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EC78-1737 Broadleaf Trees for Nebraska

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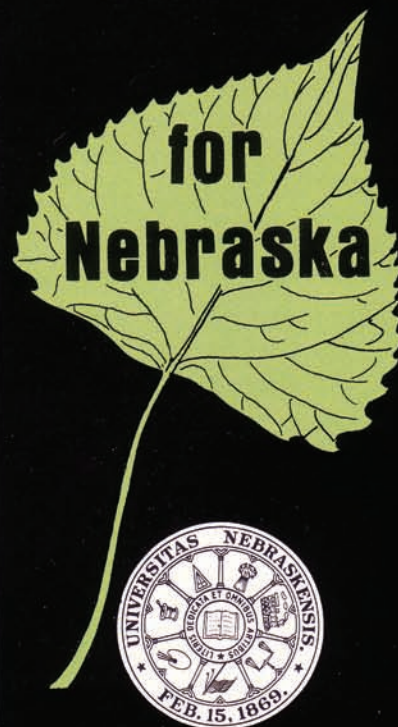
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BROADLEAF TREES



About the Cover

Eastern cottonwood (*Populus deltoides*) in full fall color. In 1972 the Nebraska Legislature designated the cottonwood as the State Tree. See page 18 for a detailed description.



Acknowledgment

Special thanks are due the Nebraska American Revolution Bicentennial Commission. They endorsed and recommended for funding this bulletin as a project which would improve the quality of life for Nebraskans as we move into our third century of independence. The added cost of producing this bulletin in color was funded by a federal grant from the national Bicentennial Commission. The authors consider it an honor to have made a contribution to the goals of the American Revolution Bicentennial.

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BROADLEAF TREES

for
Nebraska

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Extension Foresters
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Former District Extension Foresters

Introduction

This bulletin shows and describes broadleaf trees that will grow in Nebraska. It should prove valuable when selecting a tree best suited for a specific area and purpose. Most of the bulletin is devoted to detailed descriptions of tree species. In addition, the main points of tree placement, tree planting and tree care are discussed.

Background Information

To aid you in using this bulletin the following areas are discussed.

Tree Dimensions

There is considerable variation in mature tree size because of tremendous environmental differences. A range in size of height and crown spread is given for each tree species. This range allows for differences in growing conditions.

Life Expectancy

Short, medium, and long are the terms used to express useful life expectancy of the tree. These terms compare the tree in question against other trees. Generally, they indicate:

- Short—less than 30 years.
- Medium—30 to 80 years.
- Long—more than 80 years.

Growth Rate

Fast, medium, and slow are terms used to express tree rate of growth. These terms compare the tree in question against other trees. This comparison will hold true for a given area of the state, but due to wide variation in growth rates no exact figures can be presented.

Area Adaptability

Adaptability areas are outlined on a Nebraska map for each species. The "Good" area is where the tree can be grown with a high degree of success. The "Fair" area is where the tree can be grown with a reasonable degree of success. The "Poor" area offers little or no possibility of success. It should be recognized that within the "Poor" area small sites favorable to the growth of the species may occur.

Tree Availability

This bulletin is not limited to tree species readily available at local nurseries. No mention of this is made in individual descriptions as nurseries continually change their plant material offerings.

Deciduous Tree Forms

Trees generally have predictable forms or shapes, but variations will occur. This variation is due to environmental or genetic differences. Often a single tree species has more than one form. In this bulletin the six forms illustrated in Figure 1 were used.

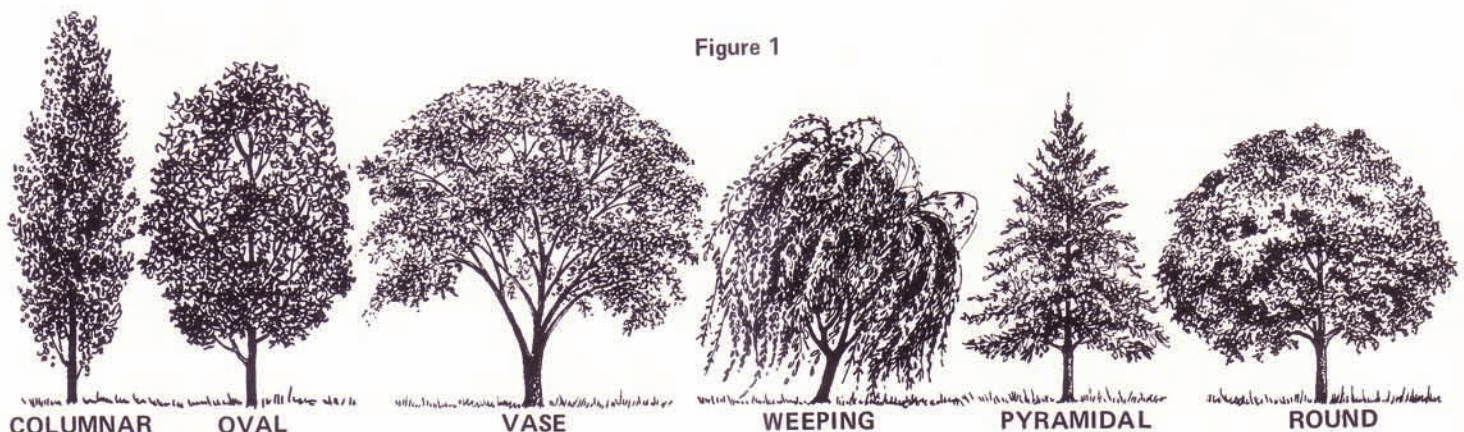


Figure 1

Tips on Tree Placement

Trees add beauty and provide shade. Trees also frame, add background, or provide a screen for your area when properly placed. Figure 2 shows correct placement of trees for most homes.

Before choosing a tree species ask yourself:
Is the tree species adapted to your area?

Is the tree placed properly for framing, background, or screening?

When mature, will the tree interfere with overhead or underground structures?

Does the tree have adequate space in which to grow—from buildings, other trees, streets, etc.?

Does the tree add something special to the area—flowers, fruit, fall color, etc.?

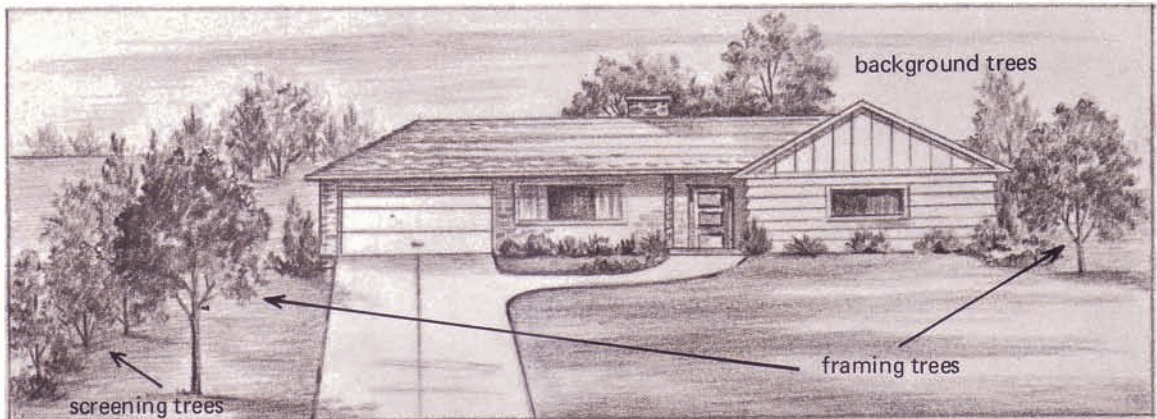
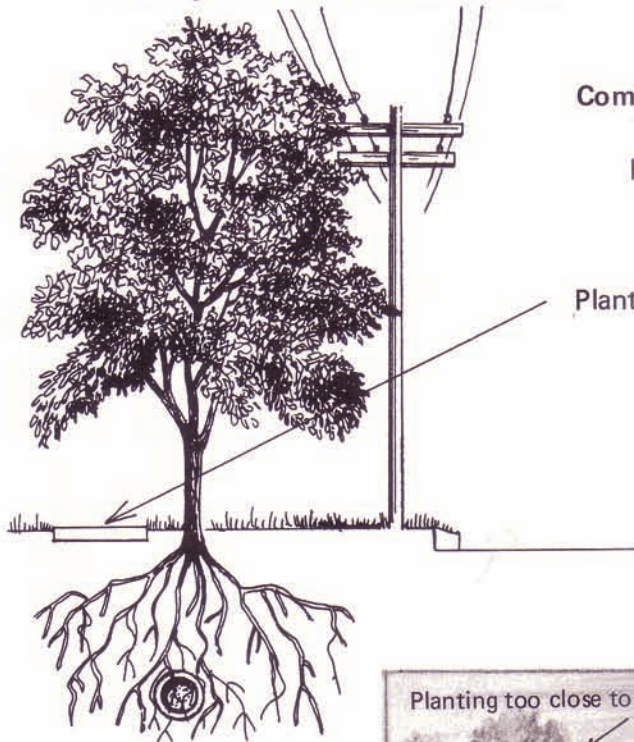


Figure 2

Planting tall trees under utility lines.



Planting trees over buried utility lines.

Common Errors

Figure 3 shows common errors.

Planting spreading trees between sidewalk and street.

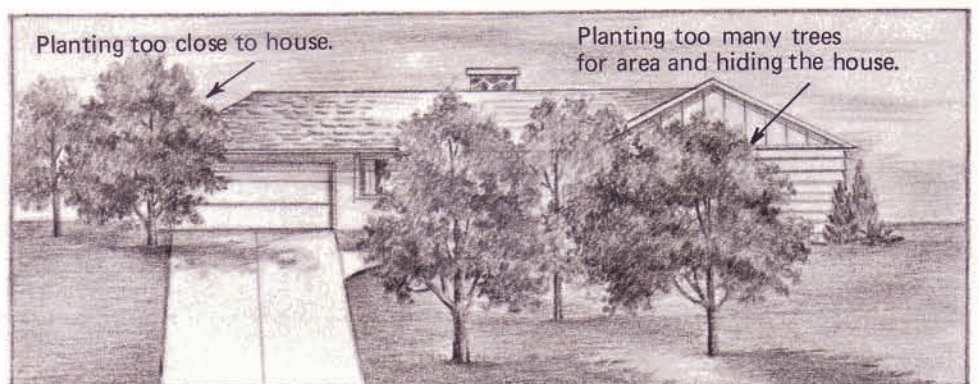


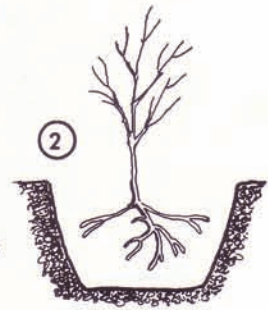
Figure 3

STEPS IN TREE PLANTING

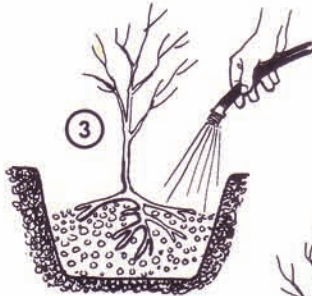
Bare Root Trees



1. Unpack trees immediately. Remove all packing material attached to roots. Do not allow roots to dry out. Immerse roots in water or thin mud for several hours before planting.



2. Dig hole big enough to allow 12 inches between sides and bottom of hole and root ends.

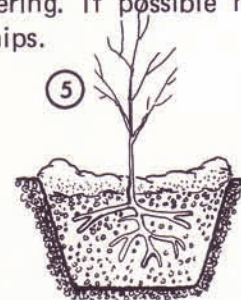


3. Plant tree at previous soil line. Untangle and spread roots before covering. Fill hole 2/3 full with loose soil. Water and let settle.

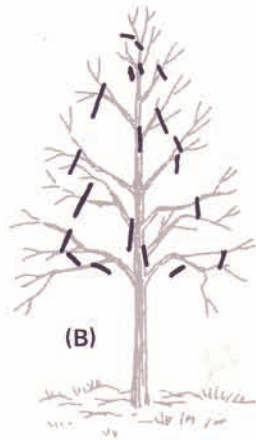
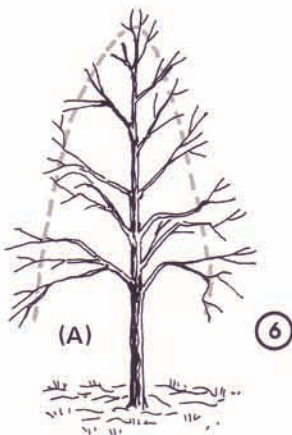


4. Fill hole with soil. Water two or three times and let settle.

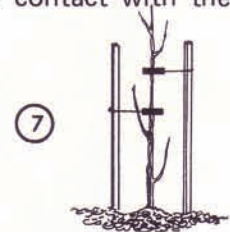
5. Mulch with 1 or 2 inches of dry soil. Leave basin to aid in watering. If possible mulch area with bark or wood chips.



6. Prune top to compensate for loss of roots in digging. (A) Shorten all branches, (B) Thin and shorten branches.



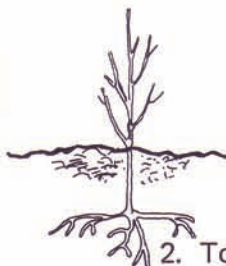
7. Stake the tree if over 5 feet tall and in an exposed location. Support is needed until roots become firmly established (at least one year). Hold tree firmly in place. Bark can be protected from injury by insulating guy ropes or wires with strong, rubberized material at areas of contact with the tree.



Errors in Tree Planting



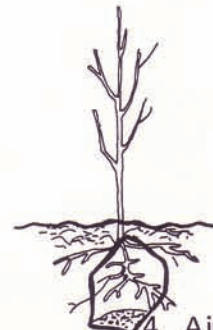
1. Tangled roots.



2. Too deep.



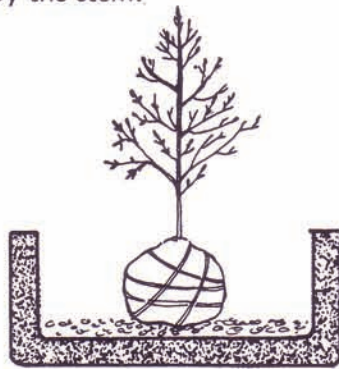
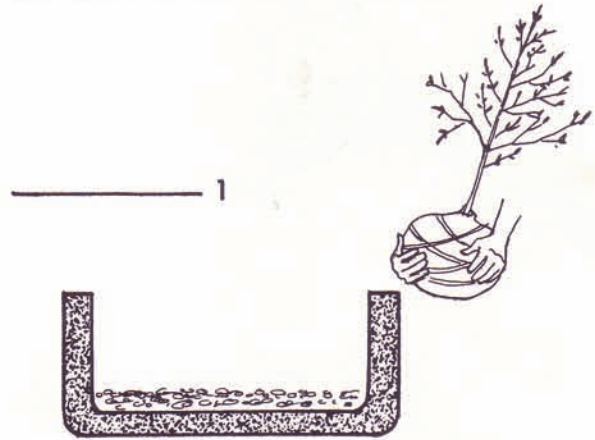
3. Too shallow.



4. Air pocket.

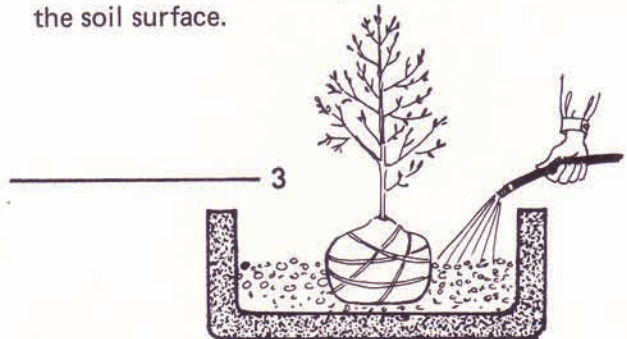
Balled and Burlapped

1. Dig hole 2 feet wider and 6 inches deeper than the root ball. Always lift the plant by the ball and never by the stem.



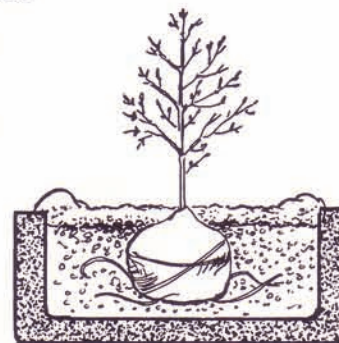
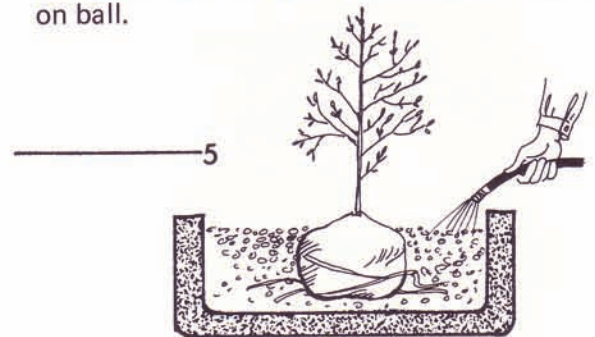
2. Fill hole until top of root ball is even with the soil surface.

