
2017 Conservation Tree & Shrub Seedling Program ***Plant Descriptions and Information***

Conifers/Evergreens

American Arborvitae [White Cedar] (*Thuja occidentalis*) – Slow to moderate growth • Slender, columnar in shape when young, losing lower branches unless managed as a hedge • Single trees can grow to 40 – 50' with a 10-15' spread. • Full sun • Tolerates wet, boggy sites, grows best in high lime, moist, sandy soils • Uses include shingles, rails & posts • Winged seeds are eaten by pine siskin in the NE; foliage and twigs are useful to white-tailed deer • Native to Eastern N. America: Nova Scotia to Manitoba, south to North Carolina, Tennessee and Illinois, New York.

Balsam Fir (*Abies balsamea*)– Moderate growth • Slender, dense, pyramidal shape • Mature height 45-75' with 20-25' spread • Full sun - More shade tolerant than other firs, will not tolerate polluted areas • Well drained, slightly acid, moist soils, tolerates wet soil conditions • Popular Christmas Tree; wildlife cover, songbirds' nesting sites, and browse for deer; squirrels, chipmunks and several songbirds eat the seeds • Native over a wide part of N. America, esp. in the higher altitudes from Labrador to Alberta to Pennsylvania, New York.

Concolor Fir [White Fir] (*Abies concolor*) – Slow growth • Conical, densely branched shape with upper branches tending to turn upward while lower branches remain horizontal or deflect downward as trees mature • Mature height 30-100' with 15-30' spread • Full sun • Deep, rich, moist, well drained, gravelly or sandy loam soils; dislikes heavy clay • Drought, heat, cold tolerant • Numerous uses for wildlife: cover and nesting, winged seeds eaten by songbirds, squirrels, and chipmunks • Popular Christmas tree • Native: Colorado to Southern California, Northern Mexico and New Mexico

Douglas Fir (*Pseudotsuga menziesii*) – Moderate growth • Spirey pyramidal, densely branched in youth to more open in maturity, upper branches tend to ascend while lower branches drop • Height 40-100' with 12-20' spread • Full Sun • Neutral/slightly acid soils, well-drained and moist, fails on poor soils • Subject to wind damage • Uses: lumber and Christmas tree • Heavily browsed by deer • Native to the Rocky Mountains and Pacific Coast.

Fraser Fir (*Abies fraseri*) – Moderate growth • Dense, pyramidal shape with stiff horizontal branches, opening up with age • Height 30-40' up to 70' with 20-25' spread • Full sun or partial shade • Cool, moist, well-drained loamy soil • Suffers in hot dry weather or on heavy, wet clay soils • Uses: Christmas tree, wildlife • Native: Appalachian Mountains of Virginia, North Carolina, and Tennessee.

American or Eastern Larch [Tamarack] (*Larix laricina*) – Slow-medium growth • open and pyramidal with a slender trunk horizontal branches and drooping branchlets • Height 40-80' with 15-30' spread • Full sun; intolerant of shade and pollution • Moist well-drained acid soils • leaf is a deciduous flat needle that turns golden yellow and drops in fall • Red squirrels and birds eat the seeds, attracts white throated sparrow, song sparrow, veery, common yellowthroat, Nashville Warbler and American Osprey • wood used for pulp products, posts, poles, mine timbers, railroad ties, rough lumber, boxes, crates and fuelwood • Native Northern North America, from the Arctic Circle in Alaska and Canada southwards to northern Pennsylvania, Minnesota and Illinois, New York.

Austrian Pine (*Pinus nigra*) – Moderate growth • Densely pyramidal when young, becomes a large, flat-topped tree with a rough, short trunk and low, stout, spreading branches • Mature height 50-100' with 20-40' spread • Withstands city conditions better than most other pines • Tolerates a wide range of soil conditions, heat, drought, and wind • Good for wildlife cover and seeds are eaten by songbirds and small mammals • Native of Europe, from Austria to central Italy, Greece and Yugoslavia.

