

Species #1



Form

Height 60' to 80', diameter 12" to 36"; trunk often continues straight into top of dense rounded crown.

Bark

Light gray, smooth; becoming dark gray with shallow, vertical ridges.

Leaf

Simple, alternate on stem, length 3" to 6", nearly as wide, heart shaped, saw toothed, sharp pointed at tip; at maturity thick, shiny, green above, paler underneath, turns yellow to orange in autumn.

Fruit (seed)

Rounded, nutlike drupe covered with short, thick, brownish wool, attached in clusters to a leafy bract that later acts as a wing to carry seeds away on the wind; fruit often hangs on tree long into winter. Flowers are fragrant, and from them honey is made by bees. Difficult to propagate from seed.

Range

Common throughout the state except in the extreme northeastern part; grows chiefly on rich, water-deposited soil; shade tolerant.



Species #2

Form

Height 50' to 75'; diameter 24" to 36"; trunk straight, upright; branches spreading and nearly horizontal; leading shoot in young trees usually drooping; twigs slender.

Bark

Deeply divided into narrow rounded ridges; covered with thick, flat scales; cinnamon-red to gray.

Leaf

Needlelike, 1/3" to 2/3" long; flat but blunt, scattered and borne in many rows, but usually twisted into a two-rank arrangement; remains on twig for two or three years, but falls rapidly if twig is dried, leaving twigs roughened by woody, raised projections. Most buds are scaly and not resinous.

Fruit (seed)

Cone is 1/2" to 3/4" long with scales almost as wide as long; borne at the end of the twig; ripens in the first autumn. Seeds are winged, slightly resinous, and about 1/16" long.

Range

Usually grows on acid soil containing considerable organic matter; the hemlock barely reaches Minnesota, occurring native in Carlton County just southwest of Lake Superior; also a few scattered trees in Aitkin and St. Louis counties; very shade tolerant.



Species #3

Form

Height 80' or more under favorable conditions with a diameter of 36" to 48" or more; under unfavorable conditions not over 15' in height with gnarled branches covered with corky tissues; in dense forests trunk is

straight with short branches; however, tree usually has a broad top of heavy spreading branches and a relatively short body.

Bark

Thick, deeply furrowed on surface with irregular platelike broken scales often slightly tinged with red.



Leaf

Simple, alternate on stem, length 6" to 12"; crowded at ends of twigs; has pair of deep indentations near base and wavy notches on broad middle and upper portions; shiny, dark green turning yellow or brown in autumn.

Fruit (seed)

Seed set deeply or almost enclosed in a fringed cup; diameter may reach 1" or more, however, it varies widely in respect to size and the degree to which the nut is enclosed in the mossy fringed cup; seed is bitter.

Range

One of the most common trees in Minnesota, extending far out on the prairies in the western part of the state; usually grows singly in open stands and in fields; requires moist, well-drained soil; easily propagated but grows slowly; moderately shade tolerant.

Species #4

Form

Height 80' or more with a diameter of up to 24" or more; symmetrically rounded crown.

Bark

On young trees light gray to brown and somewhat smooth; on older trees gray to almost black with irregular plates or scales. Twigs are smooth and reddish brown with sharp-pointed winter buds.

Leaf

Simple, opposite on stem, length 3" to 5"; three- to five-pointed, smooth-edged lobes; division between lobes rounded; dark green on upper surface, lighter green below; in autumn turns to brilliant shades of dark red, scarlet, orange, or yellow.

Fruit (seed)

Consists of two slightly connected wings (samaras), each containing one seed; length about 1"; easily carried by the wind.

Range

Grows in cool, rich locations in the eastern half of the state; very shade tolerant, slow growing.





Species #5

Form

Large tree, 50' to 80' tall, diameter 36" to over 48"; developing first a narrow, conical crown that with maturity becomes broad and open supported by a massive trunk.

Bark

Light gray on young trees and dark gray and rough on older trees.

Leaf

Simple, alternate on stem, 3" to 5" long, nearly as wide; broadly ovate or triangular, pointed, square at base, finely toothed or wavy on edges; covered with soft white hairs on underside; slender stems from 2" to 3" long are flattened; winter buds covered with chestnut brown, resinous scales; turns yellow to yellowish orange in autumn.