3. Fill hole half full with loose soil. Water and let settle.



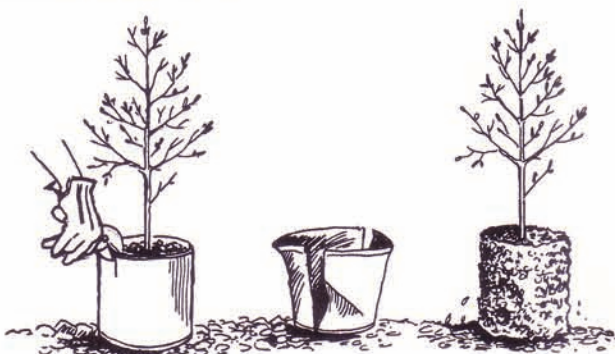
4. Important! Make sure the rope, twine, or wire around the trunk or stem is cut. Leave burlap on ball.

5. Fill hole with soil. Water two or three times and let settle.

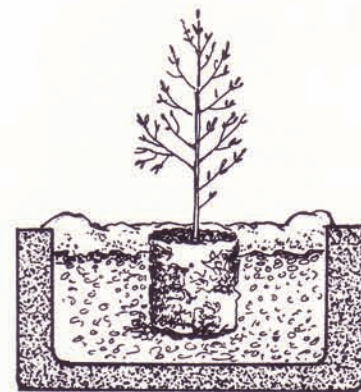


6. Mulch with 1 or 2 inches of dry soil. If possible mulch area with bark or wood chips.

Container-Grown Trees



Important! Remove container before planting.



Other steps in planting container-grown trees are the same as for balled and burlapped trees.

Tree Care and Maintenance

Wrapping

Wrap the trunk of the newly planted tree to protect it from sun scald, insects, rodents and pets. Special tree wrapping paper, strips of burlap, kraft paper, or aluminum foil can be used.

Wrap the trunk from ground level to the first branch. Secure the wrapping with string or stout twine. The wrap should be checked frequently, but left in place for two growing seasons. Retie if the twine or rope is cutting into the bark.

Pruning

Inspection and corrective pruning of trees improves their appearance, maintains vigor, and makes them stronger. Regular pruning eliminates the need for drastic pruning at a later date.

Important! Cut branches flush with the trunk—do not leave stubs.

Remember! Prevent stripping of the bark—undercut the branch first, then cut from above.

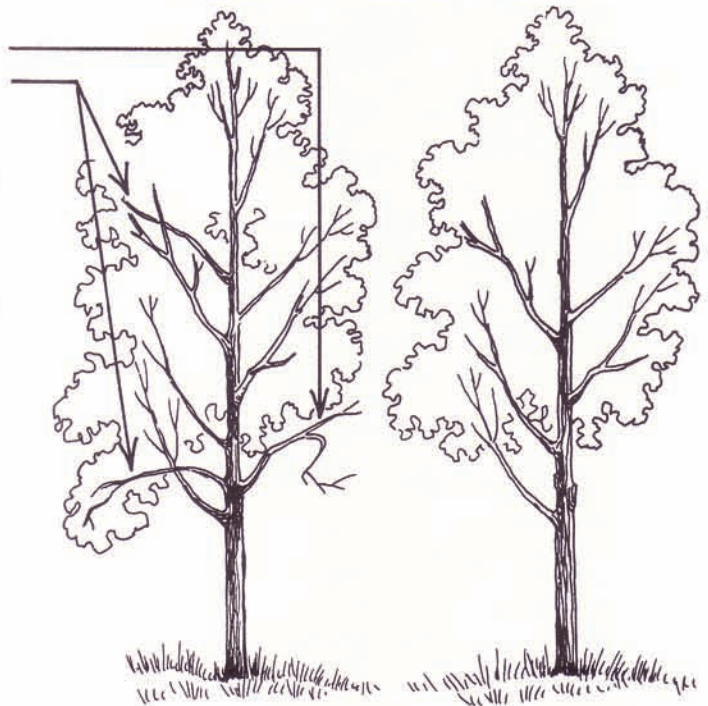
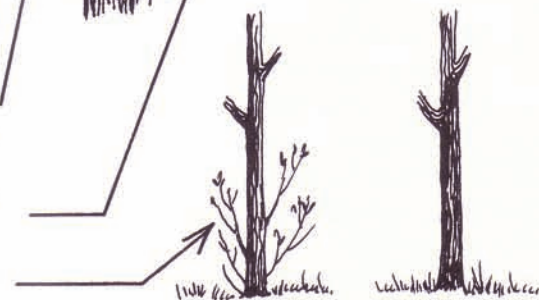
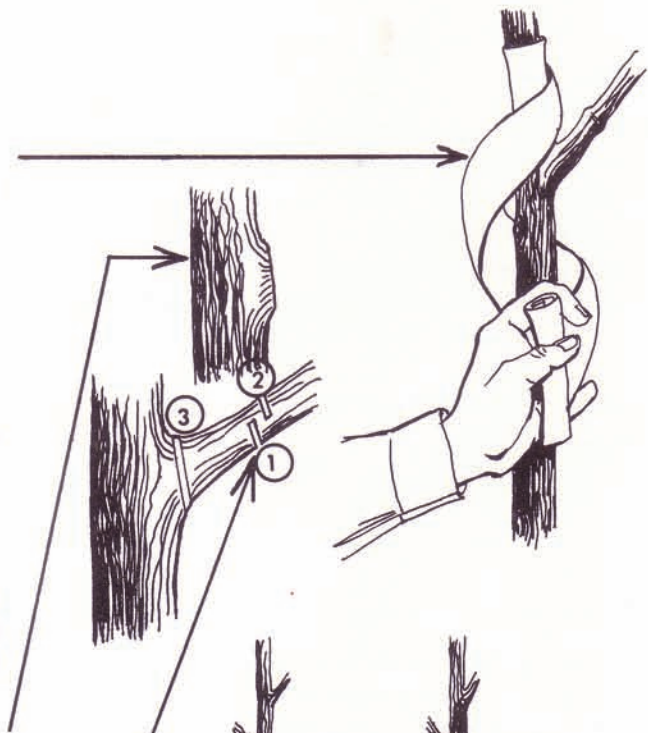
Prune sprouts on the base of lower trunk.

Prune dead, dying, or injured branches.
Prune crossed branches.

Keep the central leader dominant by removing competing branches.

Side branches should be spaced at least 12 inches apart on the vertical stem.

Remove sharp-angled side branches. They are weak and susceptible to wind, snow and ice damage.



← Leave right-angled side branches. They are less susceptible to damage.

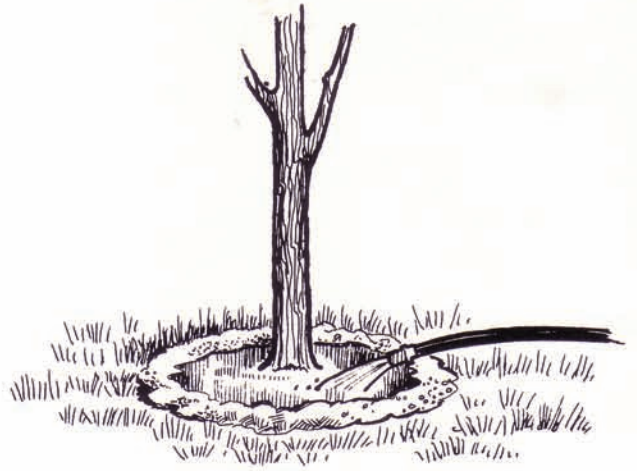
Watering

Trees often get too little water. A regular watering schedule is necessary for at least three years after planting. Watering after three years depends on the amount of natural rainfall received.

A basin around the tree aids in watering.

Thoroughly soak the area. Light frequent waterings produce shallow roots. As a general rule, water heavily once a week.

Important! Water trees thoroughly in the fall to prevent winter injury.



Fertilizing

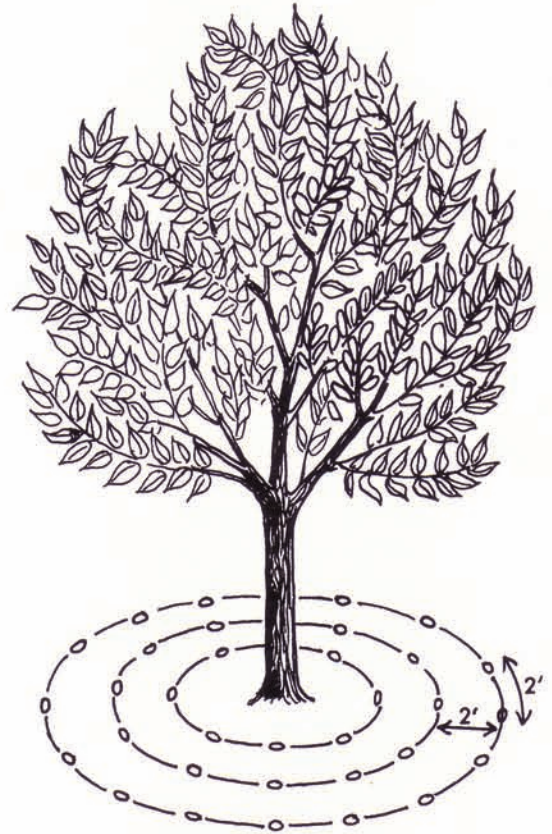
Fertilizing trees will help maintain vigor and promote growth. Trees needing fertilizer have pale leaves or slower than normal growth. Fertilizing is more important for trees growing in confined areas, on heavy soils, or on light, sandy soils.

Do not fertilize the first year after planting or at time of planting.

Important! Fertilize only in early spring or late fall. Use a complete fertilizer such as 10-6-4. Apply 1 to 2 pounds of fertilizer per inch of trunk or stem diameter.

Fertilizer is most effective if placed in auger holes: 1 to 2 inches in diameter, and 12 to 18 inches deep.

Place holes around the tree. Start 1 foot or more away from trunk, and extend several feet beyond outer edge of branches. Holes should be about 2 feet apart.



Tree Injuries

Do not bump trees with a lawn mower. This deforms or kills—especially young, thin barked trees. Stake or cultivate area around tree to prevent mower injury.

Herbicides can kill trees! Use liquid or granular herbicides with caution.

Wind, snow, or ice storms cause limb breakage. Broken limbs are a safety hazard and provide entry sites for insects and disease. Remove damaged branches by making smooth, flush cuts on main stem—do not leave a stub. Tree wound dressings do not prevent insect or disease attack and their use is not recommended.



Tree Guide

Use this chart as a quick reference and comparison of tree characteristics. Trees are listed alphabetically by common name. Refer to individual tree descriptions for detailed information.

| NAME | See Page # | Mature Size (Ft) | | Growth Rate | Life Expect- ancy ^{a/} | Mature Form | Autumn Color | Flowers | |
|---------------------------|------------------|---------------------|-----------------|----------------|---------------------------------------|-----------------------|---------------------|--------------------|--------|
| | | Height | Crown Spread | | | | | Color | Season |
| Ash, Green | 11 | 40-60 | 30-40 | Medium | Medium | Round to irregular | Yellow | ---- | ---- |
| Ash, White | 12 | 40-60 | 30-40 | Medium | Medium | Round | Purple to yellow | ---- | ---- |
| Ash, Blue | 12 | 35-45 | 20-30 | Medium | Medium | Oval to irregular | Yellow | ---- | ---- |
| Birch, European | 13 | 25-35 | 15-20 | Fast | Short | Oval to weeping | Yellow | ---- | ---- |
| Birch, Cutleaf Weeping | 14 | 40-50 | 25-35 | Fast | Short | Weeping | Yellow | ---- | ---- |
| Birch, Paper | 15 | 35-45 | 20-30 | Fast | Short | Oval to irregular | Yellow | ---- | ---- |
| Birch, River | 14 | 40-50 | 25-35 | Fast | Short | Oval to irregular | Yellow | ---- | ---- |
| Buckeye, Ohio | 16 | 25-35 | 20-30 | Medium | Medium | Round | Yellow to red | Greenish yellow | May |
| Catalpa, Northern | 17 | 30-50 | 25-35 | Med-Fast | Medium | Oval to irregular | Yellow- brown | White | June |
| Cottonwood | 18 | 70-90 | 40-60 | Fast | Med-Long | Vase to irregular | Yellow | ---- | ---- |
| Cork Tree, Amur | 19 | 20-30 | 15-25 | Medium | Medium | Round | Yellow- brown | White | June |
| Crabs, Flowering | 20 | 15-25 | 15-25 | Medium | Medium | Round (Variable) | Yellow- brown | White to red | May |
| Elm, American | 21 | 60-80 | 60-80 | Fast | Short | Vase | Yellow- brown | ---- | ---- |
| Elm, Siberian | 21 | 40-60 | 20-30 | Fast | Med- Short | Oval to vase | Yellow- brown | ---- | ---- |
| Elm, Chinese | 21 | 35-45 | 25-35 | Fast | Med- Short | Oval to vase | Red | ---- | ---- |
| Ginkgo | 22 | 40-60 | 30-40 | Slow | Long | Oval | Yellow gold | ---- | ---- |
| Goldenrain Tree | 23 | 20-25 | 25-30 | Slow | Medium | Round | Brown | Yellow | July |
| Hackberry | 24 | 50-70 | 30-40 | Med-Slow | Med-Long | Vase | Yellow | ---- | ---- |
| Hawthorne | 25 | 15-30 | 15-20 | Medium | Med- Short | Oval (Variable) | Bronze to red | White to pink | May |
| Honeylocust, Thornless | 26 | 40-50 | 35-45 | Med-Fast | Med-Long | Round | Yellow | ---- | ---- |
| Horse-chestnut | 27 | 40-50 | 25-35 | Med-Fast | Medium | Oval to round | Brown | White | May |
| Kentucky Coffeetree | 28 | 40-50 | 25-35 | Med-Slow | Long | Oval to irregular | Yellow | ---- | ---- |
| Lilac, Japanese Tree | 29 | 20-25 | 15-25 | Medium | Med-Long | Vase | Green | White | June |
| Linden, American | 30 | 50-70 | 30-40 | Med-Fast | Med-Long | Oval | Yellow- brown | Yellow (Small) | July |
| Linden, Little-leaf | 31 | 40-60 | 25-35 | Med-Slow | Medium | Pyramidal | Yellow- brown | Yellow (Small) | July |
| Linden, Redmond | 31 | 40-60 | 20-30 | Med-Fast | Medium | Pyramidal | Yellow- brown | Yellow (Small) | July |
| Locust, Black | 32 | 35-45 | 20-30 | Fast | Short | Oval to irregular | Yellow- brown | White | May |
| Magnolia, Saucer | 33 | 10-20 | 10-20 | Medium | Medium | Round to irregular | Green- brown | White to purple | May |

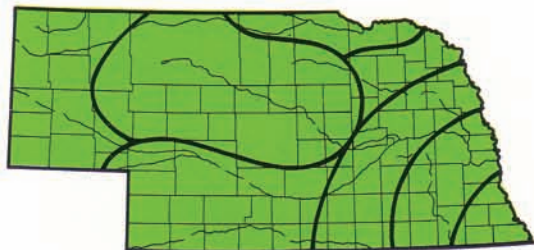
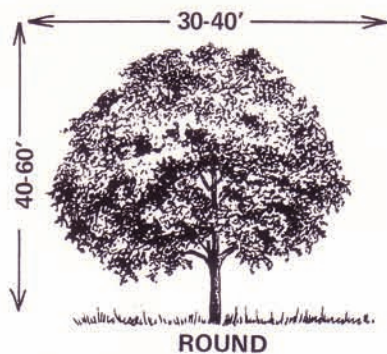
| NAME | See Page // | Mature Size (Ft) | | Growth Rate | Life Expect- ancy ^{a/} | Mature Form | Autumn Color | Flowers | |
|---------------------------|-------------------|---------------------|-----------------|----------------|---------------------------------------|------------------------|----------------------|------------------|--------|
| | | Height | Crown Spread | | | | | Color | Season |
| Maple, Silver | 34 | 60-80 | 30-50 | Fast | Med-Long | Round to irregular | Yellow | ---- | ---- |
| Maple, Norway | 35 | 40-50 | 30-40 | Medium | Long | Oval to round | Yellow to orange | ---- | ---- |
| Maple, Sugar | 36 | 50-70 | 40-60 | Slow | Long | Oval to round | Yellow to red | ---- | ---- |
| Maple, Red | 37 | 40-50 | 30-40 | Med-Fast | Long | Round | Red | ---- | ---- |
| Maple, Amur | 38 | 15-20 | 10-15 | Medium | Medium | Round to irregular | Scarlet to orange | ---- | ---- |
| Mountain Ash, European | 39 | 15-30 | 15-20 | Medium | Med-Short | Oval | Red to bronze | White | May |
| Oak, Bur | 40 | 50-70 | 50-70 | Slow | Long | Oval to round | Yellow- brown | ---- | ---- |
| Oak, English | 41 | 50-60 | 50-60 | Medium | Long | Round | Green to brown | ---- | ---- |
| Oak, White | 42 | 50-70 | 30-50 | Slow | Long | Round | Purplish | ---- | ---- |
| Oak, Swamp White | 42 | 40-60 | 20-40 | Medium | Med-Long | Oval to irregular | Yellow brown | ---- | ---- |
| Oak, Chinkapin | 42 | 30-40 | 30-40 | Medium | Medium | Oval to round | Yellow brown | ---- | ---- |
| Oak, Pin | 43 | 50-70 | 40-50 | Med-Fast | Medium | Round to pyramidal | Orange to scarlet | ---- | ---- |
| Oak, Northern Red | 44 | 50-60 | 40-50 | Med-Fast | Long | Oval to round | Bronze to red | ---- | ---- |
| Oak, Scarlet | 45 | 40-50 | 30-40 | Medium | Long | Oval to round | Scarlet | ---- | ---- |
| Oak, Black | 45 | 50-60 | 45-50 | Medium | Med-Long | Round | Orange to red | ---- | ---- |
| Oak, Shingle | 45 | 40-50 | 35-45 | Medium | Med-Long | Round | Red to yellow | ---- | ---- |
| Pagoda Tree, Japanese | 46 | 40-60 | 30-40 | Med-Fast | Medium | Vase to round | Green | White | Aug. |
| Pear, Bradford | 47 | 20-35 | 15-25 | Medium | Medium | Oval to pyramidal | Bronze to scarlet | White | May |
| Plum, Purpleleaf | 47 | 10-15 | 10-15 | Medium | Med-Short | Round to vase | Purple | Pink | May |
| Poplar, Lombardy | 48 | 30-50 | 10-15 | Fast | Short | Columnar | Yellow- brown | ---- | ---- |
| Poplar, White | 49 | 40-60 | 30-50 | Fast | Med-Short | Round to irregular | Yellow | ---- | ---- |
| Redbud, Eastern | 50 | 10-20 | 10-15 | Medium | Medium | Vase to round | Yellow | Pink | April |
| Russian Olive | 51 | 15-25 | 15-20 | Fast | Short | Round to irregular | Yellow | ---- | ---- |
| Sweetgum | 52 | 40-60 | 30-40 | Slow | Medium | Pyramidal | Scarlet | ---- | ---- |
| Sycamore | 53 | 70-80 | 60-70 | Med-Fast | Medium | Pyramidal to irreg. | Brown | ---- | ---- |
| Tulip Tree | 54 | 50-80 | 30-40 | Med-Fast | Long | Oval to pyramidal | Yellow | Yellow orange | May |
| Tree-of-heaven | 55 | 30-40 | 25-35 | Fast | Short | Round to irregular | Green to yellow | ---- | ---- |
| Walnut, Black | 56 | 40-60 | 40-50 | Medium | Long | Oval to irregular | Yellow- brown | ---- | ---- |
| Willow, Weeping | 57 | 30-50 | 30-40 | Fast | Short | Weeping | Yellow- Brown | ---- | ---- |

^{a/} Short—Less than 30 years; Medium—30 to 80 years; Long—more than 80 years.

