sunlight.

**Mature Size:** The white oak grows to a height of 50–80' and a spread of 50–80' at maturity.

**Growth Rate:** This tree grows at a slow to medium rate, with height increases of anywhere from less than 12” to 24” per year.

**Sun Preference:** Full sun and partial shade are best for this tree, meaning it prefers a minimum of four hours of direct, unfiltered sunlight each day.

**Soil Preference:** The white oak prefers slightly acidic to neutral, deep, moist, well-drained soil. While adaptable to other soil textures, it is intolerant of alkaline, shallow or abused urban soils. It can, however, tolerate moderate drought and occasional wet soil.

**Wildlife Value:** The acorns are one of the best sources of food for wildlife and are gathered, hoarded and eaten by birds, hoofed browsers and rodents. Leaf buds also are eaten by several bird species, and all parts of the tree are a favorite food for deer.

Black Elderberry

*Sambucus canadensis*, the American black elderberry, Canada elderberry, or common elderberry, is a species of elderberry native to a large area of North America east of the Rocky Mountains, and south through eastern Mexico and Central America to Panama. It grows in a variety of conditions including both wet and dry soils, primarily in sunny locations. It is a deciduous suckering shrub growing to 3 m or more tall. The leaves are arranged in opposite pairs, pinnate with five to nine leaflets, the leaflets around 10 cm long and 5 cm broad. In summer, it bears large (20–30 cm diameter) corymbs of white flowers above the foliage, the individual flowers 5–6 mm diameter, with five petals. The fruit (known as an elderberry) is a dark purple to black berry 3–5 mm diameter, produced in drooping clusters in the fall.

Uses: The flower (known as an elderflower) is edible, as well as the ripe berries. Other parts of the plant, such as leaves, stems, roots, and unripe fruits, are toxic due to the presence of cyanogenic glycosides, and alkaloids.

Uses for the fruit include medicinal purposes based on their medicinal virtues: The bark, leaves, flowers and berries (high in Vitamin C—supports immune function) all have medicinal properties so they not only have proved their usefulness over thousands of years, but are a valuable remedy in modern herbal medicine as well, wine, jelly and dye. Leaves and inner bark can be used as an insecticide and a dye. Stems can be hollowed out and used for spouts.

Blazing Star Bulbs

*Liatris spicata*, also known as Blazing Star, is an unforgettable purple perennial. Known for its grass-like foliage and tall, spiky blooms that attract butterflies, birds and bees, Liatris makes a great cut flower and is deer resistant.

**Zones:** 3 - 9

**Advantages:** Deer Resistant, attract butterflies, attract birds, bee friendly, cut flowers and native

**Light Requirements:** Full Sun, Half Sun/half shade

**Mature Plant Size:** 24-48" tall, 12-24" wide

**Bloom Time:** Mid to late summer

**Size:** Plant - 3.5" pot
Downy Serviceberry

This tree is an all-season beauty. Early in the spring, beautiful white clusters of blooms set it off against the new green of spring. Vivid red- and gold-hued foliage graces the landscape in the fall. And plump red berries are a favorite of birds in summer. The berries are also popular with the human crowd for pies, preserves, and fresh eating. Its year-round interest and smaller size make the downy serviceberry a versatile choice for landscaping.

**Hardiness Zones:** Zones 4-9

**Mature Size:** The downy serviceberry grows to a height of 15–25’ and a spread of 15–25’ at maturity.

**Growth Speed:** Medium rate, with height increases of 13–24” per year.

**Sun Preference:** Full sun and partial shade are best for this tree, meaning it prefers a minimum of four hours of direct, unfiltered sunlight each day.

**Soil Preference:** Grows well in acidic, moist and well-drained soils.

**Attributes:**
- Blooms in March and April (depending on location), with delicate white flowers arranged in clusters.
- Is one of the finest small trees for fall color, with leaves turning vivid shades of red and gold.
- Produces berry-like fruit that ripens in June, changing from green to red to purplish black.
- Grows in a rounded shape.

**Wildlife Value:** The fruit this tree produces is loved by birds.

Eastern Sand Cherry

Eastern Sand Cherry is a deciduous shrub that grows to 2-6 feet tall depending on the variety. It forms dense clonal colonies by sprouts from the root system. The leaves are leathery, 4–7 centimeters (1.6–2.8 in) long, with a serrated margin. The flowers are 15–25 millimeters (0.59–0.98 in) in diameter with five white petals and 25–30 stamens. They are produced in small clusters of two to four. The fruit is a small cherry 13–15 millimeters (0.51–0.59 in) diameter, ripening dark purple in early summer.

**Hardiness Zones:** Zones 3-7

**Sun Preference:** Full sun and partial shade are best for this tree, meaning it prefers a minimum of four hours of direct, unfiltered sunlight each day.

**Forsythia**

There’s no better way to welcome the coming of spring than with the profusion of yellow blooms covering graceful, arching branches. The forsythia is a fast-growing, hardy shrub that blooms early—providing a sunny sight before the rest of the landscape greens up. Forsythias make an excellent choice for those wanting a fast-growing flowering hedge. For best results, plant forsythia 4-6 feet apart when creating your hedge.

