Conservation Trees for Nebraska

Nebraska's Natural Resources Districts

www.nrdnet.org

Protecting Lives • Protecting Property • Protecting the Future


Conservation Trees
for Nebraska
www.nrdtrees.org

Contents

Shrubs

visit the Conservation Trees for Nebraska website at
www.nrdtrees.org

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Photo Credits

Photos in this booklet courtesy of the Little Blue NRD, Lower Loup NRD, Lower Platte South NRD, Lower Platte North NRD, Middle Republican NRD, Nemaha NRD, South Platte NRD, Upper Big Blue NRD, Nebraska Forest Service, ReTree Nebraska, and the Nebraska Statewide Arboretum. Original photos from "Nebraska Conservation Tree Program," EC 97-1760.

Conservation Trees for Nebraska

Conservation Trees benefit both people and animals. They shade and shelter homes, reduce soil erosion, protect crops and livestock, provide food and cover for wildlife, buffer noise, provide valuable products and add beauty to our landscape.

Nebraska has a proud history of planting trees. Since settlement, millions of trees have been planted in Nebraska. Arbor Day, an international holiday, was started in Nebraska.

This tree planting tradition continues today. Each year, Nebraska's Natural Resources Districts (NRDs) help landowners plant more than a million trees in the state.

NRD Tree Programs

All NRDs administer tree planting programs to provide trees and shrubs for windbreaks, erosion control, wildlife habitat, and other conservation purposes.

Each NRD program varies, but possible tree program services include: planting; weed barrier installation or weed control; and drip irrigation.

Weed Barrier & Weed Control

Many NRDs offer weed barrier for tree plantings. The barrier can make tree planting projects nearly maintenance-free by preventing grass and weed growth, and it also helps retain moisture for the seedlings. The weed barrier material is a black polypropylene fabric with the appearance of tightly woven burlap. Installation can be done either by the NRD or by landowners themselves. The barrier is generally available in 6-foot-wide rolls in 300- or 500- foot lengths. Partial rolls may also be purchased. Check with your local NRD for current pricing and availability.

While the use of weed barrier greatly reduces the need for mechanical or chemical weed control, some NRDs provide those services where weed barrier is not used. Contact your NRD for additional information on these weed control options.

Drip Irrigation

Some NRDs sell drip irrigation systems for newly planted trees. The systems improve tree survival rate by providing water to the seedlings in Nebraska's notoriously hot, dry summers. The systems allow for more efficient watering of seedlings by dripping the water where and when plants need it. There is little or no evaporation and virtually no runoff.

Drip irrigation systems are made up of hose or tubing, filters, pressure regulators, couplers, and emitters. A well-planned drip system can have a tremendous impact on the young trees' survival and growth.

Drip irrigation systems are eligible for cost share assistance through several state and federal programs. Check with your NRD for availability and pricing.

Tree Species

Nebraska's NRDs offer a variety of trees and shrubs for conservation purposes. This booklet describes common trees and shrubs sold by NRDs. Each NRD administers its own tree program, so available species may differ from district to district. Check with your local NRD for the species they offer.

Accompanying each species description is an information box, which indicates the vegetative zones the tree is best suited for, the average height of the tree at 20 years and maturity, and the suggested row spacing for planting. You can also refer to the quick guide on pages 9-10 to compare species.

Soil characteristics are an important consideration when deciding what type of tree or shrub to plant. While helping to determine which trees are best for your site, your NRD or NRCS technician will refer to NRCS "Soil Suitability Groups" for conservation trees and shrubs. By following the soil suitability recommendation, technicians can help you pick trees that should thrive in your particular soil conditions.

To Order

To order seedlings, contact your local NRD (see map and contact information on the following pages). Their forestry staff can help you with a planting plan and offer suggestions on which species would be best suited for your needs. To ensure receiving the trees you want, place your order early. Many districts begin selling trees in late fall for planting the next spring. Seedlings are generally distributed in late March/early April.