Discussion of Broadleaf Trees

Green Ash (*Fraxinus pennsylvanica lanceolata*)

General Description—Green ash is a native tree and does well in all areas of the state. Its favorite habitat is in moist bottomlands, but it maintains itself well in drier situations. Green ash is medium sized, has a round to irregular dense crown, a medium rate of growth, and a medium life span. Some of the more common named varieties of this species include: Marshall's Seedless, Emerald and Summit. These varieties are either seedless or are light seeders and are more desirable than native green ash in landscape situations.



Area Adaptability
■ Good

Good Points—Green ash is adapted to almost all soil and moisture conditions in Nebraska. It has attractive, dense, summer foliage and provides an early burst of yellow color in the fall.

Bad Points—Green ash is subject to attack by several insects and diseases, but none serious enough to limit its use. Possible problems to expect are: ash borers, sawflies, oystershell scale, ash rust, leaf scorch, and canker.



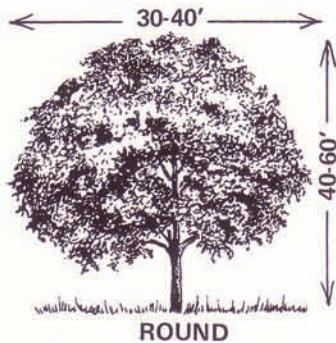
Blue Ash (*Fraxinus quadrangulata*)

Blue ash occurs principally on dry uplands in the Ohio and Mississippi Valleys. It is shorter than green or white ash, and has a smaller crown diameter. Twigs are square or 4-angled and have a distinct corky wing at each angle. Its name comes from the pioneers who made a blue cloth dye from the inner bark. It has essentially the same characteristics as green ash, but is more susceptible to ash borers.



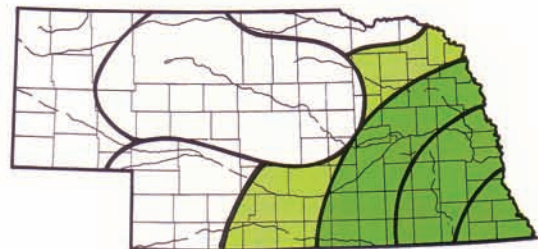
Area Adaptability

- Good
- Fair
- Poor



White Ash (*Fraxinus americana*)

White ash and green ash are so similar in appearance that only by a close inspection of seeds and buds can the two species be distinguished. This tree is native to southeast Nebraska, but is not as drought hardy as green ash and requires large amounts of water during hot weather. Rose Hill and Autumn Purple are two named varieties of this species. They are seedless and have a bronze to red fall color. Other characteristics and problems are the same as green ash.

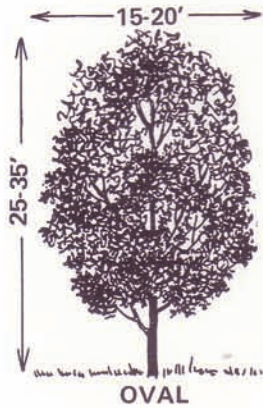


Area Adaptability

- Good
- Fair
- Poor

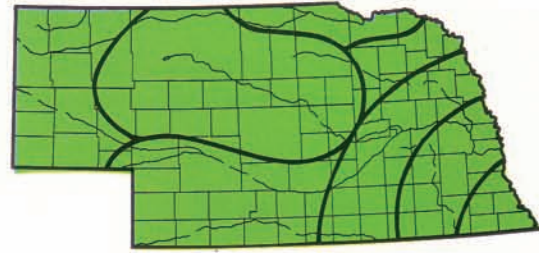
European Birch (*Betula pendula*)

General Description—This European import was introduced during colonial times. It is graceful, having an oval shape which gradually becomes weeping with age. A fast rate of growth and a short life expectancy are characteristic of this tree. Cool, moist, partially shaded sites are preferred.



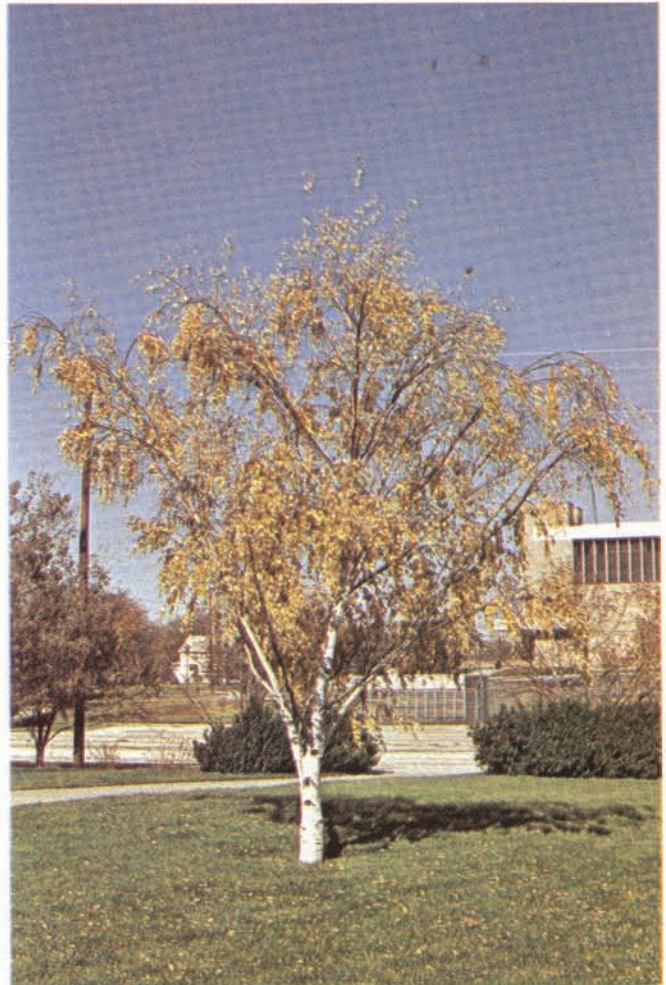
Good Points—The white bark and bright yellow autumn color has made this tree very popular as an ornamental.

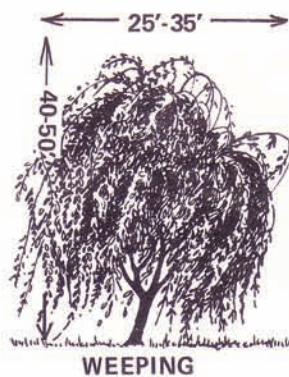
Bad Points—This tree has a *serious* pest in the bronze birch borer. This small grub eats just under the bark and will kill the tree, especially the top, if not controlled. It is shallow rooted and susceptible to branch die-back due to dryness during the summer or winter. The homeowner should weigh its ornamental value against its problems and short life span before planting.



Area Adaptability

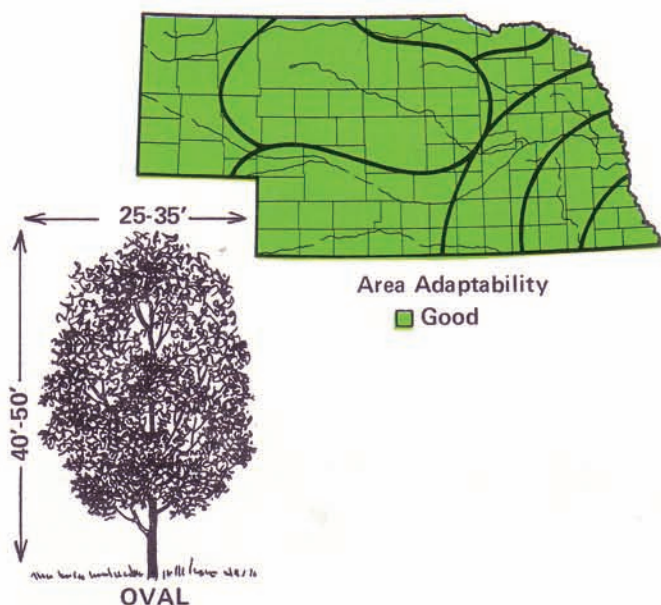
 Good





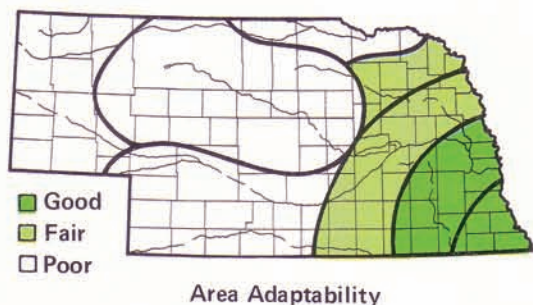
Cutleaf Weeping Birch (*Betula pendula* 'Gracilis')

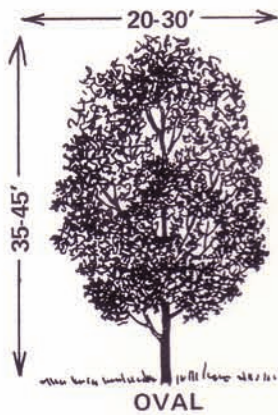
This tree is a variety of the European birch. It is larger than the European birch and its branches are pendulous, giving it a weeping appearance. Leaves are deeply cut and turn yellow in the fall. It has a fast rate of growth, a short life expectancy, and characteristic white bark. Its size and habit almost demand it be planted as an individual rather than in a clump. Problems are very similar to European birch.



River Birch (*Betula nigra*)

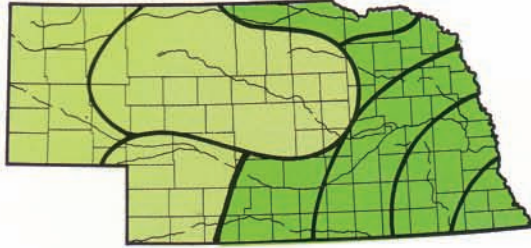
River birch is native along streams and swampy forest land in the eastern third of the U.S. It has a graceful, loosely pyramidal form, but its main characteristic is the cinnamon-colored bark which separates into ragged, papery scales. The tree is fast growing, has a short life, and has a yellow autumn color. Moist, well protected sites are required. No serious disease problems have been noted and it exhibits resistance to bronze birch borers. It can be planted as a clump but is best displayed as a single tree.





Paper Birch (*Betula papyrifera*)

General Description—Canoe, white, or paper birch are all common names of this native American tree. It is often planted in clumps, but is best displayed as a single tree. An oval to irregular form, a fast rate of growth, and a short life span are to be expected.



Area Adaptability

- Good
- Fair

Good Points—The beautiful white bark and bright yellow autumn color are definite assets.

Bad Points—The peeling white bark can easily be stripped away and cause death or disfigurement. The bronze birch borer is a problem, but this tree is not infested as readily as the other white barked birches. It is shallow rooted and is susceptible to die-back or death due to summer or winter drought conditions. Paper birch does best when it receives some shade, plenty of water, and protection from hot winds.

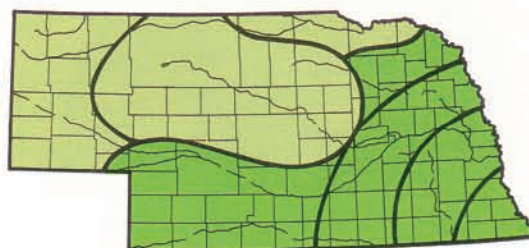
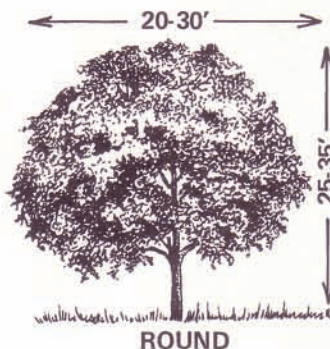


Ohio Buckeye (*Aesculus glabra*)

General Description—Ohio buckeye, native to the central U.S., is one of the first trees to have leaves in the spring. Leaves turn a yellow, orange or red in the autumn. Glistening brown nuts are called buckeyes and are produced in round prickly fruits. The buckeyes are inedible and possibly poisonous. Once established, the tree maintains a medium rate of growth. It has a round shape and a medium life expectancy.

Good Points—Upright clusters of greenish yellow flowers appear in May. The flowers are borne at branch ends and are about six inches in length.

Bad Points—Web worms and leaf diseases can give this tree an unsightly appearance in late summer. It has a taproot and is difficult to transplant, but can be grown rather easily from seed.



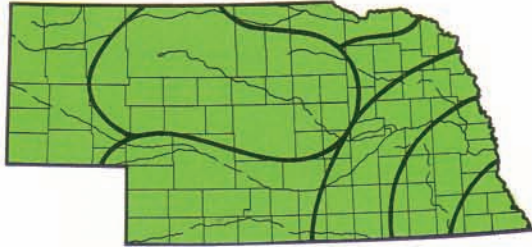
Area Adaptability

- Good
- Fair



Northern Catalpa (*Catalpa speciosa*)

General Description—The catalpa, native to the Ohio Valley, was planted in Nebraska by pioneers for use as fence posts. Its large, light green, heart-shaped leaves are almost tropical in appearance, and turn a yellow-brown in the autumn. The slender bean-like fruit, 10 to 20 inches long, change from light green to dark brown and remain on the tree throughout the winter. The tree has an oval to irregular shape, a medium life span, and a fairly rapid growth rate.



Area Adaptability
■ Good

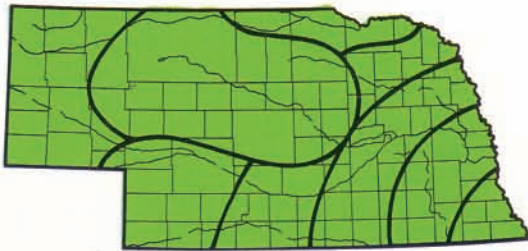
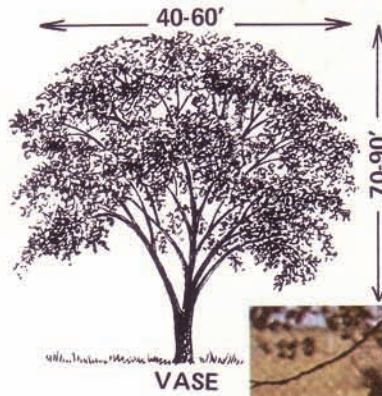


Good Points—White flowers bloom in June and are borne on branch ends in showy clusters five to seven inches long. It withstands city conditions and is adaptable to most soil conditions found in Nebraska.

Bad Points—It is susceptible to wind breakage and is sometimes injured by frost. The catalpa sphynx insect, leaf spot, mildew, and verticillium wilt are other possible problems.

Eastern Cottonwood (*Populus deltoides*)

General Description—Eastern cottonwood, “Nebraska’s State Tree”, is found state wide. During pioneer days this mighty tree provided protection and lumber for settlers. Even today the cottonwood supplies most of the lumber processed in Nebraska. Glossy leaves are triangular in shape and turn a golden-yellow in the fall. The tree prefers rich, moist bottomlands. A young cottonwood first appears oval in shape, but with maturity it has a vase to irregular form. A medium to long length of life and a fast rate of growth can be expected. Seedless selections are available from nurseries.