**Zones:** 5-8

**Type of Tree:** Flowering Spring

**Mature Height:** The Forsythia grows to be 8' to 10' feet in height.

**Mature Spread:** The Forsythia has a spread of about 10' to 12' at full maturity.

**Growth Rate:** This tree grows at a Fast growth rate.

**Sun Exposure:** The Forsythia does well in Full, Partial Shade exposure(s).

**Soil:** The Forsythia grows in Acidic, Alkaline, Loamy, Moist, Sandy, Silty Loam, Well Drained, Wide Range soils.
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Shape: The Forsythia has a Rounded shape.
Attributes: The leaves are opposite, simple, coarsely toothed along the upper one-half, margin, ovate-oblong to oblong-lanceolate, 3”-5” long, half as wide, medium to dark green in summer, green to yellow-green in fall.
History/Lore/Use: The forsythia is named after the English horticulturist William Forsythe. It is also called the border forsythia or golden bell. Forsythia intermedia is a hybrid between F suspensa and F. viridissima. Many cultivars have been selected from this cross including dwarf and compact forms.
Leaves: The leaves are opposite, simple, coarsely toothed along the upper one-half, margin, ovate-oblong to oblong-lanceolate, 3”-5” long, half as wide, medium to dark green in summer, green to yellow-green in fall.
Flower Color: Pale to deep yellow, bell shaped flowers, borne 1-6 together on last year's growth.
Bloom Time: Early spring before the leaves appear.

Fragrant Sumac
Most of the time when you think of plants and fragrance, you automatically think of flowers. The Fragrant Sumac (Rhus aromatica), though, doesn't have fragrant flowers. It does have lovely spring flowers, but they don't smell. What does smell so great on the Fragrant Sumac is the leaves. Crush one between your fingers in July and you'll see what we mean. All natural potpourri! This sumac loves to fill in those tough spots in your garden. It is native to America, so it adapts to just about any condition your garden has, except for really wet or claylike soil. If it's happy where it's at, it will start to spread, forming a nice little colony for you and filling in any empty spaces around it.

Fragrant Sumac makes a pretty hedge or back of the border, especially if you like a wilder edge to your landscape. These plants grow naturally throughout the woods in the central part of the U.S., so they do fine in full sunlight to dappled shade. This is a great plant for attracting wildlife. Birds and butterflies love it. Use this plant with other natives like black-eyed susan or joe-pye weed for a beautiful, natural and very low-maintenance garden.

Mature Height: 2 - 8 feet
Mature Spread: 5 - 6 feet
Soil Type: Widely Adaptable
Sun Exposure: Full Sun, Partial Sun

Gray Dogwood
This tough, low-maintenance shrub offers subtle year-round beauty. White panicles of flowers brighten the landscape in June. White berries attract many birds in the late summer and early fall. And the reddish-pink fruit stems persist into the winter, adding a nice color contrast to the gray bark. Gray dogwoods are great for borders, groups, and masses. They can also be grown as small trees to be used for foundations, entranceways, borders or specimen planting. Hardiness Zones 3–8.

- Produces creamy white flowers and white berries
- Provides good screen, windbreak, or borders and hedges

Mature Size: Grows to a height of 10–15’ and a spread of 10–15’ at maturity.
Growth Speed: Slow rate, with height increases of less than 12” per year.
Sun Preference: Full sun and partial shade are best for this shrub, meaning it prefers a minimum of 4 hours of direct, unfiltered sunlight each day.

Soil Preference: it adapts to a wide range of soil conditions and can tolerate wet conditions as well as drought.
Attributes:
- Grows in an irregular to rounded shape.
- Can be cut back to the ground if it becomes too large and woody.
- Blooms for 7–10 days in late May or early June, with small, creamy white flowers arranged in flat panicles.
- Is occasionally grown as a small tree, where it can be used for foundations, entranceways, borders or specimen planting.
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- Adapts to many soil types and conditions.
- Transplants easily.
- Features grayish-green to dark green leaves that are narrow-elliptic to ovate-lanceolate and 2–4” long, turning reddish-purple in the fall.
- Produces ¼” white fruit that grows on reddish-pink pedicels and matures in late summer or early fall. The pedicels are exposed when the fruit falls, adding nice fall/winter color.

**Wildlife Value:** The gray dogwood is a forage plant for white-tailed deer. The berries appear before most other dogwoods, making it popular with the squirrels and over 100 bird species that eat the fruit. It forms a dense thicket, providing cover and nesting sites for wildlife.

**Highbush Cranberry**

This durable, easy-to-grow plant will bring a variety of color to your landscape throughout the seasons. Spring flowers bloom snowy white, and the lustrous green foliage transitions to shades varying from yellow to red-purple in the fall. Bright red fruit also adorns the shrub from September through February.

The American cranberry bush viburnum works well as part of a privacy screen or informal hedge.

**Hardiness Zones:** The American cranberry bush viburnum can be expected to grow in Hardiness Zones 2–7.

**Tree Type:** This is a flowering shrub, typically planted for its profusion of flowers.

**Mature Size:** The American cranberry bush viburnum grows to a height of 8–12’, with an equal spread, at maturity.

**Growth Rate:** This shrub grows at a medium rate, with height increases of 13–24” per year.

**Sun Preference:** Full sun and partial shade are best for this shrub, meaning it prefers a minimum of 4 hours of direct, unfiltered sunlight each day.

