

## INFORMATION ON TREES AND SHRUBS

### **NORTHERN WHITE CEDAR - (*Thuja occidentalis* L.)**

Description - Resinous and aromatic evergreen tree columnar in shape, with an angled, buttressed, often branched trunk and a narrow, conical crown of short, flat spreading branches. Height: 40-50 feet. Diameter: 1-3 feet. Leaves: evergreen, opposite in four rows;  $\frac{1}{16}$  -  $\frac{1}{8}$ " long. Scalelike: short-pointed; side pair keeled, flat pair with gland-dot. Dull yellow-green above, paler blue-green beneath. Bark: light red-brown: thin, fibrous and shreddy, fissured into narrow connecting ridges. Twigs: branching in horizontal plane; much flattened; jointed. Cones:  $\frac{3}{8}$ " long; elliptical; light brown; upright from short curved stalk; with 8-10 paired, leathery, blunt-pointed cone-scales. Four usually bearing two tiny narrow winged seeds each. Northern white cedar is an excellent border or hedge plant.

Habitat: Adapted to swamps and to neutral or alkaline soils on limestone uplands; often in pure strands. Grows best in full sun but will survive shade. Grows best in well-drained loamy soil.

Range: Southeast Manitoba east to Nova Scotia and Maine, south to New York, and west to Illinois; south locally to North Carolina; to 3,000 feet in south.

Probably the first North America tree introduced into Europe, it was discovered by French explorers and grown in Paris about 1536. The year before, tea prepared from the foliage and bark, now known to be high in vitamin C, saved the crew of Jacques Cartier from scurvy. It was named arborvitae, Latin for "tree-of-life", in 1558. The trees grow slowly and reach an age of 400 years or more. The lightweight, easily split wood was preferred for canoe frames by Indians, who also used the shredded outer bark and the soft wood to start fires. Today, the wood is used principally for poles, cross-ties, posts, and lumber. Cedar oil for medicine is distilled from the twigs. It is one of the preferred species for deer browse, for which it is exceedingly important.

### **WHITE PINE - (*Pinus strobus* L.)**

Description - The largest northeastern conifer, a magnificent evergreen tree with straight trunk and crown of horizontal branches, one row added a year, becoming broad and irregular. Height: 100 feet, formerly 150 feet or more. Diameter: 3-4 feet or more. Needles: evergreen, two and a half to five inches long, five in a bundle, slender, blue-green. Bark: gray, smooth becoming rough, thick and deeply furrowed into narrow scaly ridges. Cones: four to eight inches long, narrowly cylindrical, yellow-brown, long-stalked, cone-scales thin, rounded, flat. Extremely winter hardy and is seemingly unaffected by hard freezes.

Habitat: Grows best in well-drained sandy or silty soils, but will grow under most soil conditions; sometimes in pure strands. Does not tolerate shade; must be planted in a sunny location.

Range: Southeast Manitoba east to Newfoundland, south to north Georgia and west to northeast Iowa; a variety in Mexico. From near sea level to 2,000 feet; in the southern Appalachians to 5,000 feet.

An excellent fast-growing shade tree. The largest conifer and formerly the most valuable tree of the Northeast, Eastern White Pine is used for construction, millwork, trim, and pulpwood.

Younger trees and plantations have replaced the once seemingly inexhaustible lumber supply in virgin forests. The tall straight trunks were prized for ship masts in the colonial period. It is the state tree of Maine, the Pine Tree State; and the pine cone and tassel are the state's floral emblem. The seeds were introduced in England (where it is called Weymouth Pine) from Maine in 1605 by Captain George Weymouth of the British Navy. Before settlers came to America, the white pine grew to 200 ft. tall and nearly 500 years old.

### **WHITE SPRUCE - (*Picea glauca*)**

Description: Tree with rows of horizontal branches forming a conical crown; smaller and shrubby at tree line. Height: 40-100 feet. Diameter: one to two feet. Needles: evergreen; half to a quarter inch long. Stiff, four-angled, sharp-pointed; spreading mainly on upper side of twig, from very short leafstalks. Blue-green, with whitish lines; exuding skunklike odor when crushed. Bark: gray or brown; thin; smooth or scaly, cut surface of inner bark whitish. Twigs: orange-brown; slender, hairless, rough with peg-like bases. Cones: one and a quarter to two and a half inches long; cylindrical; shiny light brown; hanging at end of twigs; falling at maturity; cone-scales thick and flexible, margins nearly straight and without teeth; paired brown long-winged seeds.