Area Adaptability
■ Good

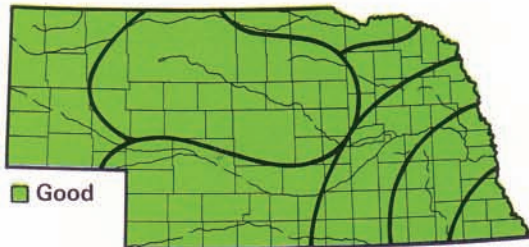
Good Points—Cottonwood grows rapidly under almost all soil and moisture conditions found in the state. It is a good choice when a large tree is needed.

Bad Points—Canker is a serious problem on cottonwood. It will cause limb die-back and will sometimes kill the tree. Limbs are brittle and often break in windstorms. The poplar leaf beetle and cottonwood borer will also cause some damage.

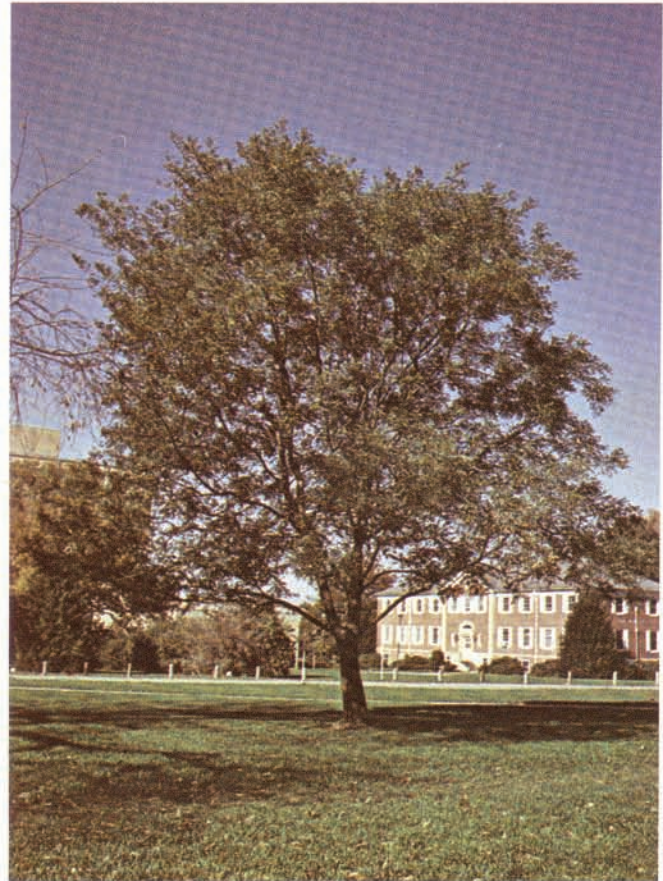


Amur Cork Tree (*Phellodendron amurense*)

General Description—The amur cork tree is a small- to medium-sized tree introduced from Asia. It tends to be low branched with a round spreading crown. The tree develops attractive corky bark, and its branches have an open appearance. It has a medium rate of growth and a medium life span. Foliage casts light shade, turns yellow-brown in the fall, and leaves drop within a very short period of time. Dark purple berries are produced on female trees and are noticeable in the fall. It has not been widely planted in Nebraska, but it appears worthy of trying state wide.

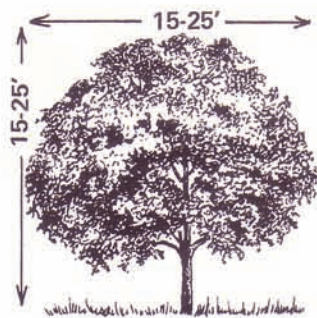


Area Adaptability



Good Points—Small whitish flower clusters are produced in June. It grows on a wide range of soils, withstands dry conditions, is smoke tolerant, and is easily transplanted. Diseases and insects are not a problem.

Bad Points—Low branching may limit the use of this tree, but pruning early in its life will correct this fault.



ROUND

Flowering Crabs (*Malus sp.*)

General Description—

Flowering crabs or crab apples, native to almost all parts of the world, are a member of the rose family. At least 250 species and varieties of flowering crabs are available and only

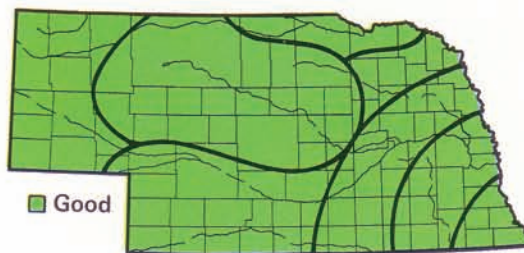
a very brief overview of this group can be presented. In general, fruits are less than 2 inches in diameter, height less than 20 feet, growth rate medium, and fall color yellow-brown.

Good Points—Flower color ranges from pure white to purplish-red, with many variations of pink and red in between. Size ranges from dwarf trees to trees 40 feet tall. Shape varies from columnar to weeping to round. Hence, selection of a flowering crab can very readily be fitted to particular landscape needs.

Bad Points—Flowering crabs are susceptible to the various troubles of the common apple. Problems to expect include: fire blight, apple scab, cedar-apple rust, scale insects, borers, and webworms. Apple scab is probably the most serious



problem in Nebraska. Many species and varieties are resistant to apple scab and selection should reflect proven resistance to this disease.

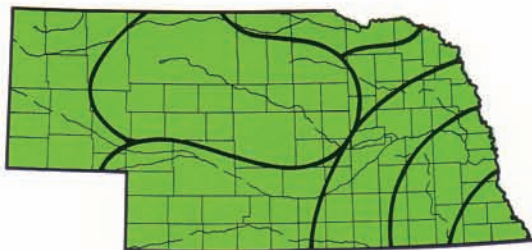


Area Adaptability

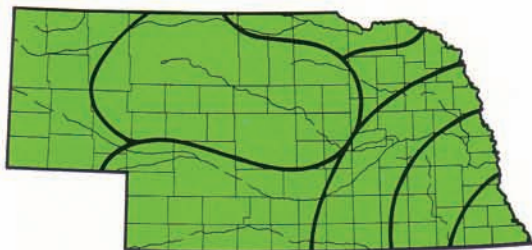


American Elm (*Ulmus americana*)

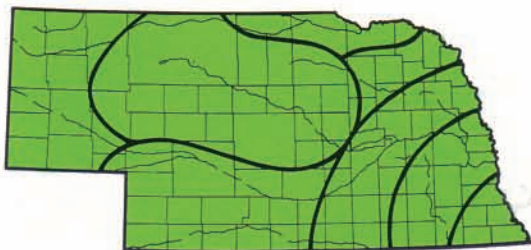
American elm was without question the most popular shade tree in Nebraska. The destruction Dutch elm disease has done is well documented and needs no additional discussion. Until research finds a way to combat this disease, planting of American elm and all its varieties should be curtailed.



Area Adaptability
■ Good



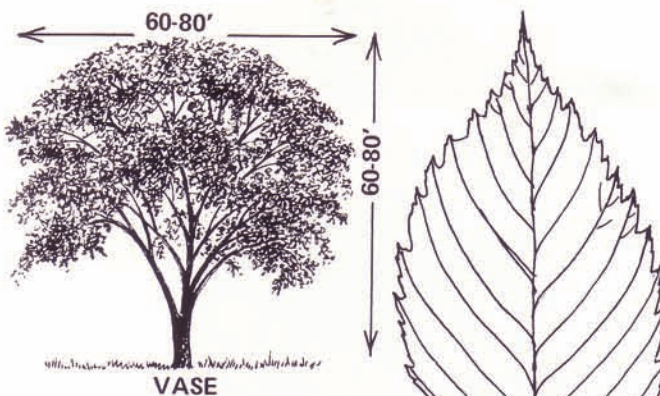
Area Adaptability
■ Good



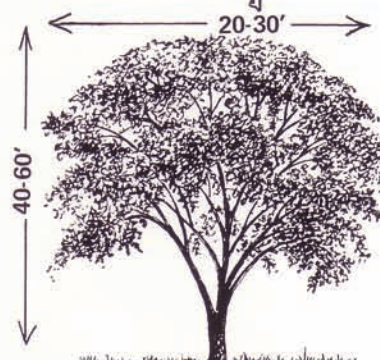
Area Adaptability
■ Good

Chinese Elm (*Ulmus parvifolia*)

This is the *true* Chinese elm. It was introduced from the Orient in the late 1700's and has essentially been overlooked as a landscape tree. Resistance (not immunity) to Dutch elm disease and elm leaf beetle are its strongest points. Leaves turn reddish in the fall and are smaller, greener, and waxier than either the American or Siberian elm. Bark appears flaky and offers ornamental interest. It is fast growing, has an oval to vase shape, and has a short to medium life expectancy.



VASE



VASE

Siberian Elm (*Ulmus pumila*)

Siberian elm is widely publicized and sold as "Chinese" elm. It is a fast growing tree, has an oval to vase shape, and a short to medium life span. It is adapted to almost all soil and moisture conditions in the state. This tree is resistant (not immune) to Dutch Elm disease. Wood is weak and brittle and breaks in wind, snow, or ice storms. Other problems to expect include: elm leaf beetles, branch and stem cankers, and slime-flux. This tree is not recommended for landscape plantings, except on dry exposed sites where other trees have failed.

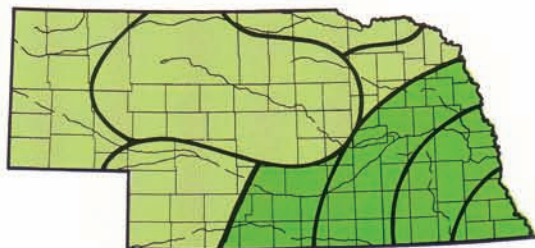
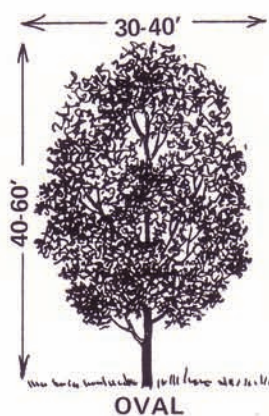


OVAL



Ginkgo (*Ginkgo biloba*)

General Description—The ginkgo was introduced into America, via Europe, from China and Japan, where it has grown for centuries in temple gardens. It is unique in that it is the sole survivor of its family and is not closely related to any other plant. It is a slow-growing, long-lived tree having fan shaped leaves. In youth it has a pyramidal habit of growth, but with age it becomes oval. Ginkgo trees are either male or female. Fruit is borne on female trees and resembles a small plum with a large, white, edible nut inside. The tree takes its name from this nut as ginkgo means "silver fruit" in Chinese.



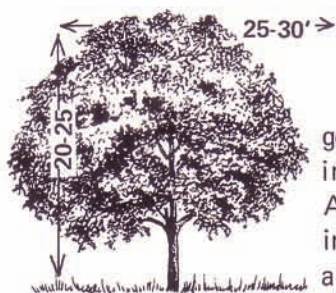
Area Adaptability

- Good
- Fair

Good Points—The ginkgo is resistant to smoke, dust, wind and ice. It tolerates a wide range of soil conditions and is essentially free from insects and diseases. It is relatively easy to transplant and has a clear yellow-gold fall color.

Bad Points—The fruit borne on the female tree has an offensive odor and a messy, sticky, fleshy outer layer. Only male trees should be considered suitable for planting.

Goldenrain Tree (*Koelreuteria paniculata*)

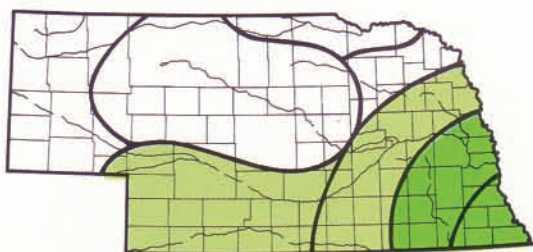


ROUND

General Description—The goldenrain tree was introduced into the U.S. from eastern Asia in the 1700's. It is round in form, medium in life span, and has a slow rate of growth.

The tree often appears disfigured as the branches and trunk are usually crooked. It is drought resistant and prefers sunny locations. Alkaline soils are preferred, but it has satisfactory performance on most soils.

Good Points—Long, loose clusters of bright yellow flowers provide midsummer color. Soon after blossoming many small papery-walled, bladder-like fruit pods are formed. These pods are showy and will change from light green to pink to brown as the summer progresses. It is relatively free of disease and insect problems.



Area Adaptability

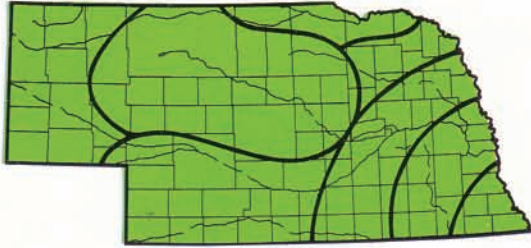
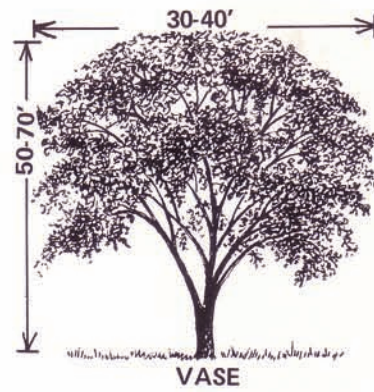
- Good
- Fair
- Poor

Bad Points—The goldenrain tree is on its northern borderline of hardiness in Nebraska and is susceptible to winter die-back. Performance suffers when planted in low or wet areas. Planting sites should be well drained, have a sunny exposure, and be protected on the north and west.



Hackberry (*Celtis occidentalis*)

General Description—Hackberry, native throughout Nebraska, is a member of the elm family. Its light green tapering leaves, resembling those of the elm, turn yellow in the fall. Bark is light colored, ridged, and is often described as having a warty appearance. This tree is a slow starter, but with extra watering a medium rate of growth can be expected. It has a vase shape and has a medium to long life expectancy.



Area Adaptability
■ Good

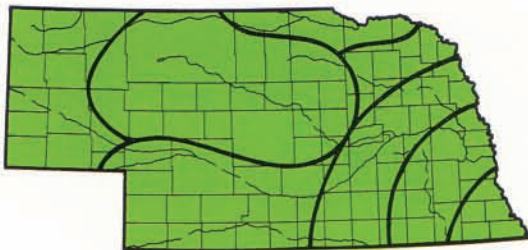
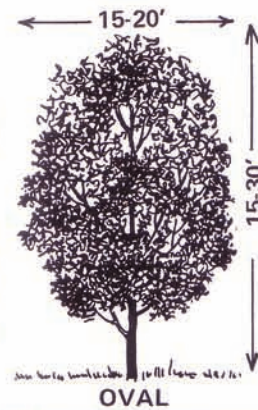
Good Points—This tree is drought resistant, tolerates adverse weather, and grows well on alkaline soils. It will succeed where other trees fail.



Bad Points—Dense clusters of deformed twigs (witches broom), considered unsightly, are sometimes formed in the crown of hackberry. Leaves often have small nipple-galls on lower leaf surfaces. This deformity is caused by a small insect and only occasionally is an adverse affect noticeable. It is also susceptible to defoliation by cankerworms.

Hawthorn (*Crataegus* sp.)

General Description—Hawthorn, native to many areas of the world, includes hundreds of species and varieties. Most of these are dense, shrubby looking trees having stout ascending or spreading branches. Sharp pointed thorns, an inch or more long, are found on limbs. In general, these trees have a medium rate of growth and a short to medium life expectancy.



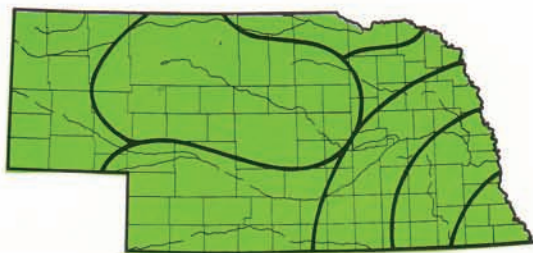
Area Adaptability
■ Good

Good Points—White or pink flower clusters appear in May and small bright red fruit are noticeable in the fall. Most have attractive orange to scarlet fall color. Some of the species or varieties can be sheared and make excellent hedges or barriers.

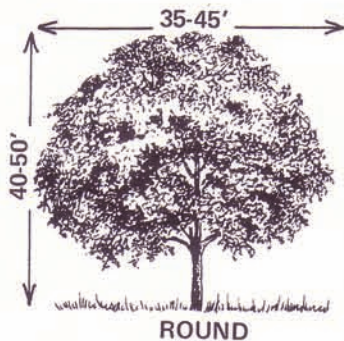
Bad Points—Fire blight is often a serious problem of hawthorn, but Washington Hawthorn, a variety, offers resistance to this disease. Other possible problems include: leaf blight, lace bugs, spider mites, webworms, scale insects, and borers.

Thornless Honeylocust (*Gleditsia triacanthos inermis*)

General Description—Thornless honeylocust is a variety of the common honeylocust. It does not produce thorns and non-fruiting selections are available. The tree is very hardy throughout the state, and tolerates a wide range of soil and moisture conditions. It has a medium to long length of life, a medium to fast rate of growth, and a round form. Many selections of this variety are available and offer a variety of tree shapes and leaf colors. Some of the more common selections include: Rubylace, Shademaster, Skyline, and Sunburst.



Area Adaptability
■ Good



Good Points—Foliage is fine-textured, casts light shade, and turns yellow in the fall. It withstands city conditions and does well in most situations. It is easily transplanted and relatively disease free.