About Nebraska's NRDs

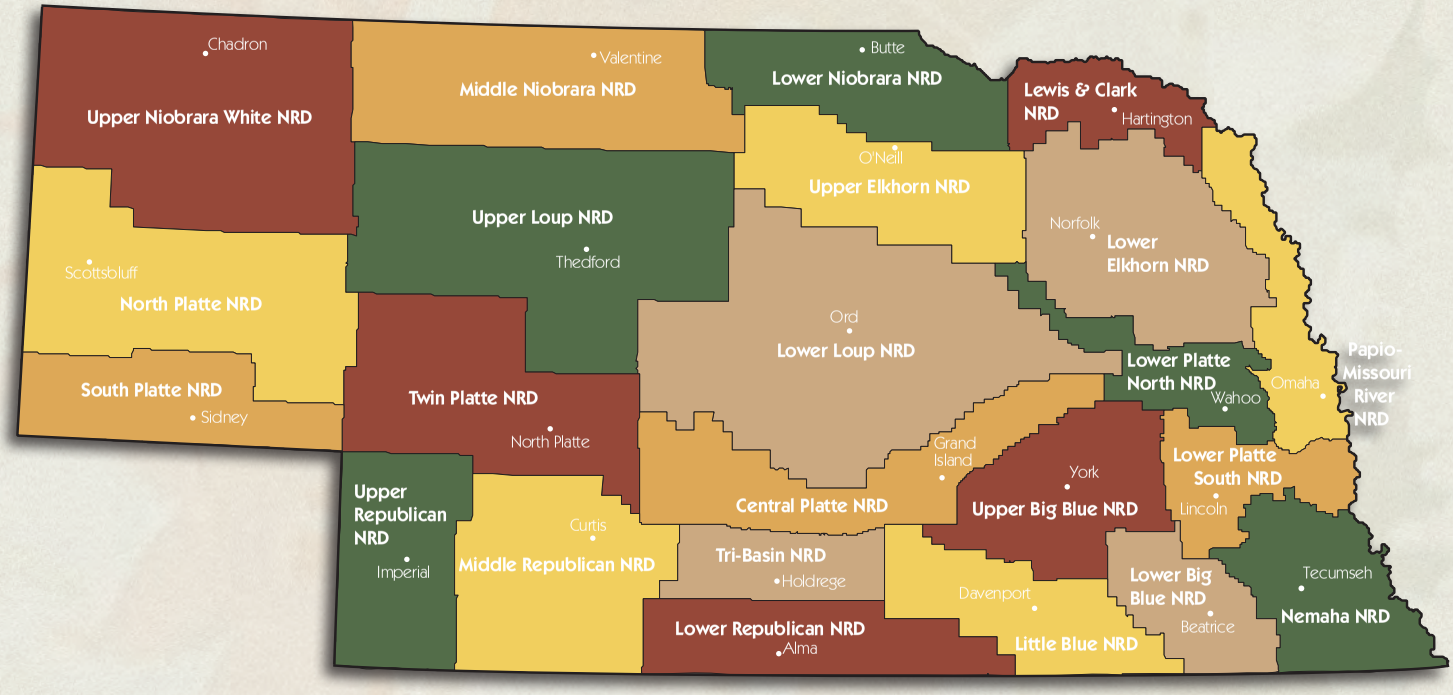
For more than 30 years, Nebraskans have benefited from a strong, locally-accountable system of natural resources management that protects the lives, property and the future of Nebraska's natural resources.

Nebraska's NRDs, created in 1972, are unique in the nation. The NRD concept is based on watershed basins instead of artificial political boundaries such as county lines. They are equipped to deal with a broad range of natural resources issues. The result has been a wide variety of innovative projects and programs, uniquely tailored for the areas they serve.

The Nebraska Association of Resources Districts (NARD) provides administrative services, legislative representation, and statewide communication and coordination to the 23 independent districts. For more information about Nebraska's unique NRD system, contact NARD at (402) 471-7670 or visit www.nrdnet.org.

Nebraska's Natural Resources Districts
www.nrdnet.org
Protecting Lives • Protecting Property • Protecting the Future

NEBRASKA'S NATURAL RESOURCES DISTRICTS



NEBRASKA'S NATURAL RESOURCES DISTRICTS

Central Platte NRD
215 Kaufman Avenue
Grand Island, NE 68803
(308) 385-6282
www.cpnrd.org

Lewis & Clark NRD
608 N. Robinson
PO Box 518
Hartington, NE 68739-0518
(402) 254-6758
www.lcnrd.org

Little Blue NRD
100 East 6th
PO Box 100
Davenport, NE 68335
(402) 364-2145
www.littlebluenrd.org

Lower Big Blue NRD
805 Dorsey Street
PO Box 826
Beatrice, NE 68310
(402) 228-3402
www.lbbnrd.org