White Pine (*Pinus strobus*)- Fast growth • Symmetrically pyramidal with soft appearance in youth, middle to old age distinctive plume-like outline • Height 50-75' with 20-40' spread – can reach 150' in height • Full sun, can tolerate some shade • Prefers fertile, moist, well-drained soils • Many lumber uses; Christmas tree, Red-breasted nuthatches, black-capped chickadees, red crossbills, squirrels, chipmunks, and mice feed on seeds. Beavers, porcupines, and white tailed deer browse on twigs and foliage • Native to Newfoundland to Manitoba, south to Georgia; Illinois and Iowa, New York.

Blue Spruce (*Picea pungens glauca*)- Moderate to slow growth • Broad, dense, pyramidal in youth, opening with age, retains lower branches • Height 40-60' with 10-20' spread • Full sun • Rich, moist soil is drought tolerant • Provides food and cover for birds and small mammals • Uses: windbreaks, screens & Christmas Trees • Native to Southwest United States, Rocky Mtns. from Colorado to Utah to New Mexico and Wyoming.

Norway Spruce (*Picea abies*) – Fast growth • Pyramidal with drooping branches; stiff when young to graceful when mature • Height 40-60' with 25-30' spread – can reach 100'+ in height • Full sun • Rich, moist soil • Food and cover for birds and small mammals • Uses: Lumber, Christmas trees, windbreaks • Native to North & Central Europe

White Spruce (*Picea glauca*) – Fast growth • Broad densely-pyramidal in youth to tall narrow dense spire with upturned branches • Height 40-60' with 10-20' spread • Full sun – light shade • Moist Loam or alluvial soils • Withstands: heat, wind, drought, crowding • Uses: streambanks, lakeshores, adjacent banks, lumber, pulpwood, windbreaks, Christmas tree • Wildlife cover, deer browse & rabbit, ruffed grouse • Native from Alaska to Montana, Minnesota, and New York.

Conservation Shrubs

Sargent Crabapple (*Malus sargentii*) – Moderate growth • Mounded, dense branching, wide spreading • Height 6-8' • Single ¾ -1" flowers: red in bud, opening white, fragrant • Full sun • Soil: well-drained, moist, acid; adaptable • Small, bright red, ¼" diameter apples • Fruit is popular with ruffed grouse, ring-necked pheasant, songbirds, and white-tailed deer.

Redosier Dogwood (*Cornus sericea*) – Fast, vigorous growth • Broad-spreading, loose, rounded, multistemmed shrub with horizontal branches base, stoloniferous (spreads by underground stems) • Height 7-9' with 10'+ spread • Creamy white flowers, borne 1 ½ - 2 ½ clusters late May to early June • White round fleshy fruits in late summer persisting through fall into winter • Full sun to partial shade • Extremely adaptable to wide range of soil and climatic conditions, best in moist soil – found in wet swampy situations • Used for soil stabilization on stream banks; fruits are favored by many songbirds and gamebirds • Native from Newfoundland to Manitoba, south to Virginia, Kentucky & Nebraska, New York.

American Elderberry (*Sambucus canadensis*) – Fast growth • Multistemmed shrub, often broad and rounded with branches spreading and arching, suckers profusely • Variable height 5-12' various spread • Creamy white 6-10" wide flat-topped flower clusters in June-July; fruit is purple-black in August-September, berry-like, ¼" diameter • Full sun • Moist soils, will tolerate dry soils, thrives under acid or alkaline conditions • Fruits are popular when processed for wine, pies, & jellies; fruits are summer food for songbirds, gamebirds, and squirrels, several kinds of browsers feed on the fruits and foliage • Native from Nova Scotia to Manitoba to Florida & Texas, New York.

Hazelnut [American Filbert] (*Corylus americana*) – Moderate growth • Multistemmed shrub forming a rounded top with an open base, wide spreading stems • Height 8-15' • Male catkins showy in spring, female catkins inconspicuous • Full sun or light shade • ½" long nut maturing in September-October • Tree begins nut production at 1 yr; good crops begin 2-3 yrs • Well drained, loamy soil, pH adaptable • Good hedgerow or wood border plant • Squirrels, deer, and wild turkey may harvest these nuts (also call filberts) before you do • Native from New England to Saskatchewan and south to Florida, New York.