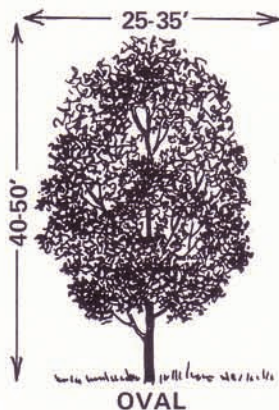
Bad Points—The mimosa webworm often defoliates the tree, and webs give the tree an unsightly appearance in late summer. Borers, leafhoppers, plant bugs, and pod gall midges cause minor damage. These insect problems should not discourage its use.

Horsechestnut (*Aesculus hippocastanum*)

General Description—Horsechestnut was introduced from southern Asia, via Europe, in the 18th century. Fruit ripens in September and consists of two or three smooth reddish nuts found in round prickly fruits. The nuts are bitter and considered inedible. It grows rapidly after becoming established. Autumn color is of little consequence as the leaves turn brown and fall early. It has a medium life span and a round to oval shape. Baumann Horsechestnut is a named variety of this species having double flowers and no nuts.

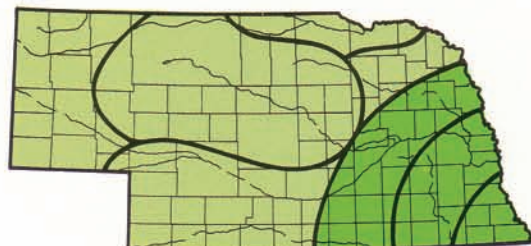
Good Points—Showy flower clusters emerge in May. These clusters are white and are often a foot in length.

Bad Points—Its wood is rather weak and limbs are susceptible to wind damage. Webworms, leaf scorch and leaf rust can give it an unsightly appearance in late summer. It is hard to transplant and is slow to begin growing after being planted.



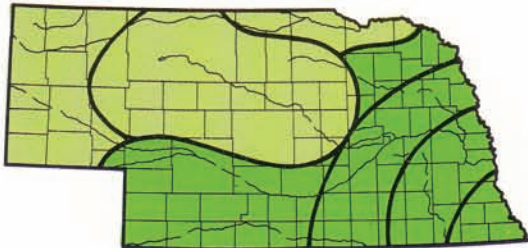
Area Adaptability

- Good
- Fair



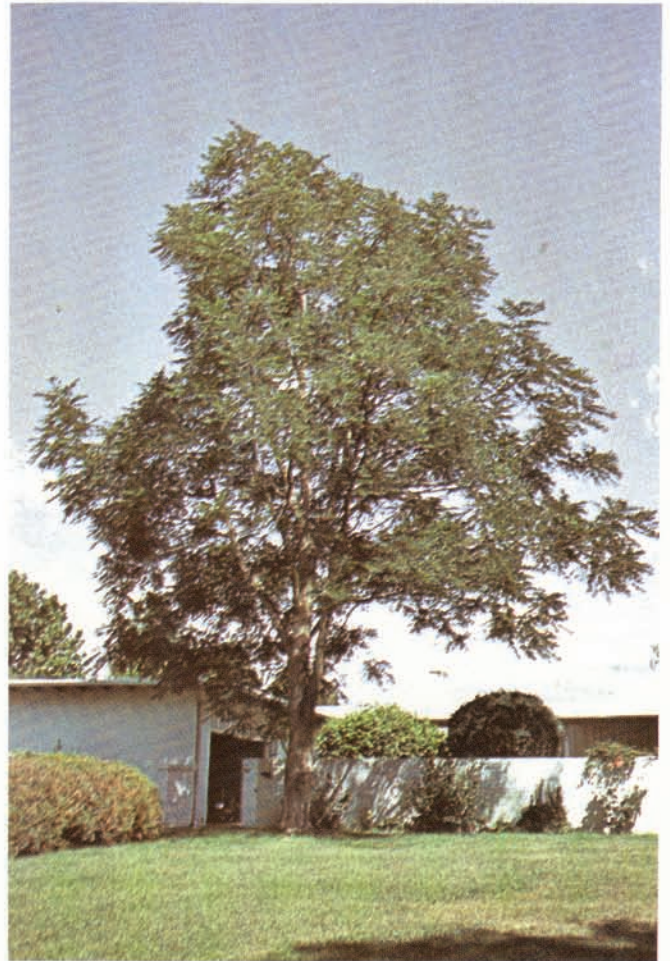
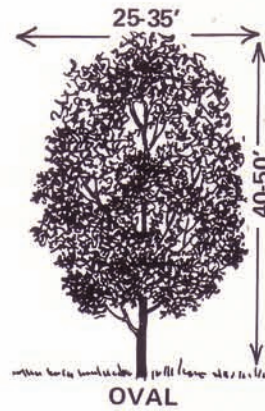
Kentucky Coffeetree (*Gymnocladus dioica*)

General Description—Kentucky coffeetree, native to eastern Nebraska, is a member of the legume or pea family. It bears pods, 6 to 10 inches long, which contain hard reddish brown seeds. Its name, coffeetree, was derived from early settlers as they attempted to use its seeds as a coffee substitute. Leaves are large, up to three feet long, having numerous leaflets which turn yellow in the fall. This tree has an open, oval to irregular shape, and usually has three or four large ascending branches. It has a slow to medium growth rate, but is long lived.



Area Adaptability

- Good
- Fair



Good Points—It offers interest during the winter due to large branches, stubby twigs, and rough bark. Seed pods hang on the tree into winter which is appealing or distasteful depending upon the individual. It is relatively free of insect or disease problems.

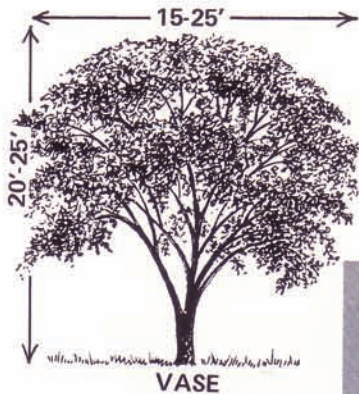
Bad Points—Leaflets, leaf stems and seed pods fall sporadically presenting clean-up problems.

Japanese Tree Lilac (*Syringa amurensis japonica*)

General Description—Japanese tree lilac, introduced from Japan in the 1800's, is the largest of the lilacs. This hardy plant generally has multiple stems, but it can be grown with a single trunk. It is pyramidal when young, but with age it becomes vase in shape. Autumn foliage is of little consequence as leaves remain green until they drop. It has a medium rate of growth and is medium- to long-lived.

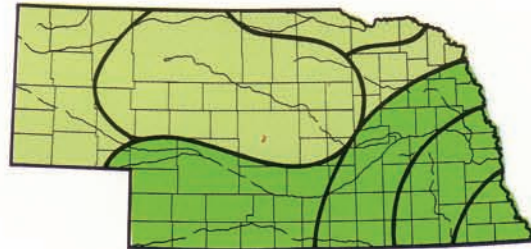
Good Points—Large, creamy-white flower clusters appear in June. It flowers slightly later than most plants which makes it more desirable as an ornamental. Bark is a shiny brown and is interesting during the winter.

Bad Points—A good flower display does not occur every year. Borers and oystershell scale must be controlled to maintain a healthy tree. Performance is best when planted on sunny sites.



Area Adaptability

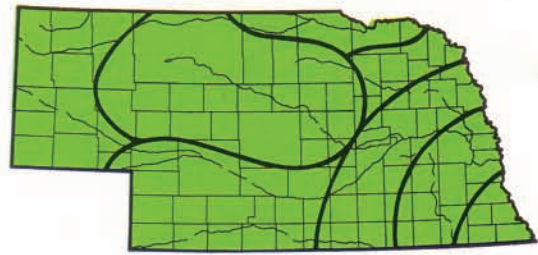
- Good
- Fair



American Linden (*Tilia americana*)

General Description—American linden, native to eastern Nebraska, is commonly called basswood in the eastern United States. Deep, moist soil is preferred, but it performs well on most sites. This tree has a medium to fast rate of growth, a medium to long life expectancy, and an oval shape. Leaves are roughly heart-shaped and turn a yellow-brown in the fall. Small, inconspicuous, yellowish, fragrant flowers are produced in July. Pyramidal American Linden, a variety, has a pyramidal to ascending oval form.

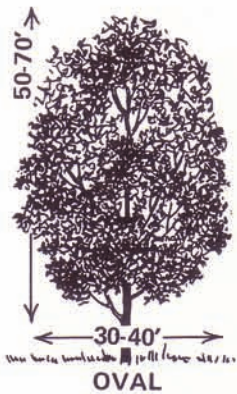
Good Points—This tree has no serious insect or disease problems and requires little care once it is established.



Area Adaptability

■ Good

Bad Points—Leaves are larger and appear coarser than the other lindens. It is not easily transplanted and is hard to get established. Leaf scorch and several leaf feeding insects can give the foliage an unsightly appearance in the summer. It should be protected from hot winds in the western half of the state.

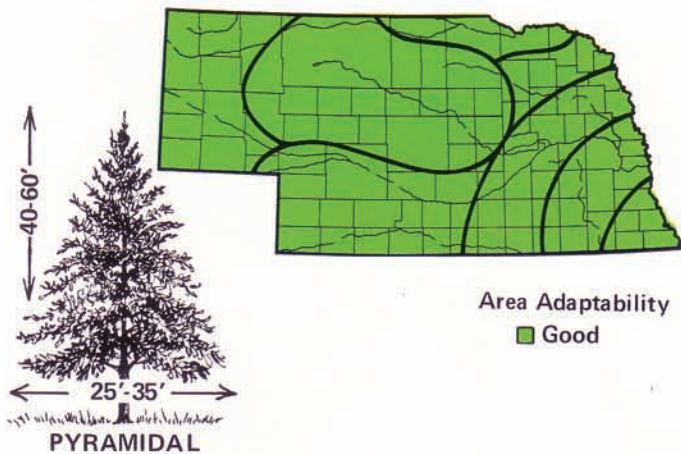


Little-leaf Linden (*Tilia cordata*)

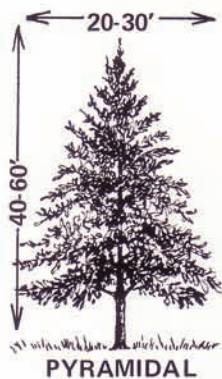
General Description—Little-leaf linden was introduced from Europe in early colonial times. It has a slow to medium rate of growth and a medium life expectancy. Leaves are roughly heart-shaped and turn a yellow-brown in the fall. Small, yellowish, inconspicuous, fragrant flowers are produced in July. Several varieties of this species are available. Greenspire, a variety, has shown promise and grows with a single, straight trunk.

Good Points—This hardy tree withstands city conditions, is easily transplanted, and is not subject to wind, snow, or ice damage. No serious insect or disease problems have been noted.

Bad Points—Bark on young trees is thin and is subject to sunscald. It should be wrapped for several years after planting. Leaf scorch and leaf feeding insects can give it an unsightly appearance during the summer.



Redmond Linden (*Tilia euchlora* Redmond)



The Redmond linden is a variety of the Crimean linden and was introduced by a Nebraska nursery. It has a medium to fast growth rate, a medium life expectancy, and maintains a dense pyramidal shape. Leaves are roughly heart-shaped and turn a yellow-brown in the fall. Small, inconspicuous, yellowish, fragrant flowers are produced in July. It is not subject to wind, snow or ice damage, and has no serious insect or disease problems. Leaf scorch and leaf feeding insects can give it an unsightly appearance during the summer.

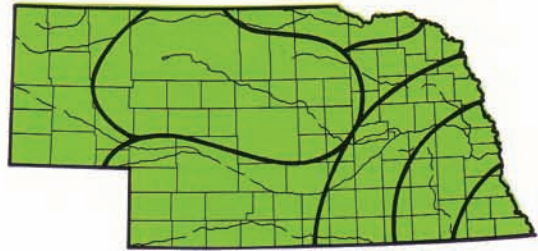


Black Locust (*Robinia pseudoacacia*)

General Description—Black locust, native to the Appalachian Mountains, is a member of the pea or legume family. It is an open, upright tree having coarser textured foliage than the more common honeylocust. Autumn color is of little consequence as leaves turn a yellow-brown. This tree grows rapidly, but is short lived. Fastigate Black Locust (a columnar form) and Globe Locust (a small rounded form) are named varieties of this species.

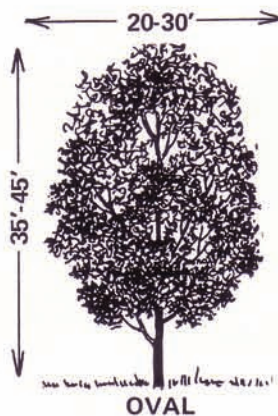
Good Points—Fragrant, white, pea-like flowers appear in late May or early June. This tree is hardy and will grow almost anywhere except in poorly drained or acid soils.

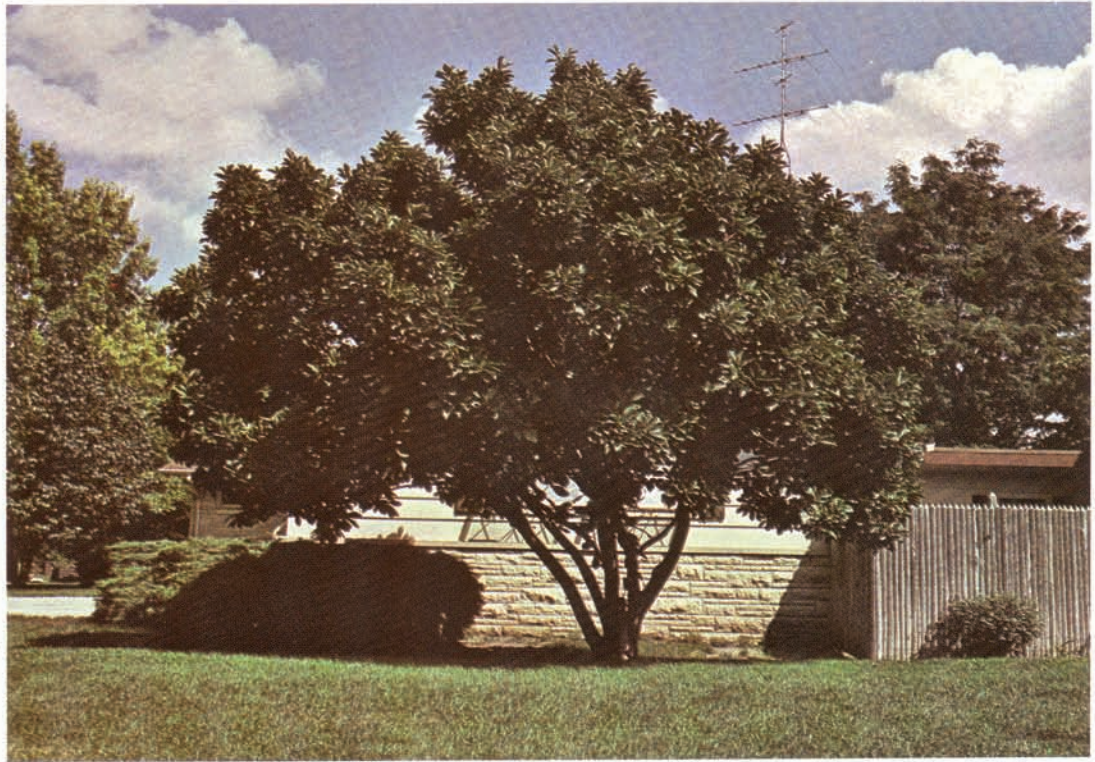
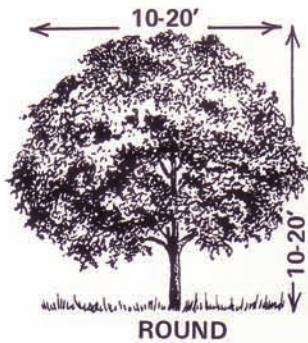
Bad Points—Due to a fibrous root system, this tree tends to send up shoots or suckers from the roots. Bean-like seed pods remain on the tree during the winter. The locust borer does extensive damage. This tree is normally not recommended for landscape plantings.



Area Adaptability

■ Good





Saucer Magnolia (*Magnolia soulangeana*)

General Description—The saucer magnolia, introduced from France in the 1800's, is a small, early flowering tree. It is characterized by large, dark green, thick leaves and multiple stems. Large blossoms appear early in the spring, before leaf appearance, but last for only a short period of time. A round to irregular form, medium life span, and medium rate of growth can be expected. Numerous varieties of this species are available and offer an assortment of blossom colors and sizes.

Good Points—This tree is popular because of its conspicuous, large, white to purple flowers. It is easily transplanted and has no serious insect or disease problems.

Bad Points—It tends to develop multiple stems, but can be trained to a single stem. Late spring freezes often ruin the flower display. Verticillium wilt, scale insects, and winter injury are minor problems.