Habitat: Many soil types in coniferous forests; sometimes in pure strands.

Range: Across north North America near northern limit of trees from Alaska and British Columbia east to Labrador, south to Maine, and west to Minnesota; local to northwest Montana, South Dakota, and Wyoming; from near sea level to timberline at 2,000 to 5,000.

The foremost pulpwood and generally the most important commercial tree species of Canada. As well as providing lumber for construction, the wood is valued for piano sounding boards, violins, and other musical instruments. White Spruce and Black Spruce are the most widely distributed conifers in North America after common Juniper, which rarely reaches tree size. Various kinds of wildlife, including deer, rabbits, and grouse, browse spruce foliage in winter.

### **AMERICAN CHESTNUT – (*Castanea dentata*)**

Description – chestnuts are deciduous trees with short-stemmed, prominently veined leaves that have coarse, bristly marginal teeth. Small flowers, in slender, erect, unisexual or bisexual catkins (aments), appear after the leaves. The American Chestnuts leaves are oblong lanceolate, 5 to 8 inches long and 2 inches wide, dull dark green above, paler below, and smooth on both surfaces. Slender, arching, staminate catkins, 6 to 8 inches long, are conspicuous near ends of the branches in spring; bisexual flowers are shorter. Prickly husks, about 2.5 inches in diameter, contain two or three somewhat flattened nuts, about 1 inch in diameter. Bark dark brown; smooth on young trees and broken into broad, flattened, scaly ridges on large trunks. The tree can attain heights of 70 to 90 feet and diameters of 3 to 4 feet with maximums of 120 x 10 feet.

Habitat: Sandy, sandy loam, well drained soils with full or partial sun.

Range: The American Chestnut was one of the most plentiful, versatile and valuable forest trees in the eastern United States. It was an important component of forestlands which covered millions acres. Unlike the European and Oriental species, the American Chestnut's tall and straight growth form enabled it to be widely utilized as a commercial timber species. The wood was even-grained, easily worked and very decay resistant which made it extremely valuable for railroad ties, mine timbers, fence posts, construction lumber and furniture. It

was also an important source of tannin used in the leather tanning process. Natural regeneration from seedlings and stump sprouts alleviated the need to artificially regenerate the forests by planting seedlings. Because of their fine, sweet flavor, nuts from the native American trees were preferred over the larger Oriental and European nuts.

The chestnut blight disease (*Endothia parasitica*) was accidentally introduced into the United States around the turn of the century. Blight was first discovered in 1904 on trees located in the New York Zoological Gardens. It was determined that the blight was transported into the country on Oriental chestnut seedlings. The blight fungus co-evolved with the Oriental chestnuts, thus it was not harmful to this species. Since American chestnuts had no natural immunity, the blight disease was lethal and spread quickly through the species' native range.

Cultural practices, such as removal of diseased trees and spraying chemical mixtures, were used in an attempt to stop the spread of blight. All control efforts were futile and by 1950 American chestnut trees in their native range were reduced to stump sprouts which continue to die back every few years. It is estimated that over 3.5 billion trees were killed by the blight, an unprecedented ecological disaster.

### **BLACK CHERRY - (*Prunus serotina*)**

Description - *Wild Cherry* Aromatic tree with tall trunk, oblong crown, abundant small white flowers, and small black cherries; crushed foliage and bark have distinctive cherrylike odor and bitter taste. Height: 50-60' Diameter: 2' Leaves: 2-5" long, 1¼ - 2" wide. Elliptical; 1-2 dark red glands at base; finely saw-toothed with curved or blunt teeth; slightly thickened. Shiny dark green above, light green and often hairy along midvein beneath; turning yellow or reddish in autumn. Bark: dark gray; smooth, with horizontal lines; becoming irregularly fissured and scaly, exposing reddish-brown inner bark; bitter and aromatic. Twigs: red-brown, slender, hairless. Flowers: 3/8" wide; 5 rounded, white petals; many flowers along spreading or drooping axis of 4-6" at end of leafy twig; in late spring. Fruit: a cherry 3/8" in diameter; skin dark red turning blackish; slightly bitter, juicy, edible pulp; elliptical stone; maturing in late summer.