Winterberry Holly (*Ilex verticillata*) – Slow growth • Oval-rounded, deciduous shrub with dense complement of fine twiggy branches; tends to sucker and form large multistemmed clumps • 10 - 15' height and spread • Dioecious – both male and female flowers are stalked and greenish-white with 5-7 petals, usually in clusters in spring • Fruit is a berry-like rounded drupe, bright red 1/4" diameter in clusters of 2 to 4, ripening in fall and persisting into January - space plants within 40 feet of one another; fruit is poisonous to humans • Full sun or partial shade • Does well in light and heavy soils; prefers moist, acid, high organic matter soils; adaptable to wet conditions • Berries are eaten by small mammals and more than 48 species of birds • Native from Nova Scotia to western Ontario, west to Wisconsin, south to Florida and west to Missouri.

Ninebark, Common or Eastern (*Physocarpus opulifolius*) – Medium to fast growth • Upright, spreading with stiffly recurved branches, rounded and dense in foliage, peeling brown bark on stems • Height 5-10' with 6-10' spread • Full sun to partial shade • Moist well-drained soil; tolerates wet and dry soils; withstands acid and alkaline soils • White or pinkish flowers of 1/4-to-1/3" diameter, May-June, borne in many-flowered 1-to-2" diameter corymbs, stamens purplish numbering about 30 • Fruit consists of 3-to-5 inflated follicles, each 1/4" long, smooth, and shiny, reddish in September-October • fruit is eaten by many species of birds; excellent nectar source; deer browse branches • Native Quebec to Virginia, Tennessee and Michigan.

Shadblow Serviceberry (*Amelanchier canadensis*) – Moderate growth • Upright multistemmed large shrub or small tree with a rounded crown of many small branches • Height 6-20' with erect stems • White flowers occur in erect 2-3" long racemes in early spring • Full to partial shade • Moist, well-drained, acid soil – will tolerate wide range of soil conditions • Grows in many different habitats • Sweet, black, edible fruit ripens in early summer • Thrushes and many other songbirds, squirrels, chipmunks, & bears relish the fruits • Native from Maine to South Carolina, New York.

Spicebush (*Lindera benzoin*) – Slow to medium growth • rounded shrub, somewhat loose and open in wild; dense, full and broad-rounded in full sun • Height 6-12' with a similar spread • Flowers are greenish yellow, early to mid-April – dioecious • Fruit is an oval drupe, 1/3 to 1/2" long on female plants, bright scarlet in September • Full sun or half-shade • Prefers moist, well drained soils, does adequately in dry soils; coarsely fibrous root system makes transplanting difficult • excellent golden yellow fall color when in sun • Fruits are relished by thrushes, particularly by Wood Thrush and Veery • preferred food for black and blue spicebush swallowtail butterfly larvae • Native Maine to Ontario and Kansas, south to Florida and Texas.

Streamco Willow (*Salix purpurea*) – Fast growth • Rounded, dense, finely branched, forming thickets of many smooth, thin, tough branches • Height 12-15' by 10-12" wide • Full sun – partial or full shade • Slightly acid, damp soils • Excellent choice for stabilizing streambanks or pond margins; suckers and layers producing dense mats that resist erosion • Provides shelter for water birds, aquatic life and small mammals used in basket weaving • Native to Europe, northern Africa to Central Asia and Japan.

Broadleaf Trees (Deciduous)

Basswood [American Linden] (*Tilia americana*) – Medium growth rate • Large, tall stately tree with numerous, slender low hung spreading branches; pyramidal in youth; at maturity the lower drooping down then up, forming a deep, ovate, oblong, or somewhat rounded crown • Height 60-80' with spread equal to 1/2 to 2/3 of height • Full sun or partial shade • Prefers deep moist, fertile soils; will grow on drier, heavier soils; pH adaptable; readily transplanted • Not particularly air pollutant tolerant • Native from Canada to Virginia and Alabama, west to North Dakota, Kansas and Texas.

River Birch (*Betula nigra*) – Fast growth • Pyramidal to oval-headed in youth, often rounded at maturity; trunk usually divides into several arched branches close to the ground • Height 30-40' • Full - partial sun • Makes best growth on sandy, poor, boggy, preferably wet and acid (pH 6.5 or below) soils • Suffers from iron chlorosis on soils of high pH • Fine choice for periodically wet or flooded locations which may be quite dry in summer and fall • Catkins, buds, seeds, and wood may provide food for some animals • Native from Massachusetts to Florida, west to Minnesota and Kansas, New York.