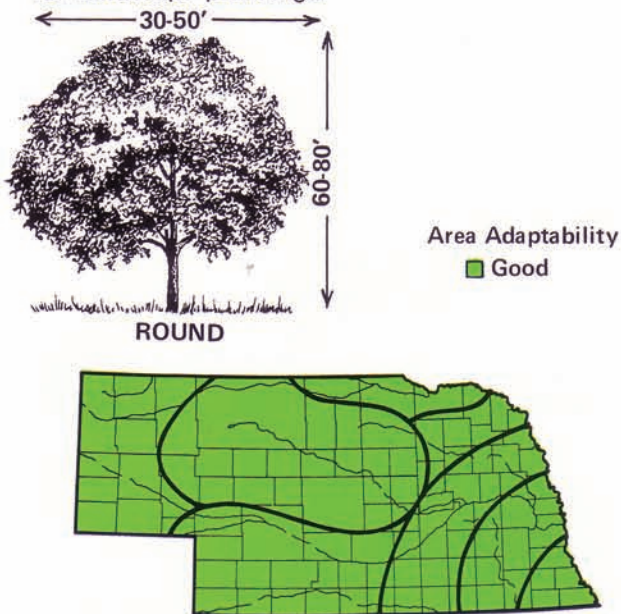
Area Adaptability

- Good
- Fair
- Poor



Silver Maple (*Acer saccharinum*)

General Description—The silver maple, often called soft maple, is a native of eastern Nebraska. It is a large, fast-growing, medium- to long-lived tree having a broad, round to irregular crown. Leaves are pale shiny green above and silvery beneath, and turn yellow in the autumn. Varieties of this tree, Blair and Silver Queen, have an upright form and are considered more desirable than wild seedlings for landscape plantings.

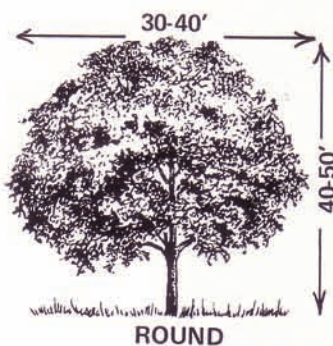


Good Points—Silver maple is widely planted because of its rapid growth rate. It is easily transplanted and does well under most soil and moisture conditions, but performance suffers when planted on alkaline soils.

Bad Points—The wood is brittle and the large, weak side branches make this tree susceptible to wind, snow and ice damage. Proper pruning early in the tree's life will help reduce this damage. Bark on young trees should be wrapped to prevent sunscald injury. Roots are shallow and tend to erupt above the ground with age making it difficult to maintain a good lawn. Cottony scale insect, green striped maple worms, and maple bladder gall mites are considered problems.

Norway Maple (*Acer platanoides*)

General Description—An introduction from Norway, this maple is one of our most commonly planted shade trees. It has a round to oval crown, dense foliage, a long life, and a medium rate of growth. Some of the more common named varieties of Norway maple are: Cleveland, Columnar, Crimson King, Greenlace, Schwedler, Summershade and Variegated.



Good Points—The Norway maple is hardier and faster growing than the other hard maples. It has a desirable shape, strong limb structure, a bright yellow to orange fall color, and is free of serious insect and disease problems.

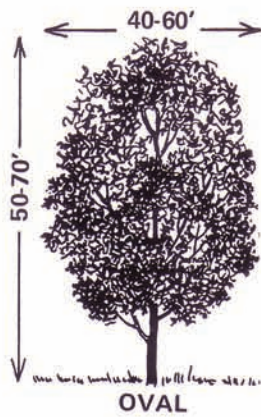
Bad Points—The dense shade produced and the shallow rooting habit of this tree may make it difficult to grow grass and other plants beneath it. Leaf scorch is a problem in late summer, especially on some of the varieties, and the green striped maple worm will cause some defoliation. Young trees are susceptible to winter sunscald and should be wrapped for several years.



Area Adaptability

- Good
- Fair
- Poor





Sugar Maple (*Acer saccharum*)

General Description—Sugar maple, native to the eastern U.S., is often referred to as hard maple. Sap is sweet and when boiled down yields maple syrup or sugar. A round to oval form and long life are characteristic of this tree. Newton Sentry and Temple's Upright, named varieties of this species, have a columnar habit of growth.



Area Adaptability

- Good
- Fair
- Poor



Good Points—Outstanding autumn color ranges from yellow to orange to red. It is a sturdy tree and of the maples is least susceptible to wind, snow or ice breakage. None of the several insect or disease problems are serious enough to discourage its use. It performs best when planted on cool, moist, protected sites.

Bad Points—Bark is thin and young trees should be wrapped for several years. It is slow growing, difficult to get established, and is not well adapted to smoky or dusty areas.

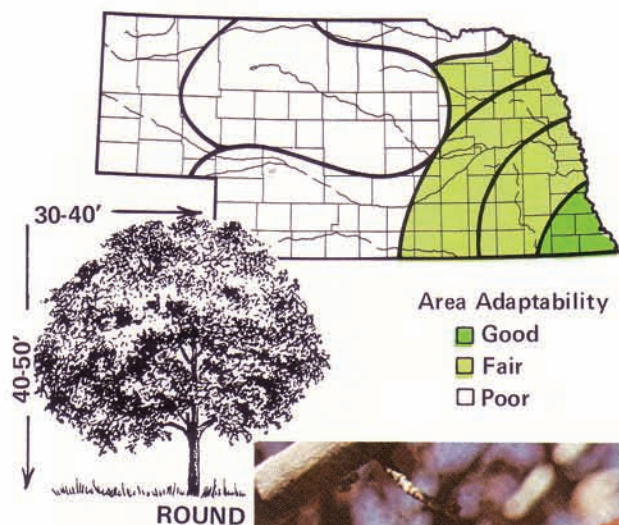
Red Maple (*Acer rubrum*)

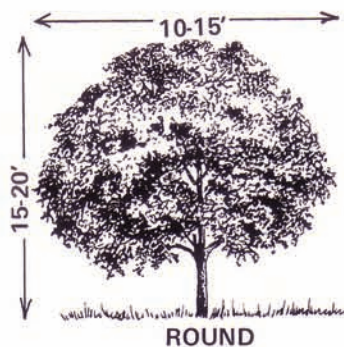
General Description—Red maple is commonly found in low, swampy areas in the eastern U.S. Foliage is dense and leaves are indistinctly three lobed. In early spring numerous small red flowers are produced. The blooms are inconspicuous singly, but are present in great numbers. It has a fairly rapid rate of growth, long life expectancy and a round form. Several varieties of red maple have been developed. Columnar Red Maple and Armstrong have a columnar shape. Gerling and Scanlon are pyramidal. Tilford and Globosum are rounded.



Good Points—This tree has an outstanding brilliant red autumn color. Usually the tree will not be entirely red at any one time, but areas of the tree turn red in succession. It does not have any serious insect or disease problems.

Bad Points—Wood is somewhat weak and susceptible to wind damage. Its utility is limited in Nebraska due to insufficient moisture and alkaline soils. It performs best when planted on protected sites and given extra water in the summer.





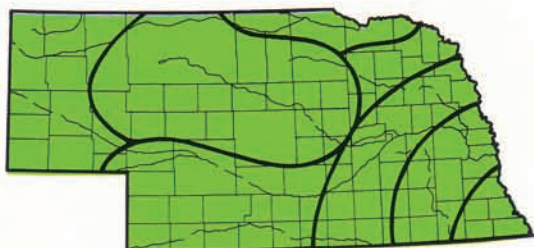
Amur Maple (*Acer ginnala*)

General Description—Amur maple was introduced from the Orient in the 1800's. A tendency to develop multiple stems gives this tree a shrubby appearance. This tree has a medium rate of growth, a medium life expectancy and a round to irregular form. It can be used in mass plantings, as a screen or hedge, or as a single specimen tree.



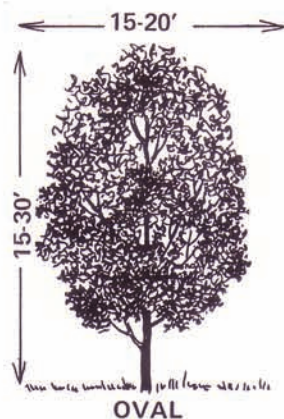
Good Points—The scarlet or orange fall color is as good as any of the maples. The winged fruit turns red in the summer and offers good contrast with the green foliage. Very little care is needed and insects or diseases offer no serious problems.

Bad Points—This tree develops chlorosis when planted in heavy alkaline soils. Variation in fall color and form somewhat limits its desirability as a hedge.



Area Adaptability

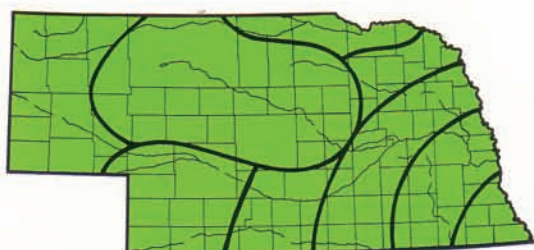
■ Good



European Mountain Ash (*Sorbus aucuparia*)

General Description—European mountain ash, introduced during colonial times, is not a true ash. When young this tree has an erect form, but an oval, spreading crown develops with age. It has a medium rate of growth and a medium to short length of life. Its leaves turn bronze to red in the fall. The tree will do best when planted on cool, moist sites, but sunlight is required for satisfactory growth. At least 15 species and varieties of moun-

tain ash are found in America. These trees vary in size, shape, fruit color, and flower color, and should be studied before they are planted to insure the correct choice.



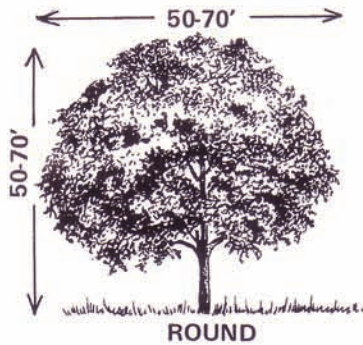
Area Adaptability

■ Good



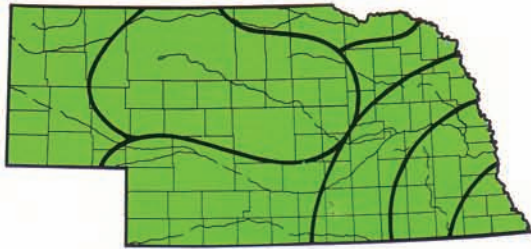
Good Points—European mountain ash is a very decorative tree displaying both spring flowers and colorful fall fruit. The many small white flowers form white clusters on branch ends, and in September beautiful red-orange clusters of berries appear where the flowers once bloomed. The fruit, although abundant, is not overly messy as it is a favorite food of birds.

Bad Points—Fire blight, cankers, sunscald, and borers can cause damage, but these problems should not discourage its use where a splash of color and accent are desired. Young trees should be wrapped for several years to give the tree added protection.



Bur Oak (*Quercus macrocarpa*)

General Description—Bur oak, native to Nebraska, is one of the largest American oaks. Large, stout, gnarled branches give this tree a rugged, massive appearance. Its large lobed leaves, clustered toward the branch tips, turn a yellow-brown in the autumn. Its acorns are half covered by a cup with fringed edges. This tree is long-lived, and has an oval to round form.



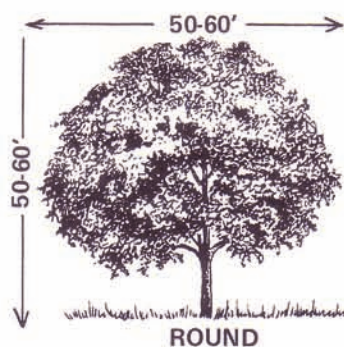
Area Adaptability

■ Good

Good Points—This tree withstands city conditions and is adaptable to almost all soil and moisture conditions of the state. It has no serious insect or disease problems.

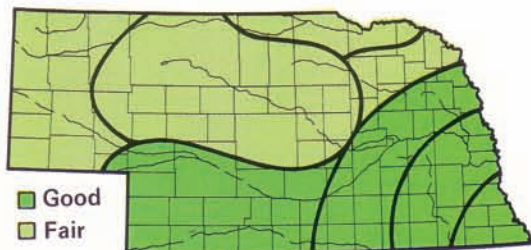
Bad Points—Bur oak grows slowly and is hard to transplant. It is a massive spreading tree and will require a lot of room if full development is expected.





English Oak (*Quercus robur*)

General Description—English oak, introduced from Europe in colonial times, has not been widely planted in Nebraska. When open grown, it has a short trunk, massive branches, and a broad, rounded form. This tree has a medium rate of growth and a long life expectancy. Leaves remain green or turn brown in the fall. Several named varieties are available. Pyramidal English Oak is the most popular as it has a columnar growth habit when young which changes to pyramidal with age.



Area Adaptability

Good Points—The massive branches and large crown spread make it a strong tree for large areas. It performs best when planted in open sunny areas. No serious insect or disease problems have been reported.

Bad Points—This tree's hardiness in Nebraska is somewhat questionable. Reports indicate this tree sometimes dies for no apparent reason, but this has not been observed in Nebraska and should not discourage its use.

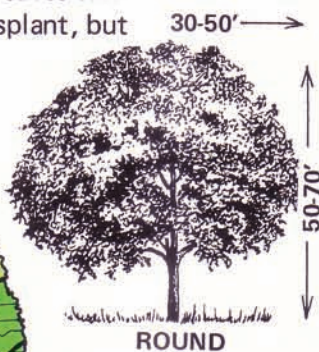


White Oak (*Quercus alba*)

White oak is a massive tree with sturdy, horizontal branches. It is slow growing, extremely long-lived, has a broad round shape, and leaves turn purplish in the fall. It is difficult to transplant, but has no serious insect or disease problems.



Area Adaptability



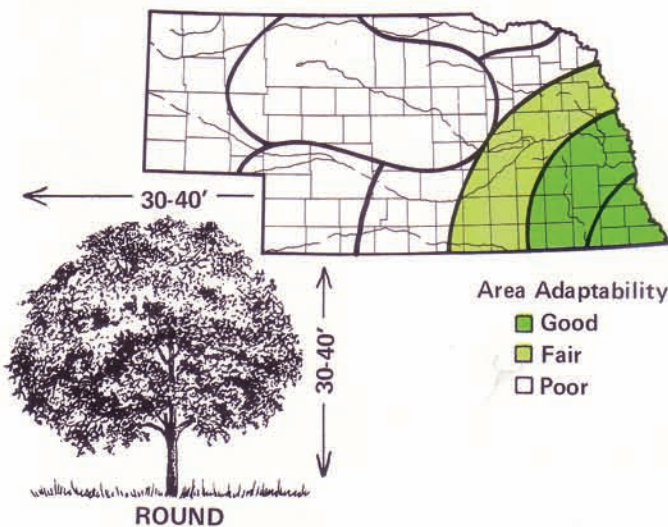
Swamp White Oak (*Quercus bicolor*)

This tree, as the name suggests, prefers moist or swampy sites. Leaves are dark green above and pale white beneath. Leaves turn a yellow-brown in the fall and tend to hang on the tree into winter. An oval to irregular shape, a medium rate of growth, and a medium to long life are to be expected. This tree is difficult to transplant and needs extra water during dry spells. Insects or diseases do not present any serious problems.



Area Adaptability

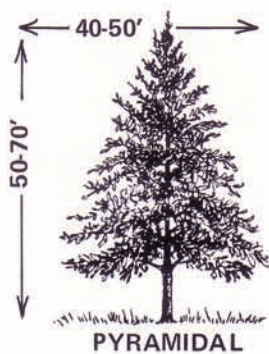
- Good
- Fair
- Poor



Chinkapin Oak (*Quercus muehlenbergii*)

The chinkapin oak, native to extreme southeast Nebraska, occurs on dry hillsides and rocky ridges. Leaves resemble the American chestnut and turn a yellow-brown in the fall. Open grown trees have short trunks and strong branches. This tree has an oval to round shape, a medium life span, and a medium rate of growth. Insects and diseases offer no serious problems.





Pin Oak (*Quercus palustris*)

General Description—Pin oak, native to moist areas of Ohio and Mississippi valleys, is one of the most widely planted landscape trees. It maintains a pyramidal shape for a number of years, but with age it has a rounded form. This tree has a medium life span and a fast to medium rate of growth. Upper branches are upright, middle branches are horizontal, and lower branches are hanging or pendulous.



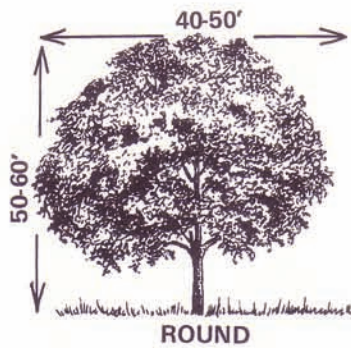
Area Adaptability

- Good
- Fair
- Poor

Good Points—Foliage is fine textured and has an outstanding bronze to scarlet fall color. The tree is easily transplanted and has no serious insect pests.

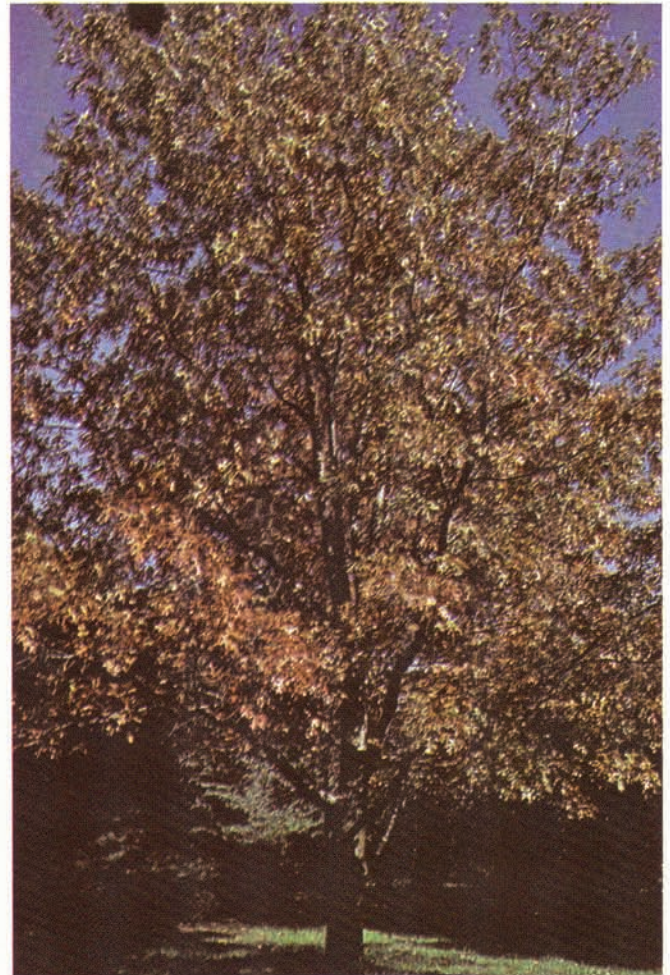
Bad Points—Iron chlorosis can be a serious problem with this tree, especially when planted on alkaline soils. Leaves drop gradually during the winter and periodic raking is required. Borers, gall insects, and various leaf diseases present minor problems.