**Soil Preference:** The American cranberry bush viburnum grows in acidic, loamy, moist, rich, sandy, silty loam, well-drained and wet soils.

**Attributes:**
- Produces showy white flowers in flat-topped clusters that are 3–4” in diameter and bloom in mid- to late May.
- Yields edible bright red drupes from early September to February.
- Features lustrous medium to dark green leaves that provide lovely fall color, turning a variety of hues from yellow to red-purple.
- Grows in a rounded shape.
- Makes an excellent choice for screening and informal hedges.

**Wildlife Value:** The fruit serves as food for various birds and wildlife.

**Lilac**

Spectacular flowers in shades of lilac, light purple, or lavender make this old-time lilac a garden favorite. The long-lasting flower clusters bloom in April or May and are framed with lush green foliage. Their nostalgic fragrance adds to the "coming of spring."

The lilac is an extremely hardy shrub and can be used as an individual specimen plant, informal hedge, shrub border, windbreak or screen.

**Hardiness Zones:** The fragrant lilac can be expected to grow in Hardiness Zones 3–7.

**Tree Type:** This is a flowering shrub, typically planted for its profusion of spring flowers.

**Mature Size:** The fragrant lilac grows to a height of 8–15’ and a spread of 6–12’ at maturity.
Growth Rate: This shrub grows at a medium rate, with height increases of 13–24” per year.
Sun Preference: Full sun and partial shade are best for this shrub, meaning it prefers a minimum of 4 hours of direct, unfiltered sunlight each day.
Soil Preference: The fragrant lilac grows well in acidic, alkaline, moist, sandy and well-drained soils.
Attributes - this shrub:
- Produces very fragrant, light purple, ½” florets borne in 4–8” panicles usually in pairs on previous year's growth.
- Blooms in April or May.
- Features simple, ovate leaves that are dark green to bluish-green in color and 2–5” long.
- Grows in a rounded shape.
- Should be planted 3-4’ apart for a hedge.
- Will not tolerate hot, humid conditions.
- Can be pruned into a single-stemmed or multi-stemmed tree.
Wildlife Value: Lilacs attract butterflies, provide caterpillar food and offer cover for birds and butterflies.

Nannyberry

It is a large shrub or small tree growing upwards to 30 ft (9 m) tall with a trunk up to 10 in (25 cm) in diameter and a short trunk, round-topped head, pendulous, flexible branches. The bark is reddish- to grayish-brown, and broken into small scales. The twigs are pale green and covered with rusty down at first, later becoming dark reddish brown, sometimes glaucous, smooth, tough, flexible, and produce an offensive odor when crushed or bruised. The winter buds are light red, covered with pale scurfy down, protected by a pair of opposing scales. Flower-bearing buds are 3/4 in (2 cm) long, obovate, long pointed; other terminal buds are acute, 1/3 to 1/2 in (8.5 to 12.7 mm) long, while lateral buds are much smaller. The bud scales enlarge with the growing shoot and often become leaf-like.

Like all viburnums, the leaves are arranged in opposite pairs on the twigs; they are oval, 2–4 in (5–10 cm) long and 3/4–2 in (2–5 cm) broad, wedge-shaped, rounded or subcordate at base, with an acuminate apex and a finely serrated margin, and a winged petiole. They open from the bud involute, bronze green and shining, hairy and downy; when full grown are bright green and shining above, pale green and marked with tiny black dots beneath. In autumn they turn a deep red, or red and orange.

The flowers are small, 5–6 mm (0.20–0.24 in) in diameter, with five whitish petals, arranged in large round terminal cymes 5–12 cm (2–4 3/4 in) in diameter; flowering is in late spring. The calyx is tubular, equally five-toothed, persistent; the corolla is equally five-lobed, imbricate in the bud, cream-white, one-quarter of an inch across; lobes acute, and slightly erose. There are five stamens, inserted on the base of the corolla, alternate with its lobes, exserted; filaments slender; anthers bright yellow, oblong, introrse, versatile, two-celled; cells opening longitudinally. The pistil has a one-celled inferior ovary, the style thick, short, light green, and the stigma broad; there is one ovule in each cell. The fruit is a small round blue-black drupe, 8–16 mm (0.31–0.63 in) long on a reddish stem; it is thick skinned, sweet and rather juicy, and edible. The stone is oblong oval, flattened.

The roots are fibrous, wood is ill-smelling. It grows in wet soil along the borders of the forest, often found in fence corners and along roadsides. The wood is dark orange brown, heavy, hard, close-grained, with a density of 0.7303. The sheepberry is one of the largest of the viburnums. It is admired for its compact habit, its lustrous foliage which insects rarely disfigure, its beautiful and abundant flowers, its handsome edible fruit and its brilliant autumnal color. It readily adapts itself to cultivation, and is one of the best of the small trees of eastern America for the decoration of parks and gardens in all regions of extreme winter cold. It is easily raised from seeds which, like those of the other American species, do not germinate until the second year after they are planted.
Ninebark
Another excellent shrub choice for year round interest. Arching branches with lobed leaves give Common Ninebark a mounded look. Five petaled flowers appear in dense, Spirea-like clusters in spring, giving way to a multitude of reddish berry clusters. Its leaves turn yellow in the fall. Named for its unusual bark which peels in strips to reveal several layers of reddish to light brown inner bark, Ninebark is a popular 'winter interest' shrub. Physocarpus opulifolius makes an excellent hedge plant and provides good erosion control.