Paper (White) Birch (*Betula papyrifera*) – Moderate to fast growth • Generally multi-stemmed forming an oval or rounded crown • Height 50-70' with spread equal to 1/2 or 2/3 of height • Full sun • Prefers well-drained, acid, moist, sandy or silty loam soils; adapted to a wide variety of soils • Creamy-white bark in third to fourth year; peels freely to expose a reddish orange inner bark • Catkins, nuts good for upland game birds, songbirds • Native from Labrador to British Columbia and Washington south to Pennsylvania, Michigan, Nebraska, and Montana, New York.

Black Cherry (*Prunus serotina*) – Moderate growth • Pyramidal to conical in youth, maturing with oval crown, drooping branches • Height 50-60' rarely to 100' • White flowers, 1/3" across, born in ¾", pendulous clusters • Full sun • Deep, moist, fertile soils can adapt to dry, gravelly or sandy upland soils • Cherries, 1/3" across ripen in August & September • Used for lumber, wine, and jellies • Flowers attract pollinators (e.g. Bees); fruits feed gamebirds, songbirds, small mammals, and game animals; hoofed browsers & rabbits feed on twigs, foliage, and bark • Native from Ontario to N. Dakota, Texas, and Florida, New York.

Shagbark Hickory (*Carya ovata*) – Slow growth • develops a straight trunk, cylindrical trunk with an oblong crown of ascending and descending branches • Height 60-80' ; can reach 100 (+)'; 40-50' spread • seedlings develop a large and deep taproot which may penetrate downward 2 to 3 feet the first season with a corresponding top growth of only a few inches • Sun to shade • prefers rich and well drained loams, but is adaptable to a wide range of soils; drought tolerant • foliage is a deep yellow green in summer and changes to rich yellow and golden brown tones in fall • seed is a nut that is sweet; nut production in 40 years • Hickories serve as food for many wildlife species. The nuts are a preferred food of squirrels and are also eaten by eastern chipmunks, black bears, gray and red foxes, rabbits, and white-footed mice plus bird species such as mallards, wood ducks, bobwhites, and wild turkey • The wood is known for its strength, and no commercial species of wood is equal to it in combined strength, toughness, hardness, and stiffness. Dominant uses for hickory lumber are furniture, flooring, and tool handles. Hickory fuelwood has a high heat value, burns evenly, and produces long-lasting steady heat; the charcoal gives food a hickory-smoked flavor • Native from Quebec to Minnesota, south to Georgia and Texas.

Red Maple (*Acer rubrum*) – Fast growth • Pyramidal or elliptical growth, developing upturned branches; crown matures to irregular oval or rounded shape • Height 40-60' with equal or lesser spread; can reach 100-120' • Full sun to light shade • Prefers slightly acid, moist soils but tolerates almost all • Fall color can vary from greenish-yellow to yellow to brilliant red • Seeds, buds, flowers provide food for many kinds of birds and other animals • Native from Newfoundland to Florida, west to Minnesota, Oklahoma, and Texas, New York.

Sugar Maple (*Acer saccharum*) – Slow growth hard wood • Grows upright, oval crown with dense foliage • Height 60-75' up to 100-120', with spread to 2/3rd of height • Full sun – partial shade • Prefers well-drained, moderately moist fertile soil; no pH preference, but growth may be greater in slightly acid soil • Tolerates shade well but is susceptible to salt damage; intolerant of air pollution and restricted growing areas • Uses: lumber and maple syrup/sugar production; seeds, buds, flowers provide food for many kinds of birds and other animals • Native from Canada to Georgia, Alabama, Mississippi and Texas, New York.

Northern Red Oak (*Quercus rubella*) – Moderate – fast growth • Largest, fastest-growing of native N.Y. oaks; usually symmetrical, round-topped at all ages • Height 60-75' up to 100'+, with 60-75' spread • Nuts produced around 20-25 years • Full sun • Prefers well-drained, slightly acid, sandy loams • Withstands urban pollution • Uses: furniture, pilings, interior finish, ties, general construction purposes; acorns are an important winter food source for wildlife • Native from Nova Scotia to Pennsylvania to Minnesota and Iowa, New York.