Fruit (seed)

Two to four valved, thin capsules borne on short stock in drooping "catkins"; seeds, when set free in late May or June, are minute, pale, brownish white, enclosed in a cluster of white cottony hairs that carry them for long distances. XXXXX have male and female trees; only female trees produce cotton.

Range

Found throughout Minnesota, often forming extensive groves; will grow on dry locations but makes most rapid progress on moist sites; shade intolerant, very fast-growing.



Species #6

Form

Height 20' to 40', diameter 5" to 12"; top generally rounded; branches long and slender, drooping at ends. Also known as eastern xxxxxxx. The tree receives its common names from its extremely tough wood and hoplike fruit.

Bark

Light gray brown; furrowed and irregularly ridged.

Leaf

Simple, alternate on stem, length 2" to 4"; generally oblong with narrow tip; sharp, doubly toothed margins; dark, dull, yellow-green above and light yellow green below; dull yellow in autumn.

Fruit (seed)

Occurs in clusters (catkins) resembling those of the common hop vine; each sack contains one flattened, ribbed, hard nutlet about 1/3" long and 1/8" wide; fruit ripens in July and August.

Range

Found mostly in rich, not-too-dry soil throughout the state, but scattered or absent near the western border; very shade tolerant, slow growing. Frequently forms an understory in forests of mixed hardwoods.

Species #7

Form

Smaller than black walnut, seldom more than 30' to 50' with a diameter of up to 24", although in the forest it can attain a height of 80' with a diameter of 36"; trunk usually divided and forked or crooked; top develops into open, broad crown; may be distinguished from black walnut by velvet collars just above scars left by last year's leaves.



Bark

Divided into ridges, light gray on branches and trunks of small trees; becomes darker on large trees.

Leaf

Alternate on stem, length 15" to 30", pinnately compound with 11 to 17 sharply pointed, oblong, finely toothed leaflets; yellowish green above and hairy underneath; yellow or brown in autumn.

Fruit (seed)

Light brown nut enclosed in oblong, somewhat pointed, sticky, yellowish green husk about 2" long; husk covered with short, rusty, clammy, sticky hairs; nut has rough, grooved shell and oily edible kernel.

Range

Found in southeastern and east-central Minnesota; shade intolerant, fast growing; species is being destroyed by a fungus called xxxxx canker.



Species #8

Form

Large tree, height 50' to 70', sometimes 100' or more, with a diameter of 24" to 36"; open-grown trunks may be 10' to 12' tall, with three or four heavy ascending branches turning slightly outward to form a high, narrow, and irregularly rounded crown; under forest conditions, trunks may be clear for 70'.

Bark

Dark gray or brown, deeply fissured.

Leaf

Alternate on stem, length 12" to 36", doubly compound with 40 to 60 smooth-margined, abruptly pointed leaflets; bluish green turning yellow in autumn.

Fruit (seed)

Purplish-brown pod, 6" to 10" long; encloses six or more hard, round, flat, dark reddish brown seeds separated by a thick, dark layer of inedible, sticky pulp.

Range

Rare, southeastern Minnesota in Mississippi River Valley to St. Paul and Minnesota River Valley to New Ulm; shade intolerant, moderate growing.



Species #9

Form

Large, height usually 50' to 70' with a diameter of 24" to 48", although it can reach a height of 100' with a diameter of up to 48"; wide-spreading branches that droop at the ends; crown is vase shaped.

Bark

Dark, ashy gray; divided into irregular, flat-topped, thick ridges; generally firm, although on older trees it tends to come off in flakes; outer bark layers alternating white and reddish brown in cross section.

Leaf

Simple, alternate on stem, length 4" to 6"; rather thick, somewhat one sided, dark green, doubly toothed on margin, generally rough above, smooth below; veins very pronounced, running in parallel lines from mid rib to edge of leaf; turns yellow in autumn.

Fruit (seed)

Winged samara, light green, oval, and waferlike in appearance; seed portion in center surrounded entirely by the wing; outer end of each wing deeply notched; seeds hang in clusters, ripen in spring, and are widely scattered by the wind.