**Light:** Full Sun, Partial  
**Soil:** Loam, Clay  
**Moisture:** Dry, Medium, Moist  
**Benefits:** Pollinators, Butterflies, Birds  
**Height:** 5 to 10 feet

Siberian Crabapple
Native to Asia, this crabapple is also grown in northeastern North America for its attractive flowers and edible fruits. Trees grow 10-14 m tall and yield dense clusters of small (1 cm diameter) red to yellow cherry-like fruits in September. Fruits can be eaten fresh or dried. The tree produces white-pink, non-hairy flowers in spring along glabrous branches. With a pleasing, rounded crown, abundant flowers and small, edible fruits, this crabapple has been introduced widely as an ornamental tree.

**Habitat:** Planted in gardens, farms and arboreta.  
**Growth Habit:** It is a deciduous tree with a short trunk, rounded canopy and spreading or pendulous branches. The tree grows to 20–50 feet.  
**Bloom Time:** Flowers borne in mid-spring with fruits ripening in autumn.  
**Longevity:** It is susceptible to various diseases, affecting its longevity.

Twinberry Honeysuckle
Twinberry honeysuckle is a long-lived deciduous shrub which grows up to 10 feet in height. Leaves are bright green, elliptical, and paired opposite each other on the stem. Flowering occurs in June-July. Small, tubular yellow flowers grow in pairs surrounded by two leafy bracts. The bracts turn from green to a striking dark red in late summer as fruits ripen. The name involucrata refers to these bracts, which are collectively called an “involucre”. The paired black berries are about one-third inch in diameter and are unpleasantly bitter tasting. Berries reportedly had limited food use, but were used by Native Americans as a dye for hair and other materials. The fruits, stems and leaves were also used for a variety of medicinal purposes.

Twinberry honeysuckle is found throughout the western United States from Alaska to Mexico. The species also occurs east of the Great Plains in Michigan and Wisconsin, where it is rare and listed as threatened and endangered. Habitats are generally moist forest openings, swamps, streamsi des, and meadow edges, ranging in elevation from sea level along the Pacific Coast to subalpine sites in the mountains.

Like many honeysuckles, twinberry is an attractive ornamental which can be grown in the garden. Its flowers attract hummingbirds and birds feed on the fruits. Twinberry prefers moist, well-drained soil in full sun or partial shade, and is tolerant of cold climates. Plants are propagated either from seed or cuttings, and are available from many nurseries.
**Winterberry**

Year round interest, highlighted by the showy display of red berries in winter. Mass or group in shrub borders, foundations, native plant areas or bird gardens. Hedge. Excellent shrub for moist soils in low spots or along streams and ponds. Easily grown in average, acidic, medium to wet soils in full sun to part shade. Adaptable to both light and heavy soils, but prefers moist, acidic, organic loams. Good tolerance for poorly drained soils including wet boggy or swampy conditions. Winterberries are dioecious (separate male and female plants). Only fertilized female flowers will produce the attractive red berries that are the signature of the species. Generally one male winterberry will be sufficient for pollinating 6-10 female plants. Flowers appear on new growth. Prune to shape in early spring just before new growth appears.

**Zones:** 3 to 9  
**Sun:** Full sun to part shade  
**Water:** Medium to wet  
**Attracts:** Birds  
**Tolerate:** Erosion, Clay Soil, Wet Soil, Air Pollution

**Height:** 3 to 12 Feet  
**Spread:** 3 to 12 Feet  
**Bloom Time:** June to July  
**Bloom Description:** Greenish-white

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**Zumi Crabapple**

Zumi Crabapple is prized for its spring display of small, white blooms. Dark green foliage presents a lovely backdrop for the soon-to-develop scarlet-red crabapples. The tiny globes will dangle well into the winter. You can pick some of the fruit for your own use, or leave it for your birds as a helping hand through the cold months. Autumn foliage is a long-lasting display of orange.

Zumi Crabapple is a deciduous tree with a pyramidal form, dense foliage and a rounded habit. It will grow to about 20 feet in height with an equal spread. It’s resistant to Cedar Apple Rust and quite disease hardy. It is amenable to pruning if you’d like to shape it a bit, and does fine in urban environments. It’s not even fussy about soil types and with optimal conditions, can be expected to live up to 50 years. It is often the standard by which other flowering trees are compared.

**Mature Spread:** 15 - 20 feet  
**Sun Exposure:** Full Sun  
**Soil Type:** Widely Adaptable  
**Growth Rate:** Medium
All Fruit trees come in packets including the following trees:

Wildlife Apple Packet of 4 – Honeycrisp, Gala, Fuji and Rome
Wildlife Apple Packet of 2 – Honeycrisp and Gala
Wildlife Crabapple Packet of 2 – Manchurian and Snowdrift
Wildlife Cherry Packet of 2 – Bing and Blushing Gold
Wildlife Pear Packet of 2 – Clapp’s Favorite and Flemish Beauty

Sorry, due to quantities ordered, there are NO Substitutions in packets!