Pin Oak (*Quercus palustris*) – moderate-fast growth • strongly pyramidal, usually with a central leader; takes its name from the many short, pin-like twigs that clutter the horizontal or downward-sloping branches • Height 60-70' with 25-40' spread • Full sun, shade intolerant • Prefers moist, rich, acid, well-drained soil; will tolerate wet and clayey soils that dry out in summer • Somewhat tolerant of city conditions • Wood is knotty and not economically valued • Waterfowl and wildlife utilize acorns.

White Oak (*Quercus alba*) – Moderate to slow growth • Pyramidal youth grows into upright-rounded crown with spreading branches at maturity • Height 50-80' with similar spread, can reach 100'+ in height • Full to filtered sun • Moist, well-drained, deep acid soils, will grow on many soils; not tolerant of compaction • White Oak lumber has many household uses for lumber including veneers, furniture, and wine barrels • Acorns are one of the preferred food sources for wildlife especially during winter months; acorns, foliage, and twigs are utilized for food shelter, and nesting by many songbirds, gamebirds, and game mammals • Starts producing nuts 20-25 yrs of age • Native from Maine to Florida west to Minnesota and Texas, New York.

Swamp White Oak (*Quercus bicolor*) – Moderate to slow growth • Broad, open, round-topped crown and a short, limby trunk • Height 50-60' with similar spread • Full sun • Moist to wet, deep, acidic soils – occurs in a variety of soils in swamp forests of river bottoms, streambanks, depressions, borders of ponds, lakes and swamps and moist peaty floats; it also occurs on moist slopes and poorly drained uplands • Monoecious • Wood is used for furniture, cabinets, veneers, interior finishing and flooring, as well as for boxes, crates fence posts, railroad ties and beams and boards for general construction but is knottier and less valuable than white oak • Acorns mature the first year, single or clustered in groups 2-4 on a stalk; they are sweet and an important food for wildlife such as squirrels, mice, white-tailed deer, beaver black bear, and a variety of birds, including ducks and turkey • Starts producing nuts 20-30 yrs of age • Native Quebec to Georgia, west to Michigan and Arkansas.

Northern Pecan (*Carya illinoensis*) – Moderate growth rate • Mature form is oval, rounded – makes a good shade tree • Is the largest of the hickories: Height 70-100', up to 150' with 40-75' spread • Full sun • Prefers well drained soil but tolerates most soils except wet sites - trees tolerate clayey soils as well as sandy soils and grows best in heavier soils with high organic matter content, adaptable • Wood is used for furniture, flooring and smoking meat • Nuts have high oil content with thin shells and excellent flavor with a sweet, creamy texture – they can be used fresh or for cooking • Not self-fertile, needs two or more trees for pollination • Nuts are loved by most wildlife. Found from central Indiana to southern Mexico.

Hybrid Poplar (*Populus deltoides x nigra*) – Exceptionally fast growth • Forms a tall, narrow, vertical spire with upright branches • Height 40-50', spreads to 10-15' • Full Sun • Moist, well-drained silty or loamy soils preferred • Adapted to a wide variety of situations, soils, and growing conditions • Fast shade or windbreak; lumber, stabilization of steep banks, pits, landfills and other disturbed areas, can wick-up water in wet areas.

Sycamore (*Platanus occidentalis*) – Moderate to fast growth • Large massive, mottled color trunk and wide-spreading open crown of massive, crooked branches, irregular • Full sun to light shade • Prefers deep, moist, rich soils • Used for furniture, boxes, crates and butcher's blocks • Purple Finch may consume pendent seed balls • Native from Maine to Ontario and Minnesota, south to Florida and Texas, New York.