Range

Hardy throughout the state; more abundant on rich bottom lands in the southern half of Minnesota; moderately shade tolerant, fast growing. Very susceptible to xxxxxxxxx disease.

Species #10



Form

Straight trunk more or less grooved and pyramidal to rounded crown; height 25' to 50' when growing in good locations; diameter up to 24"; trunk may be very divided or nearly prostrate on poor, rocky, and dry soil.

Bark

Thin, reddish-brown, peeling off in long, vertical shredlike strips.

Leaf

Two kinds are usually found on the same tree; the more common kind is dark green, minute, and scalelike, clasping the stem in four ranks so that the stem appears square; the second kind usually appears on young growth, on vigorous shoots, or on branches in deep shade and is awl shaped, quite sharp pointed, spreading, and whitened underneath.

Fruit (seed)

A dark blue berrylike cone with a diameter of 1/4" encloses one or two seeds in a sweet flesh; matures in one season; is a favorite winter food for some birds.

Range

Dry, gravelly soil and rocky ledges in the southern half of the state; most abundant on river bluffs in the southeastern part where few other trees are found; shade intolerant.

Species #11



Form

Compact, pyramidal; height 50' to 60', diameter 24" to 36"; trunk often twisted, strongly tapered, and frequently divided into two or more direct stems; branches short and nearly horizontal; sometimes forms almost impenetrable thickets because dead branches are very stiff and persistent; in the open, develops a conical, symmetrical crown. There are numerous ornamental or garden varieties of white cedar known as arborvitae.

Bark

Gray to reddish brown, separating in long, vertical, narrow shreddy strips.

Leaf

Scalelike; green to yellowish green; length 1/8" to 1/4", arranged to make the small branches flat; pleasant, aromatic scent when crushed; pungent to the taste.

Fruit (seed)

Small, oblong cone ripens in the fall of the first year; yellowish brown; size about 1/2" with six to 12 scales borne singly or in large clusters on ends of branches.

Range

Northern part of the state; usually grows in moist places where it is often found in dense pure stands; sometimes found on rather stony ground, singly or in small clumps as far south as Winona County; shade tolerant.

Species #12



Form

Height 60' to 80', sometimes 100', diameter 30" to 40"; straight trunk; branches on mature trees form an open, rounded, picturesque head.

Bark

Becomes divided into large reddish brown plates as it matures, which gives tree its characteristic appearance and its common name, red pine.

Leaf

Needle like, occurs in clusters of two; dark green; 4" to 6"; breaks cleanly when bent.

Fruit (seed)

Cones are about 2" long, light brown fading to gray; thin, slightly concave cone scales are without spines or prickles and are free from resin; cones ripen about the middle of September of their second season, but stay on branchlets until following spring or summer; seeds small, length about 1/8", dark or mottled brown, winged, and widely scattered by the wind.

Range

Found in many parts of northern and northeastern Minnesota; popular for forest planting because of its disease and insect resistance; thrives on sandy loam or dry, rocky ridges; shade intolerant.



Species #13

Form

Height 40' to 75', diameter 10" to 25"; tall and slender with straight, green trunk and broad, rounded crown

Bark

Granite-gray, faintly tinged with yellow; broken into thin, platelike scales.

Leaf

Alternate on stem, length 6" to 10", pinnately compound with seven to 11 leaflets that are bright green with finely toothed margins; it is the smallest of all hickory leaves; turns golden yellow in autumn. The tree's bright yellow winter buds are a good identification tool.

Fruit (seed)

A nut that is almost round with a sharply pointed tip; enclosed in a thin, scaly husk that splits about halfway down in four lines of division. Its very bitter kernel gives the tree its common name, xxxxxx.

Range

Found in rich, moist woods, common southward and extending through the Big Woods north to Mille Lacs and infrequently to the upper Mississippi and the tributaries of the St. Louis River; shade intolerant, moderately slow growing.

Species #14



Form

Height 40' to 60', up to 24" in diameter; round topped with slender spreading branches.

Bark

Dark brown or gray, tinged with red; strongly furrowed or ridged.