Lower Elkhorn NRD
601 E. Benjamin, Ste. 101
PO Box 1204
Norfolk, NE 68702-1204
(402) 371-7313
www.lenrd.org

Lower Loup NRD
2620 Airport Drive
PO Box 210
Ord, NE 68862-0210
(308) 728-3221
www.llnrd.org

Lower Niobrara NRD
410 Walnut Street
PO Box 350
Butte, NE 68722
(402) 775-2343
www.lnnrd.org

Lower Platte North NRD
511 Commercial Park Road
PO Box 126
Wahoo, NE 68066-0126
(402) 443-4675
www.lpnnrd.org

Lower Platte South NRD
3125 Portia Street
PO Box 83581
Lincoln, NE 68501-3581
(402) 476-2729
www.lpsnrd.org

Lower Republican NRD
30 North John Street
PO Box 618
Alma, NE 68920
(308) 928-2182
www.lrnrd.org

Middle Niobrara NRD
526 E. 1st Street
Valentine, NE 69201
(402) 376-3241
www.mnnrd.org

Middle Republican NRD
220 Center Avenue
PO Box 81
Curtis, NE 69025
(308) 367-4281
www.mrnrd.org

Nemaha NRD
62161 Highway 136
Tecumseh, NE 68450
(402) 335-3325
www.nemahanrd.org

North Platte NRD
100547 Airport Road
PO Box 280
Scottsbluff, NE 69363
(308) 436-7111
www.npnrd.org

Papio-Missouri River NRD
8901 So. 154th Street
Omaha, NE 68138
(402) 444-6222
www.papionrd.org

South Platte NRD
551 Parkland Drive
PO Box 294
Sidney, NE 69162-0294
(308) 254-2377
www.spnrd.org

Tri-Basin NRD
1723 N. Burlington
Holdrege, NE 68949
(308) 995-6688
www.tribasinnrd.org

Twin Platte NRD
111 So. Dewey St.
Great Western Bank, 2nd Floor
PO Box 1347
North Platte, NE 69103-1347
(308) 535-8080
www.tpnrd.org

Upper Big Blue NRD
105 N. Lincoln Ave.
York, NE 68467
(402) 362-6601
www.upperbigblue.org

Upper Elkhorn NRD
301 No. Harrison St.
O'Neill, NE 68763
(402) 336-3867
www.uenrd.org

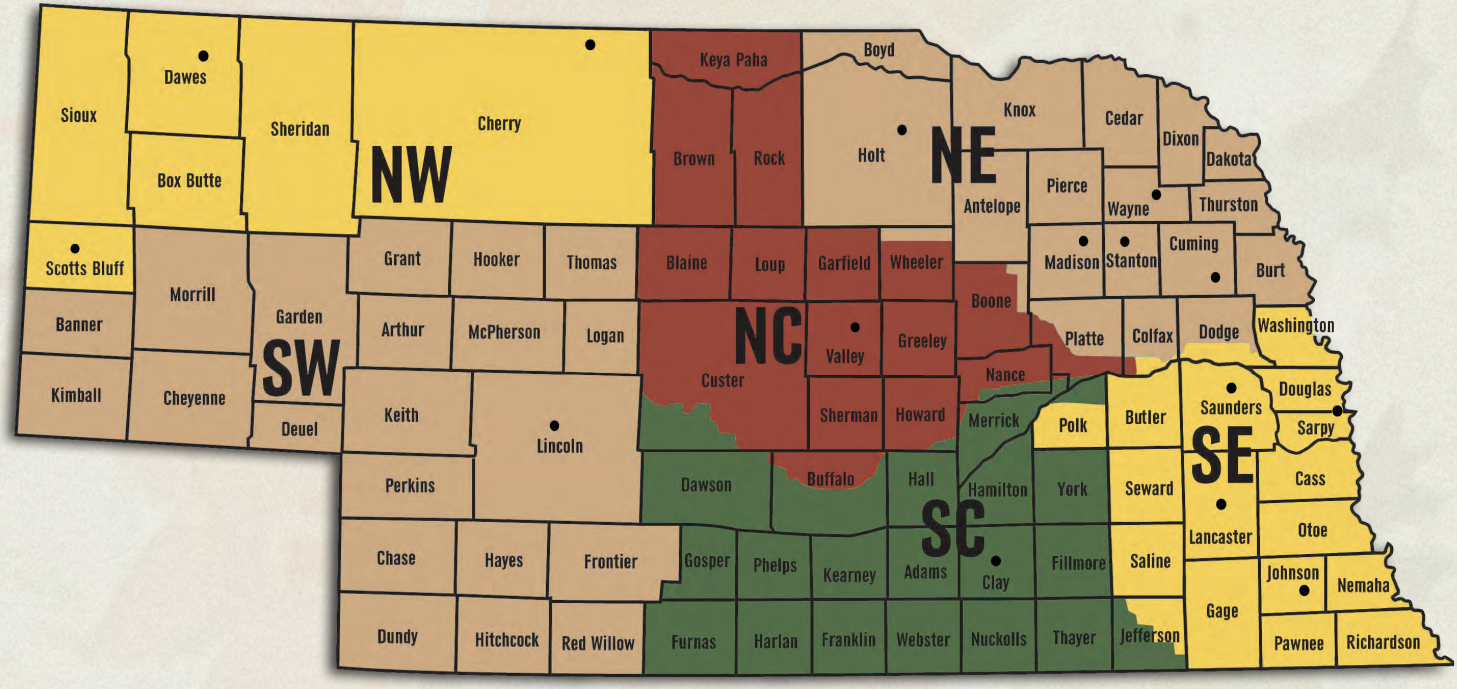
Upper Loup NRD
39252 E. Highway 2
Thedford, NE 69166
(308) 645-2250
www.upperloupnrd.org