Tulip Tree [Yellow Poplar] (*Liriodendron tulipifera*) – Fast growth • In open-grown situations matures to an oval-rounded with several large sinuous branches constituting the framework • Height 70-90' can get to 150'+, with 35-50' spread • Greenish-yellow color flowers in May-June in 6-10 year old trees • Full sun • Deep, moist, well-drained loam, slightly acid but pH adaptable • fruit is a cone-like aggregate of samaras (winged seeds), 2-3' long • Used for furniture • Seeds consumed by Purple Finch, Cardinals, and squirrels • Native from Massachusetts to Wisconsin, south to Florida and Mississippi, New York.

Black Walnut (*Juglans nigra*) – Fast growth • Full, well formed trunk which is devoid of branches ½ to 2/3 the distance from the ground, crown is oval to rounded and somewhat open • Height 50-75', a max of 150', 50-75' spread when open grown • prefers deep, rich, moist soil; difficult to transplant due to extensive taproot • Nuts are 1 ½ - 2", round, hairless, light green; tree begins producing nuts at 10-30 years • Wood is used for lumber, veneer, furniture, cabinets, and gunstocks; nuts are a food source for squirrels • Native from Massachusetts to Florida, west to Minnesota and Texas, New York.

American Chestnut (*Castanea dentata*)

American Chestnut (*Castanea dentata*) - Moderate growth • Mature trees are characterized by massive trunks and branches supporting dense, irregular and wide-spread crowns • Specimens surviving to maturity can reach 70-90' with trunk diameters of 3 to 4 feet • Full sun and open location are preferred • Moist sandy soil • Transplant seedlings are grown from seeds of rare healthy, pure-strain Michigan trees. Not fully resistant to chestnut blight • Wood used as valuable hardwood lumber, nuts are desired food for people and wildlife; planted in plantations to maintain chestnut populations and to try to produce a more blight resistant tree • Originally native from southern Maine to Michigan, south to Alabama and Mississippi, New York.

Wildlife Attracting Seedling Packs & Conifer Transplant Pack

Species in the packs that are already listed above will not be repeated in this section.

Blackberry (*genus Rubus*) – fast growth • erect, semi-erect, or training, generally thorny shrubs, producing renewal shoots from the ground called "canes" • Height 4-8', Spread 4-6' - generally established by training and pruning • Full sun to partial shade • soil — adaptable from sand to clay loams with good drainage and pH of 5-7 • white to pink flowers (1" diameter) borne terminally of several-flowered cymes on current season's growth • fruit begins in second year • fruit is favored by many species of gamebirds, songbirds and, large and small mammals; the thorny brambles have much value as cover for wildlife • Native to North America.

Butterfly Bush (*Buddleia davidii*) – Fast growth • Herbaceous perennial which typically dies back to ground in winter; succulent caned, arching growth; flowers on new growth so should be pruned to ground each spring then easily reaches 5-8' in height by fall • Flowers vary in color, fragrant, 4-10" long upright or nodding panicles from June through frost • Full sun • Well-drained, fertile soils • Attracts many butterflies and pollinators • Native to China.

Buttonbush (*Cephalanthus occidentalis*) – Moderate growth • rounded, loose gangly habit • Height 3-12', Spread 3-12' • Leaves emerge late in spring: generally mid-May; leaves are glossy • Full sun, tolerates partial shade • adaptable to a wide range of soil pH; it is best adapted to moist situations preferring wet conditions; it is averse to dryness • flowers are creamy white, crowded in ball-shaped heads, 1 to 1 ¼" across on flower stalks 1 to 2 ½" long in August • fruit is a nutlet and the compound structure is present throughout winter • Waterfowl and shorebirds consume the seeds of common buttonbush. White-tailed deer browse foliage in the northeastern United States. Wood ducks use the plant's structure for protection of brooding nests. Butterflies, bees, and hummingbirds are attracted to common buttonbush for its nectar. Bees use it to produce honey • Native from New Brunswick to Florida, west to southern Minnesota, Nebraska, Oklahoma, southern New Mexico, Arizona and central California, New York.

Canaan Fir (*Abies balsamea* var *phanerolepis*) – Moderate growth • relatively dense, pyramidal tree with a slender spire-like tip • Mature height 40-55' with 20-25' spread • Full sun • performs best in deep, well-drained loam, moderately to strongly acidic with ample moisture, will tolerate soils with less than perfect drainage; same uses as Balsam Fir • native to isolated pockets in mountains of West Virginia and Virginia.