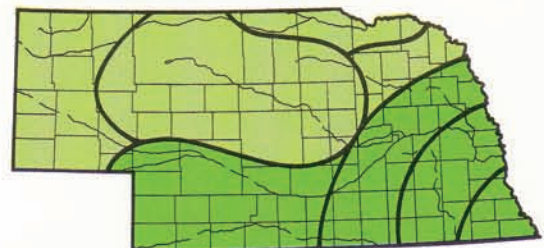
Northern Red Oak (*Quercus borealis*)

General Description—Northern red oak, native to eastern Nebraska, is one of the fastest growing oaks. It is pyramidal when young, but with age develops a broad, round to oval shape. It has a long life expectancy and a medium to fast rate of growth.



Good Points—This tree grows vigorously and can withstand city conditions. Autumn color is an asset as leaves turn bronze to red.

Bad Points—It is fairly hard to transplant and vigor suffers when planted in alkaline soils. Borers, gall insects, and various leaf diseases are minor problems.

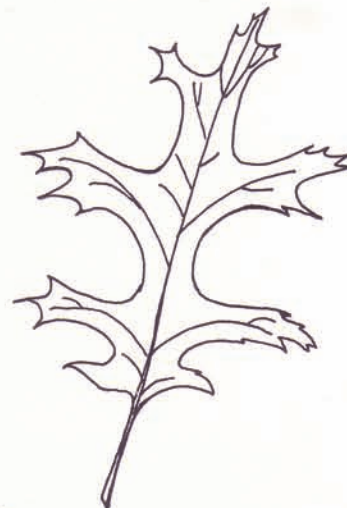
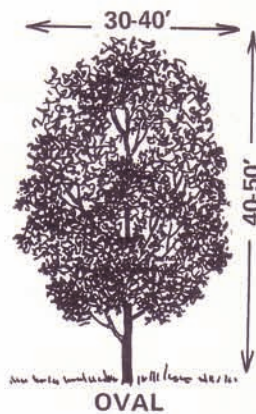
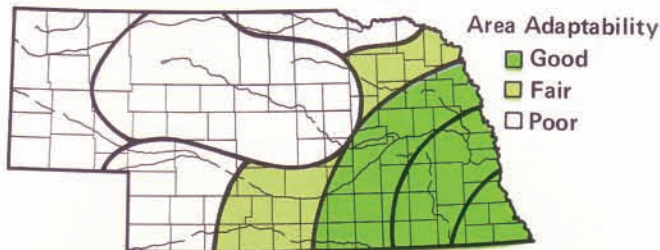


Area Adaptability

- Good
- Fair

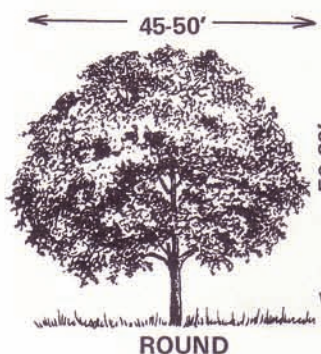
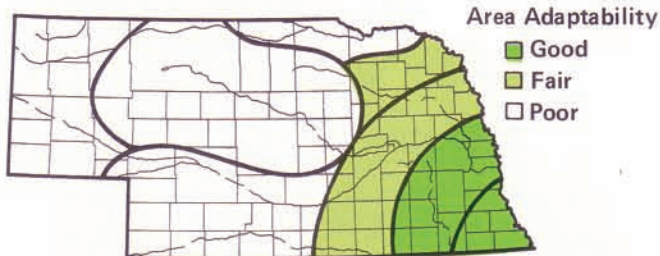
Scarlet Oak (*Quercus coccinea*)

Scarlet Oak, native to the eastern U.S., is best noted for its brilliant scarlet fall color. It has a rather open, oval to round shape, medium growth rate, and long life expectancy. This tree has the same problems as northern red oak.



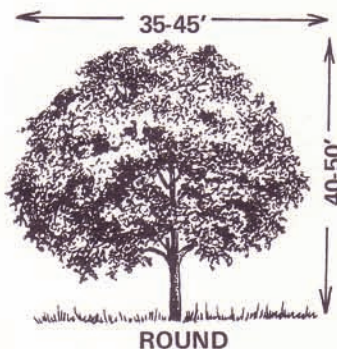
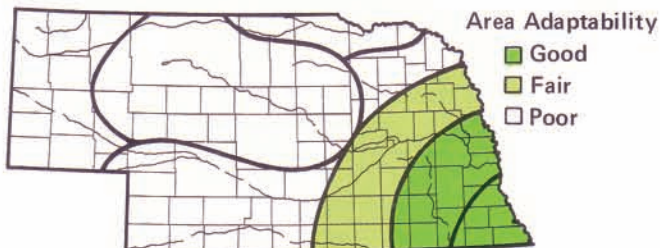
Black Oak (*Quercus velutina*)

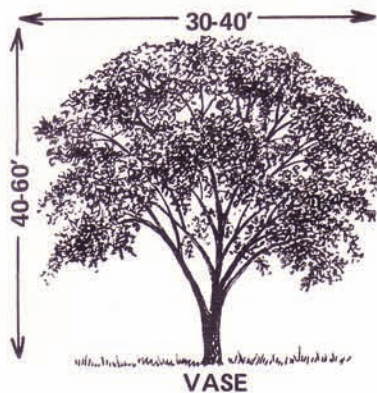
Black oak, native to southeast Nebraska, is similar in appearance to northern red oak. Leaves are dark green changing to orange or bronze in the autumn. It has a round shape, a medium growth rate, and a medium to long length of life. This tree is seldom planted as an ornamental, because its deep tap root makes it difficult to move. This tree has the same problems as northern red oak.



Shingle Oak (*Quercus imbricaria*)

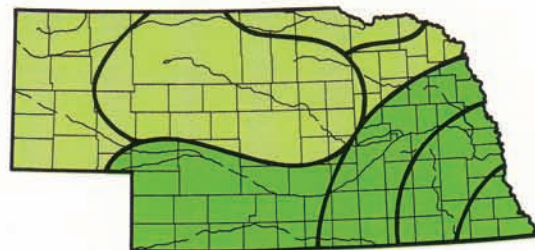
Shingle Oak, native in extreme southeast Nebraska, was used by pioneers for split shingles. Leaves resemble those of the willow, turn yellow to red in the fall, and remain on the tree into winter. It has a round shape, a medium to long life span, and a medium rate of growth. No serious insects or diseases are noted.





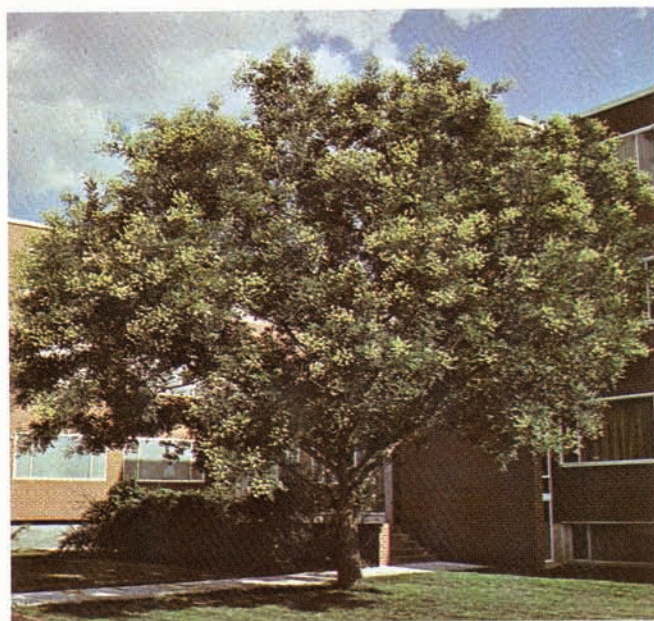
Japanese Pagoda Tree (*Sophora japonica*)

General Description—Japanese pagoda tree was introduced from China and Korea in the 1700's. Its name comes from the fact that it is often used around Buddhist temples in the Orient. It has a round to vase shape, a fast to medium rate of growth, and medium life expectancy. Fall color is of little consequence as leaves often remain green until they fall. Weeping Japanese Pagoda, a variety, has pendulous branches but it seldom has flowers. Fastigiata, another variety, has an upright growth habit.



Area Adaptability

- Good
- Fair

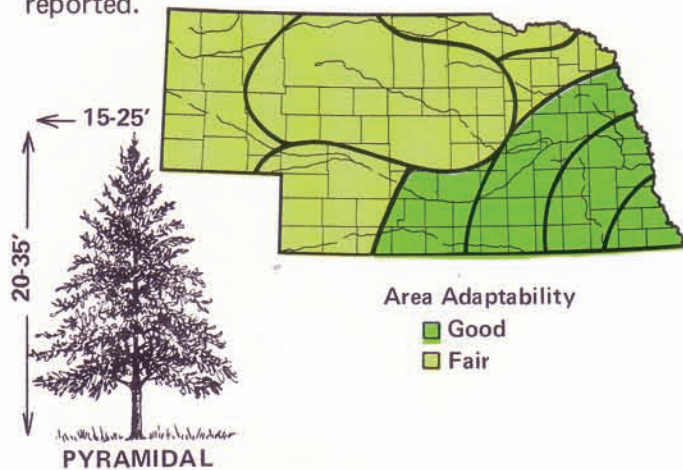


Good Points—In early August yellowish clusters of pea-like flowers are produced. It is the last of the larger trees to bloom, and hence, is highly desirable as an ornamental. It withstands heat, drought, and city conditions. No insect or disease problems have been noted.

Bad Points—Early fall or late spring frosts can cause some die-back of limbs. Even though it is heat and drought resistant, it should be protected from hot winds in western Nebraska.

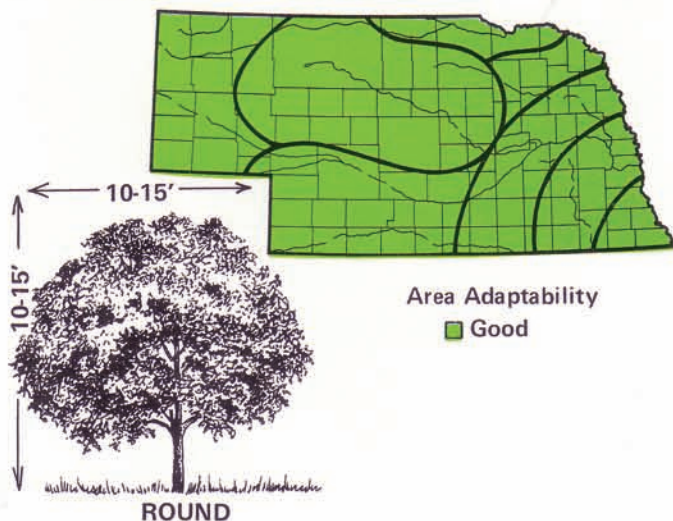
Bradford Pear (*Pyrus calleryana* Bradford)

This tree was grown from seed collected in China in 1918. It is a variety of the callory pear, and of the pears is the least susceptible to fire blight. White blossoms appear in the spring, and its fruit is small and of little value. It has a pyramidal shape when young which changes to oval with age. It has a medium rate of growth, a medium life expectancy, and has a bronze to scarlet fall color. No serious insect or disease problems have been reported.



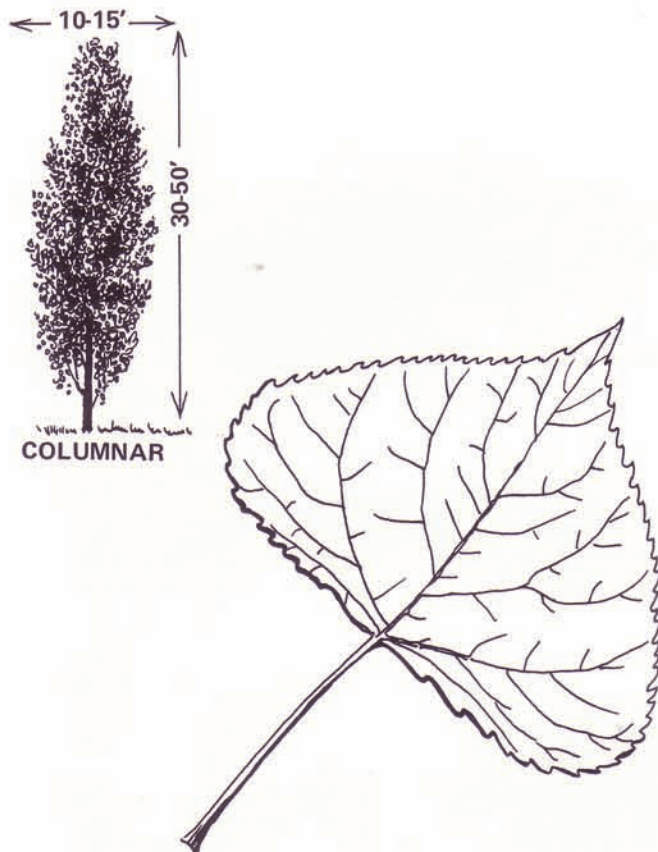
Purple Leaf Plum (*Prunus blireiana* Newport) (*Prunus cerasifera* Thundercloud)

Of the several varieties of plum having purple summer foliage Newport and Thundercloud are the most widely planted. They actually belong to different species, but have almost identical characteristics. Pink blossoms are apparent in late April or early May, and a few small purple fruit are produced in late summer. They have a medium to short life expectancy, a medium rate of growth and a round to vase shape. The foliage develops a more vivid purple hue if planted in full sun. Borers can be a serious problem if not controlled.



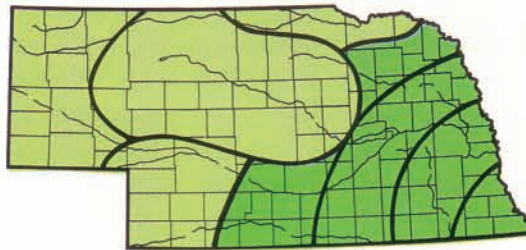
Lombardy Poplar (*Populus nigra Italica*)

General Description—The Lombardy poplar, a variety of black poplar, was introduced from Europe. It exists only as a male tree and must be grown entirely from vegetative cuttings. It has a very narrow columnar habit of growth and the main stem is covered from the ground up with suckerlike vertical branches. Leaves, resembling those of the cottonwood, are triangular in shape and turn a yellow-brown in the fall.



Good Points—Its extremely rapid growth rate makes it desirable where a quick screen or wind-break is needed. A single tree is very effective in landscapes when properly placed.

Bad Points—This tree is *very* short-lived due to *severe* problems with stem cankers. Often it will have dead limbs after only 6 years and trees older than 20 years are considered rare. Its vigor suffers in dry alkaline soils. Oystershell scale and shallow erupting roots are other problems. It is recommended that this tree be planted in combination with other tree species due to its very limited years of usefulness.

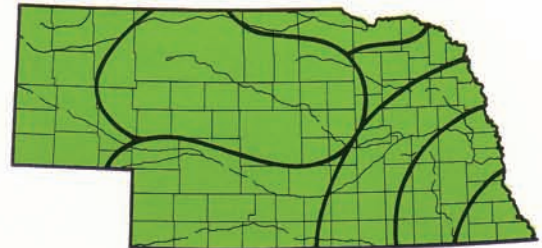
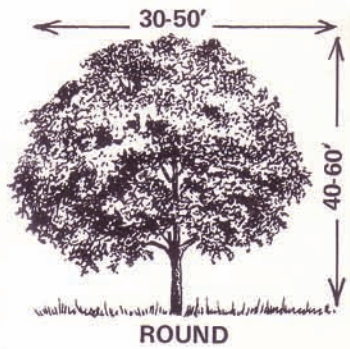


Area Adaptability
■ Good
■ Fair



White Poplar (*Populus alba*)

General Description—The white poplar, introduced from Europe, is often mistakenly identified as silver maple. Hardy and vigorous, it grows rapidly on a wide range of soil conditions. It is a large tree, has a round to irregular form, and a medium to short span of life. Silver poplar, a variety, is similar in habit, but leaf under-surfaces are whiter. Bolleana poplar, a variety, is columnar in form and sprouting is seldom a problem. Bolleana poplar is probably a better tree than Lombardy poplar when a fast growing columnar tree is needed.