Upper Niobrara White NRD
430 E. 2nd Street
Chadron, NE 69337
(308) 432-6190
www.unwnrd.org

Upper Republican NRD
511 East 5th
PO Box 1140
Imperial, NE 69033
(308) 882-5173
www.urnrd.org

Nebraska Association of Resources Districts
601 S. 12th St., Suite 201
Lincoln, NE 68508
(402) 471-7670
www.nrdnet.org

NEBRASKA FOREST SERVICE DISTRICTS



About the Nebraska Forest Service

The mission of the Nebraska Forest Service (NFS) is: "improving people's lives by protecting, utilizing, and enhancing Nebraska's tree and forest resources."

The NFS strongly supports the Conservation Trees for Nebraska programs administered by the Natural Resources Districts (NRDs). NFS foresters are stationed all across the state to provide forestry technical assistance to help landowners plant and/or manage their tree resources.

NEBRASKA FOREST SERVICE STATEWIDE OFFICES

Lincoln-Main Office
103 Entomology Hall P.O. Box 830815
Lincoln, NE 68583
(402) 472-2944 www.nfs.unl.edu
trees@unl.edu

Steve Karloff, Southeast District Forester
(402) 472-3645 skarloff1@unl.edu

Rich Lodes, Lower Platte South NRD Forester
(402) 472-3646 rlodes1@unl.edu

Dennis Adams, Rural Forestry Program Leader
(402) 472-5822 dadams2@unl.edu

Eric Berg, Community Forestry & Sustainable Landscapes Program Leader
(402) 472-6511 eberg2@unl.edu

Mark Harrell, Forest Health Program Leader
(402) 472-6635 mharrell2@unl.edu

Don Westover, Wildland Fire Program Leader
(402) 472-6629 dwestover1@unl.edu

Chadron
Doak Nickerson, Northwest District Forester
(308) 432-6190 hnickerson1@unl.edu

John Overstreet, Western Fire Specialist
(308) 432-3179 joverstreet1@unl.edu

Clay Center
Scott DeWald, South Central District Forester
(402) 762-4412 sdewald1@unl.edu

O'Neill
Jason Severe, Conservation Forestry Specialist
(402) 336-3798, Ext. 128
jason.severe@ne.usda.gov

Mead
NFS Fire Shop (402) 624-8061

Ord
Rich Woollen, North Central District Forester
(308) 728-3221 rwoollen1@unl.edu

Norfolk
Steve Rasmussen, Northeast District Forester
(402) 370-4024 srasmussen2@unl.edu

North Platte
Rachel Allison, Southwest District Forester
(308) 696-6718 rallison1@unl.edu

Scottsbluff
Georgette Jordening, Conservation Forestry Specialist
(308) 632-2195
georgette.jordening@ne.usda.gov