Habitat: On many sites except very wet or very dry soils; sometimes in pure stands.

Range: S. Quebec to Nova Scotia, south to central Florida, west to E. Texas, and north to Minnesota; varieties from central Texas west to Arizona and south to Mexico.

This widespread species is the largest and most important native cherry. It grows rapidly and transplants easily. The valuable wood is used particularly for furniture, paneling, professional and scientific instruments, handles, and toys. Wild cherry syrup, a cough medicine, is obtained from the bark, and jelly and wine are prepared from the fruit. One of the first New World trees introduced into English gardens, it was recorded as early as 1629. As many as 5 geographical varieties have been distinguished.

### **BUR OAK – (*Quercus macrocarpa*)**

Description – Tree with very large acorns, stout trunk, and broad, rounded, open crown of stout, often crooked, spreading branches; sometimes a shrub. Height: 50-80'. Diameter: 2-4'. Seldom more than eighty feet high or three feet in diameter, trees 170 to 180 feet high and six or seven feet in diameter have been reported. Under forest conditions bur oak develops a tall, massive, clear trunk, which supports a moderately broad, open crown of stout branches. In contrast to these

splendid dimensions it may, on unfavorable sites, live for years in thickets without attaining heights of more than six to eight feet. Of relatively slow growth, it reaches great age and is not considered mature before 200 to 300 years.

Leaves: 4-10" long, 2-5: wide. Obovate, broadest beyond middle, lower half deeply divided into 2-3 lobes on each side; upper half usually with 5-7 shallow rounded lobes on each side to broad rounded tip. Dark green and slightly shiny above, gray-green and with fine hairs beneath; turning yellow or brown in fall. Bark: light gray; thick, rough, deeply furrowed into scaly ridges. Acorns: large; ¾-2: long and wide; broadly elliptical, ½-¾ enclosed by large deep cup with hairy gray scales, (the upper scales very long-pointed) forming fringelike broader; maturing first year.

Habitat: From dry uplands on limestone and gravelly ridges, sandy plains, and loamy slopes to moist flood plains of streams; often in nearly pure stands. It grows well on rich, moist bottomlands and on lower slopes.

Range: Extreme SE. Saskatchewan east to S. New Brunswick, south to Tennessee, west to SE. Texas and north to North Dakota; local in Louisiana and Alabama. Usually at 300-2000' to 3000' or above in northwest.

Bur Oak is one of the largest and, next the white oak, the most majestic of American oaks. Bur Oak is the northernmost New World oak. The scientific name, *macrocarpa*, meaning large fruited, refers to the large, edible nut. The acorns of this species, distinguished by very deep fringed cups, are the largest of all native oaks. The common name describes the cup of the acorn, which slightly resembles the spiny bur of Chestnut. The beauty of bur oak, its ability to withstand city smoke, its freedom from insect and fungus injuries, its adaptability to soils and climates, and the comparative ease with which it may be raised and transplanted, recommend it for city streets and lawns. Planted for shade, ornament, and shelterbelts.

### **RED OAK - (*Quercus rubra*)**

Description - Large, long-lived, deciduous tree with rounded crown of stout, spreading branches. Height: 60-90 ft. Diameter: 1-2 ½ ft. Leaves: 4-9" long, 3-6" wide. Elliptical; usually divided less than halfway to midvein into 7-11 shallow wavy lobes with a few irregular bristle-tipped teeth. Usually dull green above, dull light green beneath with tufts of hairs in angles along midvein; turning brown or dark red in fall. Bark: dark gray or blackish; rough, furrowed into scaly ridges; inner bark reddish. Acorns: ⅝-1 ⅛" long; egg-shaped, less than ⅓ enclosed by broad cup of reddish-brown, blunt, tightly overlapping scales; maturing second year.

Habitat: Best planted in sandy loam, well drained soils. Found in moist, loamy, sandy, rock and clay soils; often forming pure stands. Red oak is fast-growing and adapts well to a wide variety of conditions. Plant in full sun.

Range: Grows throughout Wisconsin on the better sites. West Ontario to Cape Breton Island, south to Georgia, west to east Oklahoma, and north to Minnesota; to 5500 ft. in south.