Honeycrisp Apple

A modern apple in high demand. Outstanding fresh-eating qualities make this variety an American favorite. Fruit is aromatic and sweet as honey with an explosively juicy, crisp texture. Grow this naturally compact tree even in small spaces. Originates from Excelsior, Minnesota in 1974. Cold-hardy. Ripens in early September. Pollinator required. Calcium improves fruit quality and is especially helpful in growing Honeycrisp apple trees.

- Bloom Color: White
- Shade/Sun: Full Sun
- Soil Composition: Loamy
- Soil Moisture: Well Drained
- Soil pH Level: 6.0 - 7.0
- Years to Bear: 2 - 5
- Zone Range: 3 - 6

Gala Apple

Red Gala apple is our special selection of the famous Royal Gala™ apple that everyone sees in the produce department. It harvests late summer, early fall in September and is one of the finest eating apples there is. The flesh is yellowish flesh is crisp, juicy and fine tasting. It can be used for all purposes. It is almost a "must have" for the backyard orchard.

Red Gala is one of the easiest apples to grow. The upright, but spreading tree is very grower friendly. It blooms in mid-season and can be pollinated by most any variety. In order to get larger size on this medium sized apple, thin it down to one fruit per cluster. Trim annually to promote proper vigor and reduce the amount of spurs that it eventually will produce. Over-pruning and too vigorous growth will make it susceptible to fire blight.

- Bloom Character:
  - Pollinizer needed
  - Thin early for size
  - Mid-season blooming
- Fruit Characteristics: Medium size fruit
- Growth Rate/Habit:
  - Early to bear
  - Very productive
  - Spreading habit
  - Average vigor
- Harvest Period: Mid-September
- Other Attributes:
  - Aromatic
  - Complex flavor
  - Sweet-tart
  - Keeps well

Site Requirements: Full Sun, Winter hardy
Skill Required: Easy to grow
Uses:
- High dessert quality
- Cooking or baking
- Good for pies
- Juice or Cider
- Canning or freezing
Fuji Apple
Fuji apple ripens late in the fall season, with Braeburn and Granny Smith. It can be very successfully grown in most Zone 5 areas, but will not mature to its full sweetness usually. Flavor though is excellent. It blooms mid-late season and needs proper pollination with other apple varieties. It tends to bear biennially so, thin fruit early and aggressively on the “on” years when a large crop is expected, otherwise a large number of small apples will result, and next year’s crop may be non-existent. Spray for scab like most varieties and watch out for fire blight if grown too vigorously.

Bloom Character:
- Tends to biennial bear
- Thin early for size
- Mid-season blooming
- Pollinizer needed

Fruit Characteristics: Large fruit

Growth Rate/Habit:
- Very productive
- Spreading habit
- Average vigor

Harvest Period: Very late season, Late fall

Other Attributes:
- Aromatic
- Very sweet
- Long-term keeper

Rome Beauty Apple
Great baking apple. Produces shiny red apples just 2-3 years after planting. They taste great right off the tree, but you’ll want to save plenty for the most delicious pies, crisps and cobblers you’ve ever tasted. Also makes beautiful sautéed apple slices because they hold their shape when cooked. Cold-hardy. Ripens in mid-October. Self-pollinating.

Bloom Color: White
Fruit Color: Red
Fruit Size: Large
Pollination: Self-pollinating
Ripens/Harvest: Mid October
Shade/Sun: Full Sun
Soil Composition: Loamy
Soil Moisture: Well Drained
Soil pH Level: 6.0 - 7.0
Taste: Sweet And Tart
Texture: Firm
Years to Bear: 2 - 3
Zone Range: 4 – 8

Manchurian Crabapple
Manchurian Crab is a beautiful white spring flowering crab that makes a nice addition to the landscape. It has a rounded, dense, spreading habit. The flower is pure white and its fruits are about 3/8” in diameter and turn bright red and hang on the tree well after fall. The foliage is a glossy green color.

Height: 15-20 Feet
Spread: 15-20 Feet
Hardiness Zone: 4-8
Snowdrift Crabapple
A crabapple tree in full bloom is something to behold, and the snowdrift crabapple is no exception. Its pink buds burst into a snowy white show in mid-spring. But while spring is the tree’s standout season, it does offer visual impact year-round. Glossy, deep green summer leaves change to yellow in the fall, and orange-red fruit persists through the winter, attracting the favor of feathered friends.

- Displays color in all four seasons
- Produces orange-red crabapples that attract birds
- Displays spectacular spring flowers
- Zones 4–8

Mature Size: Grows to a height of 15–20’ and a spread of 15–20’ at maturity.
Growth Speed: Grows at a medium rate, with height increases of 13–24” per year.
Sun Preference: Full sun is the ideal condition for this tree, meaning it should get at least six hours of direct, unfiltered sunlight each day.
Soil Preference: Grows in acidic, loamy, moist, sandy, silty loam, well-drained and clay soils.
Attributes:
- Features glossy, dark green leaves that turn yellow in the fall.
- Yields round, orange-red fruit that are 3/8–1/2” in diameter that attract birds.
- Blooms in a profusion of snowy white blossoms in April or May.
- Self-fertile, meaning it depends on insects such as bees to transfer pollen between flowers on the same tree.
- Can be grown as a multi-stemmed or single-trunk specimen.
- Can be used to pollinate apple trees. (However, because bees tend to stay within the same flower color when foraging apple blossoms, try to match the flower color of the crabapple to the apple variety.)
- Grows in a rounded shape.