Stanton
Pam Bergstrom, Conservation Forestry Specialist
(402) 439-2213, Ext. 119
Pamela.Bergstrom@ne.usda.gov

Tecumseh
Jay Seaton, Conservation Forestry Specialist
(402) 335-3337 Ext. 121
jay.seaton@ne.usda.gov

Valentine
Jessica (Jess) Yahnke, Forest Fuel Management Specialist
(402) 376-3241 jyahnke2@unl.edu

West Point
Bob Vogltance, Fire Resource Manager, Prevention
(402) 372-5665 bevogltance3@cableone.net

● Native to zone
▼ Non-native to zone
● Not recommeneded for zone

conifers

	pg #	VEGETATIVE ZONES I	II	III	IV	AVERAGE HEIGHT (ft) 20 YRS	FULL GROWN	SUGGESTED SPACING (ft) WITHIN ROWS	BTWN ROWS
Austrian Pine *Pinus nigra*	11	▼	▼	▼	▼	18-30'	35-55'	16-20'	12-24'
Black Hills Spruce *Picea glauca var. densata*	12	▼	▼	▼	▼	15-30'	25-45'	16-20'	12-24'
Colorado Blue Spruce *Picea pungens*	13	▼	▼	▼	▼	18-25'	30-45'	16-20'	12-24'
Concolor Fir *Abies concolor*	14	●	▼	▼	▼	20-30'	30-50'	16-20'	12-24'
Eastern Redcedar *Juniperus virginiana*	15	●	●	●	●	12-26'	25-35'	12-16'	12-24'
Eastern White Pine *Pinus strobus L.*	16	●	▼	▼	▼	25-35'	35-60'	16-20'	12-24'
Jack Pine *Pinus banksiana*	17	▼	▼	▼	▼	18-30'	35-45'	16-20'	12-24'
Norway Spruce *Picea abies*	18	●	▼	▼	▼	25-35'	30-60'	16-20'	12-24'
Ponderosa Pine *Pinus ponderosa*	19	●	●	●	▼	18-30'	35-55'	16-20'	12-24'
Rocky Mountain Juniper *Juniperus scopulorum*	20	●	●	●	●	10-20'	15-25'	12-16'	12-24'
Southwestern White Pine *Pinus strobiformis*	21	▼	▼	●	●	15-30'	30-55'	16-20'	12-24'

deciduous

Black Cherry *Prunus serotina*	22	●	●	▼	●	18-20'	35-40'	16-22'	16-24'
Black Walnut *Juglans nigra*	23	▼	▼	●	●	20-26'	40-50'	16-22'	16-24'
Bur Oak *Quercus macrocarpa*	24	●	●	●	●	20-26'	35-45'	16-22'	16-24'
Cottonwood *Populus deltoides*	25	●	●	●	●	45-55'	65-85'	16-22'	20-30'
Hackberry *Celtis occidentalis*	26	●	●	●	●	22-28'	45-55'	16-20'	16-24'
Harbin Pear *Pyrus ussuriensis*	27	●	●	▼	▼	15-25'	15-25'	8-12'	12-18'
Honeylocust *Gleditsia triacanthos*	28	▼	▼	●	●	24-32'	35-45'	16-20'	16-24'
Kentucky Coffeetree *Gymnocladus dioicus*	29	●	▼	●	●	25-30'	30-70'	16-20'	16-24'
Manchurian Apricot *Prunus mandshurica*	30	●	●	▼	▼	12-16'	12-16'	8-12'	12-18'
Midwest Crabapple *Malus baccata var. Mandshurica*	31	●	▼	▼	▼	12-16'	12-16'	8-12'	12-16'
Northern Catalpa *Catalpa speciosa*	32	●	▼	▼	●	25-30'	25-50'	16-20'	16-24'
Northern Red Oak *Quercus rubra*	33	●	▼	▼	●	20-26'	40-50'	16-22'	16-24'
Pecan *Carya illinoinensis*	34	●	●	▼	▼	25-30'	60-80'	16-22'	16-24'
Siberian Elm *Ulmus pumila*	35	▼	●	●	●	24-40'	26-42'	16-20'	20-30'
Silver Maple *Acer saccharinum*	36	▼	▼	●	●	30-34'	40-50'	16-22'	20-30'
Swamp White Oak *Quercus bicolor*	37	●	▼	▼	▼	16-26'	30-45'	16-22'	16-24'
Washington Hawthorn *Crataegus phaenopyrum*	38	▼	▼	▼	▼	12-16'	12-16'	8-12'	12-18'