Light, reddish-brown heartwood; hard, strong and coarse; used for construction and finish of houses, furniture and fuel. Best logs are largely cut into veneers. The northernmost eastern oak, it is also the most important lumber species of red oak. Most are used for flooring, furniture, millwork, railroad crossties, mine timbers, fenceposts, pilings, and pulpwood. A popular handsome shade and

street tree, with good form and dense foliage. One of the most rapid-growing oaks, it transplants easily, is hardy in city conditions, and endures cold. Provides excellent fall color. Excellent source of acorns for wildlife. Red oak is also susceptible to oak wilt fungus, which is spread through open wounds in the tree.

For this reason, do not prune red oak in May or June when the picnic beetle is present. Oak wilt is also spready from tree to tree through intertwined roots.

### **SWAMP WHITE OAK - (*Quercus bicolor*)**

Description - Large tree with a narrow, rounded, open crown of often drooping branches. Height: 60-70 ft. Diameter: 2-3 ft. Leaves: 4-7" long, 2-4½" wide. Obovate, rounded or blunt at tip, broadest beyond middle, gradually narrowed to pointed base; edges wavy with 5-10 shallow rounded lobes on each side. Green and slightly shiny above, soft whitish hairs beneath; turning brown to red in fall. Bark: light gray; with large thin scales, becoming furrowed into plates. Acorns: ¾ - 1¼" long; egg-shaped, 1/3 or more enclosed by deep cup of many distinct scales, becoming light brown; usually 2 on long slender stalk, maturing first year.

Habitat: Wet soils of lowlands, including stream borders, flood plains and swamps subject to flooding; in mixed forests. Very adaptable to a wide range of soils.

Range: Sparsely distributed over the southern half of the state of Wisconsin. Extreme south Ontario east to extreme south Quebec and Maine, south to Virginia, west to Missouri, and north to southeast Minnesota; local to southwest Maine, North Carolina, and northeast Kansas; to 1000 feet, locally to 2000 feet.

Light brown, hard, strong, tough and durable; commercially, its uses and properties are similar to white and bur oak. Excellent source of acorns for wildlife. The Latin species name, meaning "two-colored", refers to the leaves, which are green above and whitish beneath.

### **AMERICAN BITTERSWEET - (*Celastrus scandens*)**

Description: Vigorous, deciduous, twining vine or vine-like shrub that engulfs every fence in sight. Leaf color is deep glossy green in summer; greenish yellow in fall. Bright-red berries in yellow or orange husks. Flower and fruit are at ends of stems only. In bloom: May-June; In fruit: September-December; Height: climbs up to 25 feet.

Habitat: Fast growth rate. Quite easy to grow as it withstands about any soil condition including those that are dry; pH adaptable; full sun for best fruiting; probably best to locate in a poor soil site as it will quickly overgrow its bounds when placed in good soil. Could be allowed to scramble over rock piles, fences, old trees and the like; the fruit is handsome and is always welcome in arrangements.

Range: Zone 3 to 8

### **AMERICAN PLUM - (*Prunus americana*)**

Description: Leaves alternate, simple, obovate to oblong-ovate, 2 to 4" long, 1 ¼ to 1 ¾ " wide, acuminate, broad cuneate, sharply and doubly serrate, dark green and glabrous or slightly pubescent on midrib below. Also, single stemmed, 15 to 25' trees are evident. Flowers are pure white, about 1" diameter, 2 to 5 together in sessile umbels, each flower on a slender 2/3 to 1" long glabrous pedicel. Flowers open before the leaves in early to mid March in Athens and depending on

temperature are effective for 5 to 7 up to 10 days. A pronounced difference in flowering times is evident as one colony will be spent while another is in full splendor. Flowers have the sickly sweet typical plum species odor. Fruits are generally yellow to red, rounded, +1" diameter with yellow flesh that ripens in June-July. The fruits are utilized for jellies and jams. On young trees the bark is thin, smooth, and brown; on mature trees, scaly. Grows 20 to 30 feet tall and 1 foot in diameter with a broad, spreading crown; commonly forms thickets in moist soil. The fruit is eaten by catbird, brown thrasher, robin and cardinal.

Habitat: Is a common shrub, often forming large colonies along roadsides, in waste areas and other uncultivated habitats throughout its native range. Tends to thrive with neglect.