Leaf

Opposite on stem, length 10" to 12", pinnately compound with seven to nine stalked leaflets, 2-3/4" to 5" long, pointed and slightly toothed on margin; bright green or yellowish green on both sides, turning yellow in autumn.

Fruit (seed)

Flat, winged samara, 1" to 2" long; winged portion extends well down past middle or seed-bearing part; slightly notched at outer end; wing has a somewhat square appearance.

Range

Common throughout the state except in the western prairie region; most abundant in valleys and along streams; moderately shade tolerant; fairly fast growing and will withstand severe conditions of both soil and climate.

Species #15



Form

Height 40' to 60' with a diameter of up to 24"; a mature tree usually has a short trunk that divides into several large ascending limbs that compose an open, irregular crown of slender drooping branchlets.

Bark

Dark brown at base of old trunks, deeply furrowed; higher up on main stem and on larger branches, becomes lustrous reddish brown; peels more or less freely; twigs, reddish color with white dots (lenticels).

Leaf

Simple, alternate on stem, length 1-1/2" to 3"; more or less triangular with double-toothed edges; upper surface dark green, lower surface pale yellow green; turns yellow in autumn.

Fruit (seed)

Winged nutlets densely crowded into a cone-shaped catkin about 1" long; ripens in late spring or early summer.

Range

Grows along rich bottom lands of streams and rivers in the southeastern corner of the state, especially in the Mississippi and Root River valleys; common along Mississippi River as far as Wabasha County; also reported near Mankato; shade intolerant, moderately fast growing.



Species #16

Form

Medium-sized tree, height 30' to 50' (taller under very favorable conditions), may reach a diameter of up to 16"; slender, spreading, somewhat drooping branches form a broad, open, rather flat-topped head that resembles

a great green plume; trunk often divided near the ground.

Bark

Dark gray or brown on old trees; divided into thin, tight scales; strong, brown, straight, sharp, shiny thorns appear on one-year-old wood and remain for many years.

Leaf

Alternate on stem, 6" to 8" long, doubly compound (featherlike) with 18 to 28 small egg-shaped leaflets that have finely toothed margins; dark green and lustrous above and dull yellow-green below, turning yellow in the autumn.

Fruit (seed)

A pod, length 10" to 18"; flat dark brown or black when ripe, containing seeds and yellow whitish pulp; pod often becomes twisted as seeds ripen; seeds are hard and each is separated from the others by the pulp; pods are eaten by many animals.

Range

Occurs in scattered stands or as individual trees, especially in southern Minnesota in counties along the Root River Valley and Mississippi bottomlands; found in forested areas, but is more common in disturbed and barren areas beside roads and fields; shade intolerant, fast growing.



Species #17

Form

Height 30' to 50' on favorable soils with a diameter of up to 36"; rather bushy on unfavorable soils; limbs and branches fragile; tree somewhat subject to fungus disease and attack by insects.

Bark

Smooth and green on young branches; thin, gray to light brown, deeply divided on old trees.

Leaf

Opposite on stem, length 5" to 8", pinnately compound with three leaflets (rarely five to seven) that are smooth, lustrous green with irregularly toothed margins (often three lobed); yellow in autumn.

Fruit (seed)

Samara, 1" to 1-1/2" long; V-shaped pairs are winged and similar to that of sugar maple but smaller; ripens in late summer or early fall; often stays on trees all winter.

Range

Common throughout the state; less abundant in northeastern part; grows naturally along streams and in cool ravines; a fairly rapidly growing tree, prolific in reproduction; however, many young trees are destroyed by grazing and cultivation; hardy tree for severe locations; shade tolerant.



Species #18

Form

A handsome tree when growing singly in the forest; large, height commonly 50' to 60' but often reaching 100' with a diameter of up to 36"; straight and clear of branches for half its height; when grown in the open, stem short, crown broad and spreading.

Bark

Thick and very dark brown; divided by rather deep fissures into round ridges.

Leaf

Alternate on stem, length 12" to 24", pinnately compound with 14 to 22 yellow green, sharply pointed leaflets, tapered at the ends and toothed along the margins; smooth above, pale and hairy underneath; yellowish-green turning yellow in autumn.