Lilac, Common (*Syringa vulgaris*) – Moderate growth • Upright leggy shrub of irregular outline but usually devoid of lower branches after time and forming a cloud-like head of foliage • Height 8-20' with 6-15' spread • Flowers are lilac colored, extremely fragrant, early to mid-May in 4-8" panicles • Full sun • Neutral organic soil • Nectar attracts butterflies • Native to Southern Europe.

Bur Oak (also Mossycup Oak) (*Quercus macrocarpa*) – Slow growth • weakly pyramidal to oval in youth gradually developing a massive trunk and broad crown of stout branches • Height and Spread 70 – 80' • Full sun • Adaptable to various soils including dry and clay soils • tolerant of urban air quality and compacted soils • monoecious but favors cross pollination • acorn usually stalked, 3/4 - 1 1/2 " long, broadly ovoid, downy at the apex, enclosed one-half or more in a deep cup which is fringed on the margin • Wood heavy, hard and straight grained - used for railroad ties, cabinetry and tight cooperage: barrels, hardwood flooring and fence posts • acorns eaten by many birds and mammals including squirrels, rabbits, mice, deer, black bear, wild turkey, wood ducks, flickers, woodpeckers and blue jays; browsed by deer, elk, moose and cattle; nesting tree for red-tailed hawks, screech owls, fox squirrels and flying squirrels • Native Nova Scotia to Pennsylvania, west to Manitoba and Texas.

Chinquapin Oak (also Yellow Oak, Yellow Chestnut Oak) (*Quercus muehlenbergii*) [member of the White Oak group – Moderate, slowing with age • weakly rounded in youth of dapper outline; with maturity develops an open, rounded crown • Height 70' by 80' spread • Full to partial sun • Prefers moist, well-drained, deep, rich, alkaline soils, but is often found near the summit of hills or uplands in dry soils that may be rich, clay, sandy, or rocky. It also tolerates neutral to acidic soils. • Acorns require just one season to mature in September-October, 0.5" to 1.25" long, light to dark brown when ripe, enclosed by one-half its length by the bowl-shaped cup; edible if roasted. • Sweet acorns are one of the preferred food sources for wildlife especially during winter months; acorns, foliage, and twigs are utilized for food, shelter, and nesting by many songbirds, gamebirds, and game mammals • Lumber is used for barrels, fencing, crossties, fuel, and occasionally for furniture • Native from Vermont to Virginia west to Nebraska, Mexico and Texas.

References:

Cope, J. A., and F.E. Winch. 1985. *Know your trees*. 4-H Bulletin No. 85. Cooperative Extension, Cornell University, College of Agriculture and Life Sciences. 72pp.

Cox, Jeff and Marilyn. 1985. *The Perennial Garden - Color Harmonies through the Seasons*. Rodale Press, Inc., Emmaus, Pennsylvania. 304pp.

Dirr, M. A. 1983. *Manual of woody landscape plants: their identification, ornamental characteristics culture, propagation, and uses*. Third Edition. Stipes Publishing Company, Champaign, Illinois. 826pp.

Little, E. L. 1979. *Forest trees of the United States and Canada, and how to identify them*. Dover Publications, Inc., New York, New York. 70pp.

Martin, A. C., H. S. Zim, and A. L. Nelson. 1961. *American wildlife & plants: a guide to wildlife food habits*. Dover Publications, Inc., New York, New York. 500pp.

Neelands, R. W. 1979. *Important trees of eastern forests*. USDA Forest Service. 112pp.

Owens, D. W., W.L. Pittman, J. P. Wulforst, W. E. Hanna. 1986. *Soil survey of Erie County, New York. USDA Soil Conservation Service in cooperation with Cornell University, Ithaca, New York. 384pp. plus maps*

Sharp, W. C. 1977. *Conservation plants for the northeast*. USDA Soil Conservation Service, Program Aid No. 1154. U.S. Government Printing Office, Washington, D.C. 40pp.

Virginia Tech Department of Forest Resources and Environmental Conservation. Tree Identification Fact Sheets at <http://www.dendro.cnre.vt.edu/>