Range: Found from Massachusetts to Manitoba, south to Georgia, New Mexico and Utah. Cultivated 1768. Zone 3 to 8.

### **ARROWWOOD VIBURNUM - (*Viburnum dentatum*)**

Description - Much-branched shrub with many shoots from base, or sometimes a small tree, with showy clusters of white flowers and blue-black fruit. Height: 3-10 ft., Diameter: 3 ft., Leaves: opposite; 1 ½ -4" long, 1-3 ½ " wide. Ovate or rounded, pointed at tip, blunt or notched at base; with many straight sunken side veins ending in large teeth; leafstalks long, slender. Dull green and nearly hairless above, paler and hairy beneath; turning shiny red in autumn. Bark: gray or reddish-brown; smooth. Twigs: brown, slender, usually hairy, with ringed nodes. Flowers: ¼" wide; with 5 rounded white corolla lobes; in branched, upright long-stalked clusters 2-3 ½" wide, of many flowers each; in spring and early summer. Fruit: ¼- ⅜" long; rounded or elliptical, blue or blue-black, juicy; large flattened stone; maturing in late summer and autumn.

Habitat: Adaptable to many soils types; moist to dry. Forms thickets in open areas, at borders, and in understory of forest. Full sun to partial shade. Useful screen, hedge, and food source for birds. Arrowwood is a common, widespread shrub varying in leaf shape, size, and hairiness. Indians used the straight young stems as arrow shafts; hence the common name.

Range: Illinois east to Massachusetts, south to Florida, and west to east Texas; to 4500 ft. in southern Appalachians.

### **BLACKHAW VIBURNUM – *Viburnums prunifolium***

Description: Small tree valued primarily for its lovely flowers. Growing along the edge of the forest, in clearings, or on hillsides, the blackhaw rarely grows higher than thirty feet and it branches closely to the ground so that it looks like a large bush. The flowers are clustered white blossoms, which produce dark blue berry-like fruits in fall, a favorite food of many birds and rodents. Because the tree is so small, it is of little commercial importance as a timber source, but is planted as an ornamental, as it is a close relative to the nannyberry (*Viburnum lentago*).

Habitat: Transplants well, adaptable to many soil types; sun or shade; does well in dry soils. Interesting as a small specimen tree, massing, shrub border, groupings, habit is somewhat similar to hawthorns. Slow to medium growth rate. No serious diseases or insects.

Range: Zone 3 to 9. Connecticut to Florida, west to Michigan and Texas. Introduced 1727.

### **COCKSPUR HAWTHORN - (*Crataegus crus-galli*)**

Description - Small, spiny, thicket-forming tree with short, stout trunk and broad, dense crown of spreading and horizontal branches; hairless throughout. Height: 30'. Diameter: 1' Leaves: 1-4" long, 3/8 - 2" wide. Spoon-shaped or narrowly elliptical; short-pointed or rounded at tip, widest beyond middle, tapering to narrow base; sharply saw-toothed beyond middle with gland-tipped teeth; slightly thick and leathery. Shiny dark green above, pale with prominent network of veins beneath; turning orange and scarlet in autumn. Bark: dark gray or brown; scaly, with branched spines. Twigs: stout; usually with many very long slender brown spines. Flowers: 1/2 - 5/8" wide; with 5 white petals, 10 to sometimes 20 pink or pale yellow stamens, and 2-3 styles; many, in large clusters; in late spring or early summer. Fruit: 3/8 - 1/2" in diameter; rounded; greenish or dull dark red; thin hard pulp; usually 2-3 nutlets; several, in drooping clusters; maturing in late autumn and persisting until spring.

Habitat: Moist soils of valleys and low upland slopes. Common and widespread, it has been planted for ornament and as a hedge since colonial times.

Range: S. Ontario and S. Quebec south to N. Florida, west to E. Texas, and north to Iowa; to 2000'.