Fruit (seed)

A large, round nut borne singly or in pairs and enclosed in a solid green husk that is not sticky and does not spread open even after the nut is ripe. The nut is black with a very hard, thick, finely ridged shell enclosing a rich, oily kernel that is edible and highly nutritious; matures in the fall.

Range

Grows on rich bottom lands and moist, fertile hillsides in the southern part of the state; is easily propagated from nuts and grows rapidly in good soil; shade intolerant.

Species #19



Form

Straight trunk; height 25' to 60'; diameter 8" to 20"; spreading, cone-shaped to irregular crown and scant or open foliage. Small dead branches often remain on trees for many years.

Bark

Dull red-brown; irregularly divided into small scales.

Leaf

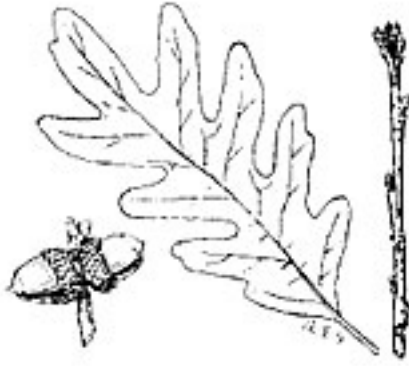
Needlelike, 3/4" to 1-1/2" long, stubby, flat, grayish green; two in a bundle and slightly twisted; remain on branchlets for about three years.

Fruit (seed)

Cones are about 1-1/2" long, often strongly curved, brown when ripe, turning gray later, sometimes remaining on branches unopened and containing good seeds for many years; small winged, triangular seeds can be carried far in strong winds. Many trees have ripe cones when seven years old.

Range

Found in abundance in north-central and northeastern Minnesota; occurs generally in pure stands on poor, sandy soil; usually the first of the pines to spring up and occupy land following fire; hardy and thrives on soil too poor for white or red pine; very shade intolerant.



Species #20

Form

Height 60' to 80' with a diameter of 24" to 36", although it can grow larger; tall and narrow-crowned in the forest; short in the open, crowned by a broad, rounded top with limbs spreading irregularly; well-grown specimens are strikingly beautiful.

Bark

Pale gray with scaly ridges and shallow fissures.

Leaf

Simple, alternate on stem, length 5" to 9" and about half as broad; crowded toward ends of twigs, deeply divided into five to nine fingerlike lobes; young leaf yellow or red while unfolding, later becoming light green above and much paler below; turns red or brown in autumn; sometimes remains on tree most of the winter.

Fruit (seed)

A light brown acorn maturing the first year, length 3/4" to 1", about one-fourth of it is enclosed in a bowl-shaped cap. A valuable fall food source for many wildlife species.

Range

Abundant in southeastern Minnesota as far north as the Twin Cities, often forming woodlands almost to the exclusion of other trees; less abundant northward to Mille Lacs and northwestward to the vicinity of St. Cloud; absent from the northern and western parts of the state; grows on heavy, well-drained acid soil; slow growing; difficult to transplant after passing seedling state. A fine permanent tree that should be planted wherever there is available space and the soil is suitable.



Species #21

Form

Large, height 40' to 65', diameter 16" to 24"; main branches frequently extend at right angles to trunk, forming a broad, open, flat-topped head.

Bark

Dark reddish brown; broken by shallow fissures into flat ridges; outer bark layers entirely reddish-brown in cross section.

Leaf

Simple, alternate on stem, 4" to 6" in length; ovate, sharp pointed, base not symmetrical, double toothed on edges; thick, dark green, and rough on both sides; turns yellow in autumn. Winter buds covered by brown, silky hairs.

Fruit (seed)

Samara, 1/2" in diameter; seed surrounded by thin, broad, greenish wings; ripens when leaves are about half grown.

Range

Frequently found throughout the southern half of the state, especially in the Big Woods; less common northward; shade tolerant, fast growing.

Species #22



Form

Height 30' to 60', diameter up to 24"; in the forest has a long clear trunk with little tapering; in the open, trunk is short with many branches and an irregular spreading crown.

Bark

On young trunk smooth and bright, reddish brown, marked by conspicuous narrow, white horizontal lines, has bitter almond taste; on older trunks, thin, dark brown, rough, and broken into thick, irregular plates.