Wildlife Value: The tree’s fruit persists through the winter and attracts birds.

Blushing Gold Cherry
A beautiful blonde sweet cherry that provides pollen for other light-colored sweets, such as Emperor Francis and Royal Ann. This variety is a heavy cropper, well-suited for areas where Rainier is too tender, and can be mechanically harvested. Hardy. Yellow color. Harvests mid-June. Small size fruit. Sweet and tangy flavor. Vigorous and bird-resistant.

Bing Cherry
The renowned, high-quality cherry. Yields uniform crops of huge, glossy, deep-red almost black cherries. Fruit is juicy and sweet, perfect for snacking right off the tree. Originates from Salem, Oregon around 1875. Ripens in July. Best pollinators: another sweet cherry variety.
Bloom Color: White
Shade/Sun: Full Sun
Soil Composition: Loamy
Soil Moisture: Well Drained - Average Moistness
Soil pH Level: 6.0 - 7.0
Years to Bear: 4 - 7
Zone Range: 5 - 8
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Clapp’s Favorite Pear
Handsome and hardy. Vigorous tree has an upright growth habit and produces large, sun-yellow pears with a red cheek. Fruit is juicy with a fine sweet texture, ideal for fresh-eating and canning. Harvest a week or two before Bartlett. Harvest in late August.

**Bloom Color:** White  
**Fruit Color:** Yellow  
**Fruit Size:** Large - Extra Large  
**Pollination:** Pollinator Needed  
**Ripens/Harvest:** Late August-mid September  
**Shade/Sun:** Full Sun  
**Soil Composition:** Loamy  
**Soil Moisture:** Well Drained  
**Soil pH Level:** 6.0 - 7.0  
**Taste:** Juicy And Sweet  
**Texture:** Fine Grained/crisp  
**Years to Bear:** 4 - 6  
**Zone Range:** 5 – 7

Flemish Beauty Pear
A hardy Belgian pear, the Flemish Beauty is a great choice for growers in cold climates. Fruit is medium to large and rounded in shape with yellow skin that has a beautiful red blush. Excellent for fresh eating as well as drying.

**Site and Soil:** European Pears like full to 1/2 day sun and well-drained soil.  
**Rootstock Description:** A dwarfing rootstock for European Pears, OHxF 513 produces trees 10-12 ft. in height.  
**Pollination Requirements:** Flemish Beauty Pear Tree needs another variety nearby for cross-pollination. Our Asian Pear varieties can also be used as pollinators.  
**Hardiness:** European Pears are hardy to minus 25°F. or below.  
**Bearing Age:** 2-3 years after planting.  
**Size at Maturity:** 10-12 ft. in height.  
**Bloom Time:** April  
**Ripening Time:** Early September  
**Yield:** 50+ lbs.  
**Pests & Diseases:** Our European Pear varieties are generally quite disease resistant and easy to grow. Except for occasional problems with Codling Moth, we have not seen significant insect damage on our varieties.  
**USDA Zone:** 4

Concord, Catawba, and Niagara Grape Assortment
**General Characteristics:** 'Concord' is a Vitis labrusca hybrid that was developed in Concord, Massachusetts and introduced into commerce in 1843. It is one of the oldest cultivated American grape varieties still commonly grown. It is considered to be a good grape for juices, jams, jellies and wine. Some vineyards grow 'Concord' for producing sweet after dinner wines.  
**Fruit:** Blue to purple  
**Harvest:** Mid-September
**General Characteristics:** Catawba' is a Vitis labrusca hybrid grape that is commonly used for wines, champagnes, jams/jellies and juice. It is grown by some vineyards for production of blush and rose wines. It is an American grape variety that produces copper-red berries.

**Fruit:** Copper-red

**Harvest:** Late September to early October

**General Characteristics:** Niagara' is an American grape variety. It is a woody, deciduous, tendril climbing vine which typically will grow 15-20' long unless pruned shorter. Panicles of fragrant, greenish flowers in spring are followed by clusters of white seedless grapes which ripen in midseason (early September in USDA Zone 5). Considered to be a good grape for wine, fresh eating, juice or jellies.

**Fruit:** Called white but fruit is light-green in color

**Harvest:** Late August or early September

All of these are woody, deciduous, tendril-climbing vine. Panicles of fragrant, greenish flowers in spring are followed by clusters of seeded grapes that ripen in late mid-season. Large, shallowly-three-lobed, green foliage. Flowers are attractive to bees. Ripe fruit is attractive to some hornets and wasps. Grapes are primarily grown for fruit production in home fruit gardens where ornamental interest is not a concern. However, grapes do in fact have good ornamental value: bold summer foliage, some fall color, showy fruit and shaggy, twisted trunking and branching often best seen in winter. When grown on fences, walls, trellises, arbors or other structures, grapes can be quite attractive year-round and can provide good cover, screening, or shade to areas around the home.

**Planting Instructions:** May be planted in any well-drained soil. Dig a hole large enough to encompass the roots without bending or circling. Set the plant in place so the crown (part of the plant where the roots meet the stem) is about 1-2" below the soil surface. Cover with soil to the original soil surface and water thoroughly. Fertilize when planting. Best grown in deep, loamy, medium wet, well-drained soils in full sun. Tolerates a wide range of soil conditions, including average garden soils, but must have good drainage. Best sited in a location sheltered from winter winds (preferably a southern facing slope) and well removed from frost pockets. Self-pollinating. Grapes need a support system, training, regular spraying and regular pruning to maximize fruit production.