### **COMMON WITCHHAZEL - (*Hamamelis virginiana*)**

Description: Leaves are alternate, 3 to 6 inches long and 2 to 3 inches wide, their greatest width above the middle. Leaves have deep, widely spaced, rounded marginal teeth and a lopsided base; dull green above and lighter below, with hairs along midrib and veins. Flowers with 4 narrow, yellow petals appear in fall or winter. They produce a 2-beaked, woody capsule, 0.5 of an inch long, which splits open when mature and forcefully ejects lustrous black seeds. A shrub or a small tree, to 30 feet tall and 12 inches in diameter, usually in moist soils near streams. Medium growth rate and no serious diseases or insects, although when planted near birch trees a peculiar insect makes small galls on the underside of the foliage, like hackberry nipple gall.

Habitat: A native shrub covering much of eastern United States and therefore valuable in a naturalized situation. It is best reserved for the shrub border and near large buildings in shaded areas. It is probably too large for the small residential landscape; considerable selections could be made for quality and abundance of flower and the absence of foliage during the flowering period. When open grown, this makes a wonderful shrub especially in the fall as the leaves turn a gorgeous yellow and the fragrance of the flowers permeates the cool autumn air.

Range: Zone 3 to 8. Native habitat is Canada to Georgia, west to Nebraska and Arkansas. Introduced 1736.

### **AMERICAN FILBERT - (*Corylus americana*)**

Description: Multi-stemmed, rounded shrub forming a colony or thicket by suckering shoots. Dark Green leaves with soft hairs on both sides of leaves, turning yellow to reddish orange in fall. Leaves are alternate, simple and somewhat heart-shaped with coarse edges, which are doubly toothed. Twigs are slender, tan, and covered with stiff hairs. Height: 8-12 feet. Fruit: produces an edible nut in September to October. The nuts are enclosed in thin, flattened, hairy ragged-edged papery husks, which are commercially called filberts.

Habitat: Grows well on a variety of loam's and prefers moist well drained soils. Tolerates

dryer or poorly drained sites. Full sun to light shade.

Range: Complete winter-hardy throughout Wisconsin.

Excellent for informal, naturalizing or wildlife planting. Nuts are readily eaten by deer, squirrels, jays, hairy woodpeckers and pheasants. Catkins are an important food of ruffed grouse.

**PRAIRIE ROSE - (*Rosa setigera*)**

Description: Also called Michigan Rose or Climbing Rose. A wide spreading shrub with arching and spreading canes which can extend 15' in a single season. May grow to 15' but usually shorter; when climbing over flat ground grows 3 to 4' in height. Leaves alternate, pinnately compound, leaflets 3, rarely 5, ovate to oblong-ovate; lustrous dark green in summer; fall colors often a combination of bronze-purple, red, pink, orange and yellow. Flowers are deep pink fading to white, nearly scentless, single, about 2" across; borne in few-flowered corymbs in late June through early July. Fruit is red, globular, 1/3" diameter, maturing in fall. One of the latest flowering species roses; quite hardy (Zone 4) and has been used in breeding work; might be a good plant for difficult areas along highways; definitely not for the small garden.

Habitat: Full sun or shade; somewhat tolerant of city conditions; prefers a moist soil; avoid extremely dry conditions.

Range: Ontario to Nebraska, Texas and Florida. Introduced 1810.

**NANNYBERRY VIBURNUM - (*Viburnum Lentago*)**

Description - Leaves: opposite; 2 to 5 inches long; fine toothed edges; long pointed tip; winged leaf stalk. Grows 20 feet tall; 10 feet wide. Shrub or small trees with slender finally arching branches, somewhat open at maturity, often suckering. Fruit: Drupe, oval, 1/2 long, bluish black, bloomy, September to October and often December, common name is derived from smell of the fruits, the color actually starts out green and in the course of maturation may show tinges of yellow, rose and pink before finally becoming bluish black: actually most handsome in the early stages of coloring. Ruffed grouse, ring-necked pheasant, cottontail rabbit and gray squirrel eat the fruit. Hardiness zone 2.

Habitat: Grows in dry, well-drained or moist sites.

**SHADBLOW SERVICEBERRY - (*Amelanchier Laevis*)**

Description - Leaves are deep green turning yellow to a beautiful terra cotta orange in fall. Flowers are white in April followed by sweet juicy black fruits, which are very attractive to birds. Good plant for fruit production and naturalizing. Grows 6-15' tall and spread. Upright multistemmed, spreading broad shrub. Zone 2-7

Habitat: Best in moist well-drained soil, adaptable to drier sites. Sun to partial shade.