Leaf

Simple, alternate on stem, length 2" to 6", oval or pointedly lance shaped with finely toothed margins; thick, shiny above, paler below; yellow to yellowish red in autumn.

Fruit (seed)

Drooping clusters of pea-sized cherries, dark red to nearly black; edible but somewhat tart; ripens in late summer; has some medicinal value.

Range

Southern and central Minnesota; shade tolerant when young, shade intolerant when mature; moderately fast growing.



Species #23

Form

A large family of trees and shrubs, some varieties not commonly distinguished from each other; becomes large when growing along streams and other moist places, scraggly, dwarfed shrubs when growing on drier, less favorable sites. The black and xxxxx are two of the willows native to Minnesota that are small- to medium-sized trees. On favorable sites, some trees are often 35' to 50' high with a diameter of 6" to 24". The xxxxxxxx can attain a height of 60' to 70' and 24" in diameter, has somewhat greenish-yellow leaves, and somewhat drooping twigs. The black willow may be 30' to 40' high and again it may be only a shrub; it usually has a short trunk and stout, spreading branches, forming a broad, rather irregular open crown.

Bark

Dark brown to gray on large trees; thick, rough, furrowed, and flaky.

Leaf

Simple, alternate on stem. Black willows have very narrow leaves with finely toothed margins and are shiny green on both sides. Xxxxx have long, pointed, lance-shaped leaves with finely toothed margins that are whitish underneath and borne on long, slender, somewhat twisted stems.

Fruit (seed)

Capsules containing numerous seeds grouped in dense, elongated clusters known as "*catkins*." xxxxx may be propagated with "cuttings" more easily than with seeds. Seeds are minute, maturing in late spring or early summer.

Range

Many varieties occur over a wide range in Minnesota and the United States from moist conditions to dry upland prairies. Many European and ornamental varieties have been introduced.



Species #24

Form

Can grow to a height of 50' to 80' with a diameter of 24" or more; grows upright with narrow, straight top that later becomes somewhat broad.

Bark

Smooth, brown-gray color, deeply furrowed, gray-black color on old trunks.

Leaf

Simple, alternate on stem, 3" to 6" long; ovate, long pointed, edges finely toothed, dark green and shiny above, pale and often rusty tinged beneath; turns yellow in autumn. Buds are large, pointed, golden-yellow, covered generously with varnish like resin or pitch, and give off a strong, pungent aroma.

Fruit (seed)

Small, cotton like capsules grouped in 4" to 6" catkins, easily carried by the wind for long distances; appear in May or June.

Range

Found throughout the northern part of the state along streams and edges of swamps or in other cool localities; shade intolerant, fast growing.



Species #25

Form

Small to medium size; may reach height of 65' and diameter of 12" to 20", but usually somewhat smaller; open, rounded crown; young branchlets are reddish brown and shiny, becoming gray and roughened after first year.

Bark

Thin, white to gray green, almost smooth with black areas around base of limbs; becomes grayish and warty or deeply furrowed.

Leaf

Simple, alternate on stem; small, broadly oval, short pointed at end and finely toothed along margin; green and shiny above, dull green below; usually ranges in size from 1" to 2" but often 4" or more in length as well as in width on vigorous young shoots. Leafstalks are flattened at right angles to leaves, causing leaves to quake or tremble in a very slight breeze.

Fruit (seed)

Ripens in late spring (May or June) before full expansion of leaves; consists of cottony mass (catkin) containing tiny round light brown seeds that usually germinate in a few hours after they release from the tree.

Range

Found in all parts of Minnesota; one of the first species to appear after cutting or fire; found commonly on cutover land; grows well on sandy, gravelly soils but thrives better on good soil; shade intolerant, fast growing.

Species #26



Form

Height 40' to 75', diameter 10" to 36"; limbs often crooked and angular; tree head made up of slender, hanging branches or short, bristly, stubby twigs when growing in the forest; in the open, crown is generally symmetrical.

Bark

Grayish brown, much roughened with prominent, short, corky ridges.

Leaf

Simple, alternate on stem, length 2" to 4"; has long narrow, tapering points and sharply toothed margins; uneven at base; prominent veins; hairy on upper side; turns yellow in autumn.