**Pests or Diseases:** Grape plants require a fair amount of maintenance and pruning. If given the proper amount of care, these wonderful fruits will provide you and your family with years of pleasure.

**Blueberry**

Blueberries are naturally high in anti-oxidants & GMO-free! Hardy, northern grown fruits from DeGroot are low maintenance and will provide bountiful fruit for years to come!

*‘Blucrop’* is an early fruiting variety which produces a heavy crop of light blue berries that are full of flavor. It is a vigorous shrub with an upright habit and has good drought resistance. Like all blueberries, it must have moist, acidic soil to flourish. Even without the added bonus of delicious berries, it makes an attractive deciduous shrub with white flowers in spring and striking autumn colors. Fast-growing.

*‘Blueray’* is perhaps the best midseason ripening cultivar for U-Pick growers. This variety is an old favorite. Small, tight clusters of large, medium blue fruit. Fruits are large, some of them an inch in diameter. Flavors of sweetness with a desirable hint of acidity make it a fine flavored fruit. Like all blueberries, it must have moist, acidic soil to flourish. Even without the added bonus of delicious berries, it makes an attractive deciduous shrub with white flowers in spring and striking autumn colors. Bright red wood in the winter. Fast-growing.

**Planting instructions:** Prefers an acid soil. In alkaline soil, add aluminum sulfate for best results. Dig a hole large enough to encompass the roots without bending or circling. Set the plant in place so the crown (part of the plant where the root meets the stem) is about 1-2 inches below the soil surface. Add generous amounts of peat but no fertilizer when planting. Cover with soil to the original soil surface and water thoroughly.
**Red Raspberry – Latham**

This reliable favorite June bearer ripens mid-season and is long harvesting. Vigorous, productive canes and excellent fruit with a sweet flavor make this a garden favorite. ‘Latham’ red berries are large, firm and attractive. Most popular variety; ripens in late June, cold hardy. Cut spent canes to the ground after they finish fruiting. The standard for spring-bearing red raspberries. Full flavored, aromatic fruit. Vigorous, highly productive. Very good textured fruit, extra firm. PRUNING. Fruit is borne on previous year’s growth.

**Planting Instructions:** May be planted in any well-drained soil. Dig a hole large enough to encompass the roots without bending or circling. Set the plant in place so the crown (part of the plant where the roots meet the stem) is about 1-2'' below the soil surface. Cover with soil to the original soil surface and water thoroughly. Fertilize newly set plants 2-3 weeks after planting and again in early summer. Water well during growth, and consider mulching to conserve water until the following spring, when the mulch should be removed to let the plants warm up. In winter, cut back to about 5 canes per crown. Cane berries prefer a deep, well-drained, fertile soil and typically bear fruit on 2-year old wood with everbearers producing on first-year wood. Thrive in most soil types. Versatile and hardy in the coldest climates where other cane fruits fail. Plant late winter to early spring. Space 2’-3’ in a row with 8’-10’ between rows. Plant as soon as soil may be worked in the spring. Your plants require 1” of water per week during the growing season and regular, shallow cultivation. The bush will bear only on one-year-old stems. As soon as canes have produced fruit, prune them back to the ground to make room for the strong new canes. Additional pruning will be required to eliminate tangling and improve their ability to bear.

**Pests or Diseases:** Disease resistant

**Spacing:** 3'

**Hardiness Zones:** 3-9

**Exposure:** Full sun

**Foliage:** Green

**Fruit:** Red

**Harvest:** June - Ripens evenly over a 3-week period

**Black Raspberry – Jewel**

Raspberry, ‘Jewel’ (Standard, Black) is a customer favorite with large black raspberries that are shiny black, sweet and flavorful. A recent introduction from the New York Fruit Testing Station found this is now rated the best of black raspberries. Plus, these plants are highly disease resistant. Also, the vigorous plants are early ripening, and in our experience a big improvement over the popular ‘Bristol’. ‘Jewel’ is a cross between ‘Bristol’ and ‘Dundee’. It is our most popular black raspberry variety. It produces excellent yields of superb quality berries. The large sized fruit is glossy black in color and has a rich raspberry flavor. It is an excellent choice for use in jams and jellies. ‘Jewel’ is winter hardy and a very reliable choice. They are great to blend into smoothies! Add to baked treats for a lively, colorful and lip-smacking treat. Make sure to grow enough to make preserves and enjoy the flavors of summer all year long. The plant is a high yielding producer of large, firm black raspberries.

‘Jewel’ produces fruit that is not only delicious and productive but is also very good for you! New research has shown that black raspberries have some of the highest levels of phytonutrients of any dark-colored fruits. They’ve even shown to have cancer-prevention qualities. Raspberries are wonderful plants for birds because, if left unpruned, they form “thickets” that provide excellent nesting, roosting and hiding places for birds. The fruit, of course, is also a highly desired and healthy food source for birds.