Area Adaptability
■ Good

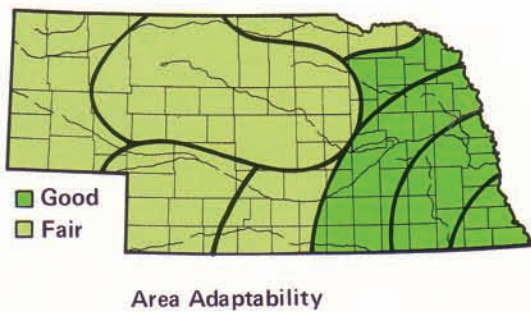
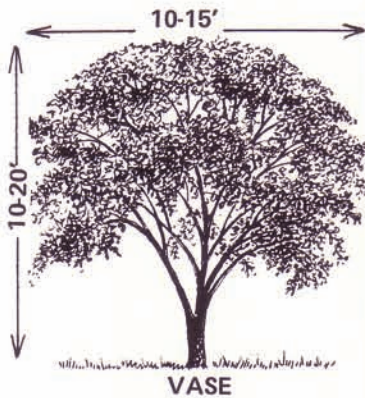
Good Points—The leaves are colorful, being dark green above and silvery below. Its young bark is white and resembles that of the white birches. It has no serious insect or disease problems.

Bad Points—The most undesirable trait of this tree is its habit of producing numerous sprouts from the roots over a wide area of the yard. Roots are shallow and tend to erupt above the ground line as the tree ages. The wood is weak and brittle and frequently breaks in wind, snow and ice storms.



Eastern Redbud (*Cercis canadensis*)

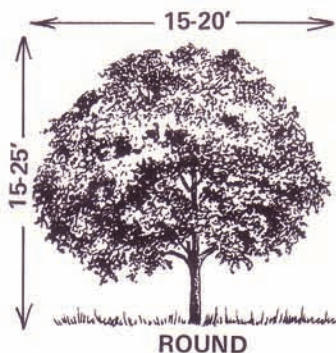
General Description—Eastern redbud, native to southeast Nebraska, is a small, prolific flowering tree. Leaves are heart-shaped and turn yellow in the fall. The tree has a round to vase shape, a medium rate of growth and medium length of life. Blossoms emerge early in the spring, prior to leaf appearance, but last for only a short period of time. The blossoms are pea-like and are deep pink. A variety of this species has white blooms and is called Whitebud or Alba.



Good Points—Redbud is one of the most desirable flowering trees. It gives a vivid splash of early color, has desirable form, and is resistant to snow and ice damage.

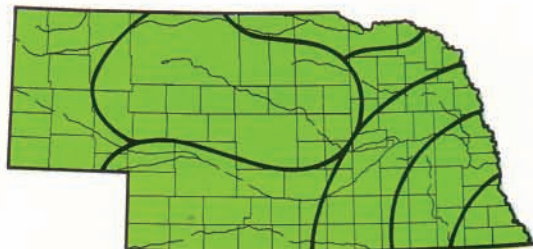
Bad Points—Leaf hoppers, borers, aphids and stem cankers are problems, but are not serious enough to prohibit its use.





Russian Olive (*Elaeagnus angustifolia*)

General Description—The Russian olive was introduced from Europe during early colonial times. It is a fast-growing, short-lived tree, with a round to irregular shape. Hardy and vigorous, it grows on a variety of soils and appears somewhat shrub-like due to its low branching habit. Small, fragrant, inconspicuous flowers appear in June, and more noticeable small yellow fruit appear in August.



Area Adaptability

■ Good

Good Points—The silver-gray leaves, crooked trunk, and brown scaly bark of the Russian olive adds variety and contrast. It is relatively free of insect pests and is not subject to ice or snow damage. It can be used to good advantage on large lots or acreages as a screen or windbreak, or as a single specimen tree.



Bad Points—Branch die-back, due to low winter temperatures and branch canker, is a *serious* problem on older trees. Russian olive is shallow rooted and is subject to wind throw. Its low branching habit somewhat limits its desirability.



Sweetgum (*Liquidambar styraciflua*)

General Description—Sweetgum is a southern tree most noted for its star-shaped leaves and horned seed balls. It is sharply pyramidal when young and broadly pyramidal at maturity. The growth rate is slow and only a medium length of life can be expected. The bark is deeply furrowed and corky ridges run along the branches. It should be planted only on moist, well protected sites.

Good Points—Scarlet or deep purple leaves give sweetgum a very striking autumn appearance. It has few insect or disease problems and has a pleasing form.

Bad Points—Sweetgum is rather difficult to transplant. It is on the extreme edge of hardiness in Nebraska, and is not recommended for widespread planting.

Area Adaptability





American Sycamore (*Platanus occidentalis*)

General Description—The sycamore, native to southeast Nebraska, attains the most massive proportions of any American hardwood. The large, leathery leaves turn brown in the fall. The fruit, commonly referred to as buttonballs, hangs throughout the winter on long slender stems and is about one inch in diameter.

Sycamores are pyramidal when young, but with age have a broadly oval to irregular shape. A medium length of life and a medium to fast rate of growth can be expected.

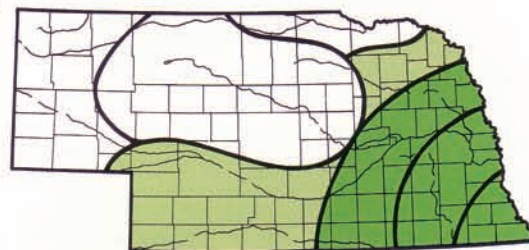
Good Points—The bark is attractive as it appears mottled with greens browns, and yellows outlined on a white background. It is a good choice when a large shade tree is needed.

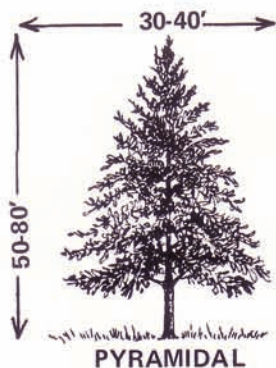
Bad Points—Anthracnose is a *serious* disease of this tree. It prevents proper leaf formation in the spring and may deform or kill the tree when in a weakened condition. Vigor suffers when planted in alkaline soils. It performs best when planted on moist, well protected sites.



Area Adaptability

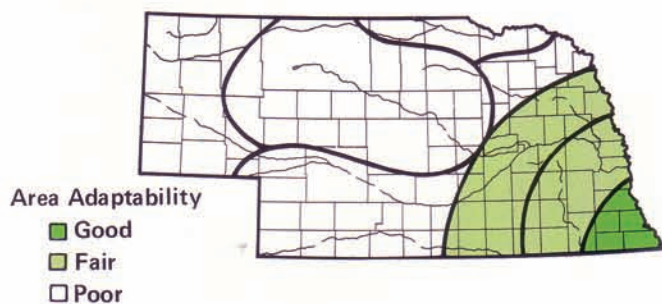
- Good
- Fair
- Poor





Tuliptree (*Liriodendron tulipifera*)

General Description—The tuliptree, often called yellow poplar because of its soft wood, belongs to the magnolia family. Its name, tuliptree, is derived from the tulip-like blossoms produced in the spring. This is a large, medium- to fast-growing, long-lived tree. It has a pyramidal shape which changes to oval in old age.



Good Points—The tuliptree is decorative due to its colorful yellow-orange blossoms and interestingly shaped leaves. It is resistant to damage from wind, snow and ice, and has no serious insect or disease problems.

Bad Points—The tuliptree is on the borderline of hardiness in Nebraska. It should be planted only on moist, well protected sites. The trunks of young trees are subject to sun scald and winter injury and should be wrapped for several years.

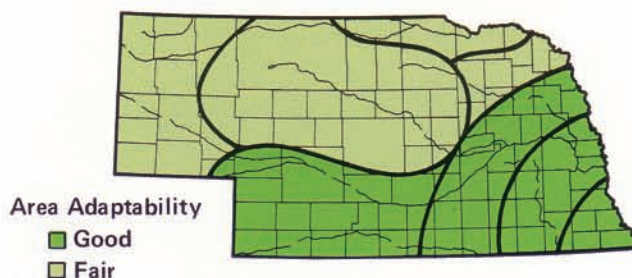
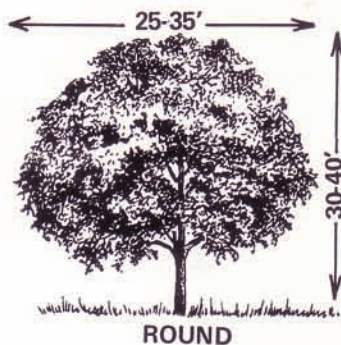


Tree-of-Heaven (*Ailanthus altissima*)

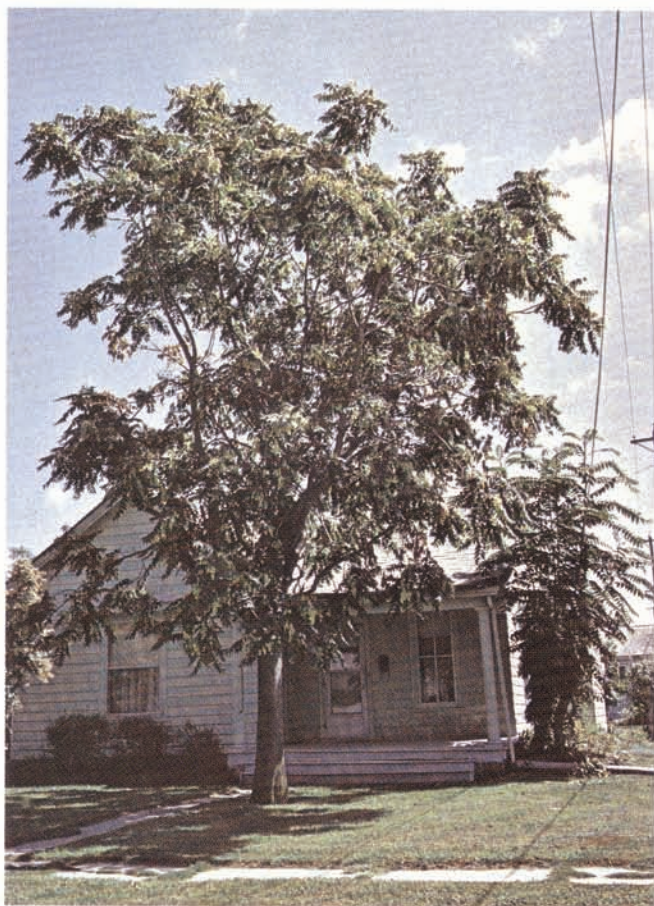
General Description—The Tree-of-Heaven was imported from China, via Europe, in 1784. It is a fast-growing, short-lived tree and has a round to irregular form. It has seldom been planted, but prolific natural regeneration has assured its rapid movement across the continent. Many consider it to be a weed tree as it will grow up through cracks in sidewalks, between cement blocks and about anywhere other trees will not grow.

Good Points—The Tree-of-Heaven can withstand air laden with pollutants, does well in the poorest of soils and, in general, thrives where nothing else grows. It suffers little from diseases and insects and its reddish or yellow seeds in the late summer add color to the landscape.

Bad Points—The wood of this tree is weak and frequently breaks in wind, snow and ice storms. The male flowers emit a vile odor, therefore plant only female trees. Probably the most objectionable



trait is its ability to produce seedlings in most any place under almost any condition. This tree is not recommended for planting in Nebraska.

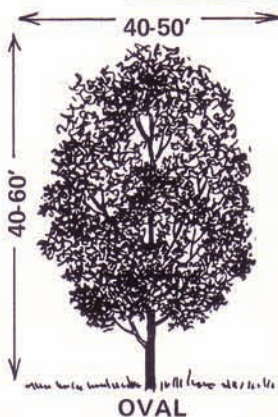
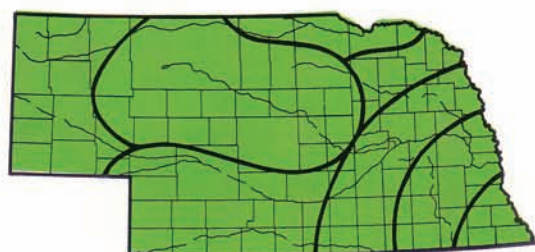


Black Walnut (*Juglans nigra*)

General Description—Black walnut, native to eastern Nebraska, does best when planted on rich, deep, moist soil. It is best known for its large edible nuts and brown, easily worked wood. Foliage casts light shade and leaves turn yellow-brown in the fall. A medium rate of growth, a long life span, and an oval to irregular shape are to be expected. Many varieties are available and have been selected on the basis of nut size or quality.

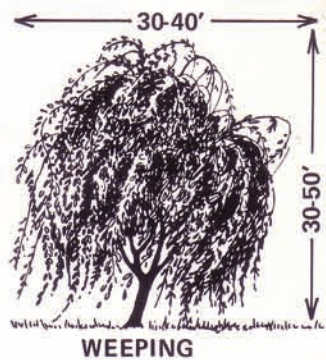
Good Points—This tree is sturdy and is not subject to wind, snow or ice damage. It is best suited for large lots or acreages where it can provide shade in addition to a nut crop.

Bad Points—Fruits stain sidewalks and driveways, and present a clean-up problem. A deep tap root makes this a hard tree to transplant. Roots give off a substance which is sometimes toxic to other plants growing in the immediate vicinity. The tent caterpillar and webworm can give the tree an unsightly appearance, but seldom do any permanent damage.



Weeping Willow (*Salix* sp.)

General Description—Golden, Niobe, Wisconsin, and Thurlow are all named selections of weeping willow hardy in Nebraska. All these selections have a very fast rate of growth, but are short lived. These trees are graceful, but should only be planted in moist situations. Babylon weeping willow is the best of the weeping willows, but it is not hardy in Nebraska.



Area Adaptability
■ Good

Good Points—Branches are distinctly hanging or pendulous and give the tree a graceful weeping appearance. Twigs remain yellow during the winter and add variety to the landscape.

Bad Points—Twigs and large limbs are subject to breakage during wind, snow or ice storms. Its roots seek out openings in drains or sewers and quickly clog them. Stem cankers, oystershell scale, leaf spots, bacterial blight, and leaf rust can cause problems.

Trees to Try

Not all tree species offering landscape possibilities have been discussed. The following supplemental lists offer other tree selection possibilities. The lists include little used native trees and trees having questionable, poor, or unknown performance in Nebraska.

Nut Trees

These trees are best noted for their edible nuts, but their use as landscape trees should not be overlooked.

- Butternut (*Juglans cinerea*)
- Chestnut, Chinese (*Castanea mollissima*)
- Hazel, American (*Corylus americana*)
- Hazel, European (*Corylus avellana*)
- Hazel, Turkish (*Corylus colurna*)
- Heartnut (*Juglans ailantifolia cordiformis*)
- Hickory, Bitternut (*Carya cordiformis*)
- Hickory, Mockernut (*Carya tomentosa*)
- Hickory, Shagbark (*Carya ovata*)
- Hickory, Shellbark (*Carya laciniosa*)
- Pecan (*Carya illinoensis*)
- Walnut, English (Carpathian) (*Juglans regia*)

Small Trees

- Ash, wafer (*Ptelea trifoliata*)
- Birch, Gray (*Betula populifolia*)
- Buckthorn (*Rhamnus sp.*)
- Dogwood, Flowering (*Cornus florida*)
- Euonymus (*Euonymus bungeanus*)
- Hornbeam, American (*Carpinus caroliniana*)
- Hornbeam, European (*Carpinus betulus*)
- Ironwood (*Ostrya virginiana*)
- Maple, Japanese (*Acer japonicum*)
- Mimosa (*Albizia julibrissin*)
- Mulberry, Russian (*Morus alba tatarica*)
- Osage Orange (*Maclura pomifera*)
- Pawpaw (*Asimina triloba*)
- Sassafras (*Sassafras albidum*)
- Serviceberry (*Amelanchier sp.*)
- Smoketree (*Cotinus coggygria*)

Medium to Large Trees

- Ash, Black (*Fraxinus nigra*)
- Ash, European (*Fraxinus excelsior*)
- Ash, Manchurian (*Fraxinus mandshurica*)
- Alder, European (*Alnus glutinosa*)
- Aspen, Bigtooth (*Populus grandidentata*)
- Aspen, Quaking (*Populus tremuloides*)
- Beech, European (*Fagus sylvatica*)
- Birch, Manchurian (*Betula platyphylla*)
- Birch, Sweet (*Betula lenta*)
- Birch, Yellow (*Betula alleghaniensis*)
- Boxelder (*Acer negundo*)
- Cherry, Black (*Prunus serotina*)
- Cucumbertree (*Magnolia acuminata*)
- Elm, Red (*Ulmus rubra*)
- Elm, English (*Ulmus procera*)
- Elm, Rock (*Ulmus thomasi*)
- Elm, Smooth-leaved (*Ulmus carpinifolia*)
- Horse-chestnut, Red (*Aesculus carnea*)
- Katsura Tree (*Cercidiphyllum japonicum*)
- Maple, Black (*Acer nigrum*)
- Mulberry, Red (*Morus rubra*)
- Oak, Blackjack (*Quercus marilandica*)
- Oak, Post (*Quercus stellata*)
- Persimmon (*Diospyros virginiana*)
- Planetree, London (*Platanus acerifolia*)
- Poplar, Balsam (*Populus balsamifera*)
- Yellowwood (*Cladrastis lutea*)





Extension work in "Agriculture, Home Economics and subjects relating thereto," The Cooperative Extension Service, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, Cooperating with the Counties and the U.S. Department of Agriculture
Leo E. Lucas, Director

Plant Trees for TOMORROW