Fruit (seed)

Berrylike drupe, 1/4" to 1/3" in diameter; thin, purplish skin, sweet yellowish flesh; sometimes called sugar berry; ripens in September; frequently hangs on tree most of winter, providing an important food supply for several wildlife species.

Range

Found sparingly in the southern part of the state and in the western part northward through the Red River Valley; naturally found in flood plains but will grow on various types of soil from the poorest to the richest; never found in pure forest stands; moderately shade tolerant, moderately fast growing.

Species #27



Form

Medium-size shade tree, height 40' to 65' with diameters of 10" to 24"; broad, round crown; moderately long, clear trunk.

Bark

Smooth, light gray on young stems, dark gray and rough on old limbs and trunk; old bark divided by shallow, flaky ridges at surface, making tree look shaggy.

Leaf

Simple, opposite on stem, length 2" to 4"; has three- to five-pointed saw toothed lobes separated by sharp angular openings; upper surface is light green when mature; lower surface is whitish and partly covered with pale down; first of the maples to turn brilliant shades of red, orange, and yellow in autumn. Winter buds are small, red, and somewhat rounded.

Fruit (seed)

Consists of U-shaped pairs of winged seeds (samaras), 1/2" to 1" in length, on long, drooping stems; red, reddish brown, or yellow; ripens in late spring or early summer.

Range

Distributed throughout the eastern half of the state as far south as Houston County and west to a line running south from Mahanomen to Redwood Falls; shade tolerant, moderately fast growing.

Species #28



Form

Height usually 40' to 60', occasionally 100', with a diameter of 24"; straight trunk; long, stout branches form broad conical head.

Bark

Dark gray or gray-brown and scaly.

Leaf

Needlelike, four-sided, crowded along branchlets; length 1/3" to 3/4"; pale bluish when young, dark bluish green when mature; sharply pointed; has a slightly disagreeable odor when crushed.

Fruit (seed)

Slender cone, length about 2"; cone scales round and soft at ends; cone thin and flexible when mature; narrow-winged seeds mature in one season; cones drop during winter after opening and shedding seeds.

Range

Extensively found in the forests of northern Minnesota, reaching outward to the St. Croix Valley; thrives on dry soils associated with pine, and on moist soils and in swamps with balsam fir and tamarack; also found associated with mixed hardwoods; intermediate in shade tolerance.

Species #29



Form

Medium to large; height sometimes 60' to 80', diameter 10" to 20"; slender, rather rigid branches create narrow round-topped crown.

Bark

Smooth, gray or yellowish green; furrowed and dark brown at base of old trees.

Leaf

Simple, alternate on stem, length 2" to 4"; coarse toothed; dark green upper surface turning yellow in autumn; appears one to two weeks later than that of quaking aspen, and at first is silvery white. Buds are light gray, downy, and larger than those of quaking aspen.

Fruit (seed)

Capsules are grouped in 3" to 6" long catkins; matures in late spring.

Range

Found on sandy or rich soils that are moist; common, except in the southwestern and northeastern parts of Minnesota; shade intolerant, very fast growing.

Species #30



Form

Height 55' to 80' with diameters ranging from 24" to 36"; tall and straight with clear trunk and narrow crown.

Bark

On young stems, smooth, dark gray to dark brown; on older trees, thick and brown, broken by shallow fissures into regular, flat, smooth-surfaced vertical plates.

Leaf

Simple, alternate on stem, length 5" to 9"; divided into seven to nine lobes, each extending halfway to the midrib; each lobe somewhat coarsely toothed, bristle tipped, firm; dull green above, paler below, often turning a brilliant red in fall. Buds thick and pointed at top.

Fruit (seed)

Large, bitter seed, maturing the second year; length 3/4" to nearly 2"; blunt topped, flat at base with base enclosed in a very shallow, dark brown cup. Seeds are an important winter food source for squirrels, deer, wild turkeys, and several songbirds.

Range

Grows throughout the state, but is most common and of best quality in the rich soil of southern, central, and southeastern Minnesota; moderately shade tolerant, fast growing. Very susceptible to xxx wilt fungus.