If you’re looking for reliability and hardiness in raspberries, ‘Jewel’ is for you. This berry laughs at our harsh winters, bounces back after a subzero cold with firm, juicy berries so glossy black they shine like its name. Mid-season crops are bountiful. Rich raspberry flavor makes your mouth water! Recommended for both home and market growers. Plant as soon as soil may be worked in the spring. Your plants require 1” of water per week during the growing season and regular, shallow cultivation.
Spacing: 3' wide, 10' row spacing
Hardiness Zones: 4-9
Exposure: Full sun
Foliage: Green
Fruit: Dark blue to black raspberries
Pests or Diseases: Highly Disease Resistance. Resistant to anthracnose.
Planting Instructions: Raspberries require a well-drained but consistently moist, rich soil for best growth. They need full sun for highest fruit production. Don't plant too deep! For bareroot plants, use a hoe to make a trench 2” deep the length of the bed. Spread roots along the bottom of the trench and cover immediately. Take care while planting to keep roots at the 2” level. This will promote suckers to develop from the roots. Fertilize your plants once a year in the spring before the plants bloom with a natural or organic, basic garden fertilizer. Trellis Support: We recommend using a trellis to support your raspberry canes. A trellis keeps the fruit off the ground, makes picking much easier, and maintains good aeration to help with disease control. Use a T-bar trellis for red and purple raspberries that supports 2 wires 12” apart at 3’-4’ above the ground. Use a four-wire trellis system for black raspberries. Four wires are attached to fence posts vertically and the raspberry canes are wrapped around the wires. Pruning: Raspberry roots and crowns live for a very long time, but the canes die after two years. For summer bearing raspberries, prune out the canes after harvesting the fruit. Thin the remaining new growth to 6-8 strong, healthy canes per running foot of row. For fall bearing raspberries, cut all the canes to the ground in early spring before new growth starts. For purple and black raspberries, in early spring cut out the small canes at the base leaving 4-5 of the strongest canes per clump. Then cut back the side (lateral) branches so they’re only about 12-inches long. In May, cut back the tip of each cane 3 to 4 inches to encourage side branches to grow so you get more fruit. It is best to plant immediately upon receipt. If you are unable to plant immediately, refrigerate and plant as soon as possible. Do not add water. Keep in original packing to retain proper moisture, until you can plant.

Strawberry – Everbearing
Strawberries are a welcome addition to any home garden. They are relatively easy to grow, require a minimum of space, and virtually no chemicals are needed. Berries not eaten fresh can be easily frozen or preserved. Besides being an excellent dessert fruit, strawberries are a good source of vitamin C as well as being low in calories (1/2 cup fills an adult’s daily need for vitamin C and equals about 25 calories). To enjoy fresh, juicy strawberries from your own garden, begin by setting plants out as early as possible in the spring. Spade the soil deeply and set the plants in double or triple rows.

Ozark Beauty’ is a long time favorite and is excellent for preserves or freezing. Large red berries with mouth-watering flavor. The absolute hardiest, most vigorous and one of the heaviest producing everbearing plants. You’ll be feasting on big crops of these exceptionally delicious scarlet-red berries from early summer until the first frost. All winter you’ll savor preserves and frozen desserts. This is an everbearing strawberry that produces berries that are semi-firm, red clear through, and full of flavor. High-yielding plants and self-pollinating.

To enjoy fresh, juicy strawberries from your own garden, begin by setting plants out as early as possible in the spring. Spade the soil deeply and set the plants in double or triple rows. Strawberries also do well planted in containers. Runners should be removed as well as the first flush of flowers so plants can direct energy into establishing a strong root system. For winter protection, cover plants with straw or leaves after the temperature has fallen to about 20° F. Remove covering in the spring once growth begins. The bed should be replaced after two years as quality and yield begin to decrease.

‘Quinault’ is a newer everbearing variety that produces berries on unrooted runners. It is a great tasting strawberry developed by Washington State University. Good for potted everbearing strawberries. Makes excellent ground cover or border planting along walks or paths. The fruit is so tasty. Berries up to 2” in diameter from June till frost. Self-pollinating.
To enjoy fresh, juicy strawberries from your own garden, begin by setting plants out as early as possible in the spring. Spade the soil deeply and set the plants in double or triple rows. Strawberries also do well planted in containers.

Runners should be removed as well as the first flush of flowers so plants can direct energy into establishing a strong root system. For winter protection, cover plants with straw or leaves after the temperature has fallen to about 20° F. Remove covering in the spring once growth begins. The bed should be replaced after two years as quality and yield begin to decrease.

**Height:** 1'
**Spacing:** 12-15”
**Hardiness Zones:** 2-9
**Exposure:** Full sun
**Foliage:** Green
**Fruit:** Bright red
**Harvest:** June and again in fall

**Planting instructions:** Soak plants in water a few minutes before planting. May be planted in any well-drained soil. Dig a hole large enough to encompass the roots without bending or circling. Set the plant in place so the crown (part of the plant where the root meets the stem) is level with the soil surface and water thoroughly. Apply fertilizer after growth begins. Grow in average, medium wet, well-drained soil in full sun. Prefers organically rich, sandy loams. Strawberries are a high maintenance fruit crop which can be grown all over the United States.

**Pests or Diseases:** *Quinault’* Strawberries have been tested in 13 states and Canada and have an excellent performance record for size, taste and plant growth. It was found to be the most disease free everbearer we have ever tested. *Ozark Beauty’* generally has good disease resistance.