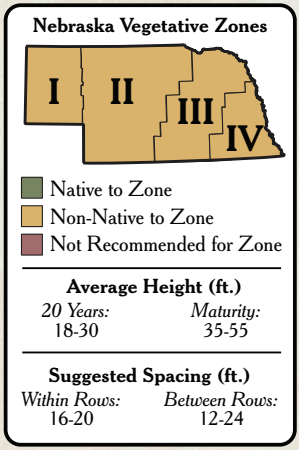
shrubs

	pg #	VEGETATIVE ZONES I	II	III	IV	AVERAGE HEIGHT (ft) 20 YRS	FULL GROWN	SUGGESTED SPACING (ft) WITHIN ROWS	BTWN ROWS
American Hazelnut Corylus americana	39	●	●	●	●	6-8'	6-8'	6-10'	12-16'
American Plum Prunus americana	40	●	●	●	●	5-8'	5-8'	6-10'	12-16'
Amur Maple Acer ginnala	41	▼	▼	▼	▼	16-20'	16-20'	8-12'	12-18'
Caragana Caragana arborescens	42	▼	▼	▼	▼	8-10'	8-10'	6-10'	12-16'
Black Chokeberry Aronia melanocarpa	43	●	▼	▼	▼	4-8'	4-8'	6-10'	12-16'
Chokecherry Prunus virginiana	44	●	●	●	●	6-12'	6-12'	6-10'	12-18'
Common Lilac Syringa vulgaris	45	▼	▼	▼	▼	5-8'	5-8'	6-10'	12-18'
Elderberry Sambucus canadensis	46	●	▼	●	●	4-6'	4-6'	6-10'	12-16'
False Indigo Amorpha fruticosa	47	●	●	●	●	4-10'	4-10'	6-10'	12-16'
Golden Currant Ribes aureum	48	▼	▼	▼	▼	4-6'	4-6'	6-10'	12-16'
Nanking Cherry Prunus tomentosa	49	●	▼	▼	▼	4-7'	4-7'	6-10'	12-16'
Peking Cotoneaster Cotoneaster acutifolia	50	▼	▼	▼	▼	5-8'	5-8'	6-10'	12-16'
Redosier Dogwood Cornus sericea	51	●	●	●	●	5-10'	5-10'	6-10'	12-16'
Sandcherry Prunus besseyi	52	●	●	●	●	2-4'	2-4'	6-10'	12-16'
Serviceberry Amelanchier alnifolia	53	●	●	●	▼	5-10'	5-10'	6-10'	12-16'
Skunkbush Sumac Rhus trilobata	54	●	●	●	●	4-6'	4-6'	6-10'	12-16'
Silver Buffaloberry Shepherdia argentea	55	●	●	●	●	10-12'	10-12'	6-10'	12-16'
Winterberry Euonymus Euonymus bungeanus	56	▼	▼	▼	▼	8-14'	8-14'	6-10'	12-16'

Austrian Pine (Pinus nigra)

Austrian pine has pairs of needles 4 to 6 inches long. The needles are generally stiff, with the ends being very sharp to the touch. Originally introduced from Europe as an ornamental, it has considerable value in windbreaks and as Christmas trees. Austrian pine is best used in east or south inside rows of windbreaks.

Austrian pine is susceptible to Sphaeropsis (Diplodia) blight and Dothistroma needle blight and moderately susceptible to Zimmerman pine moths. Sphaeropsis blight and Zimmerman pine moths can seriously deform or kill trees if not controlled. Dothistroma needle blight can cause substantial defoliation in wet years or when trees are closely spaced if not controlled. Pine tip moths are occasionally a problem.

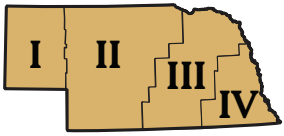


Black Hills Spruce (Picea glauca var. densata)

Black Hills spruce is named for the area of South Dakota from which it originates and is a variety of the white spruce. It is a very dense, symmetrical, slow grower with green needles and is used for landscape, windbreak and Christmas tree purposes.

This spruce is slower growing than Colorado blue spruce with shorter needles and is more drought tolerant. Black Hills spruce is very resistant to winter injury and has fewer insect and disease problems than Colorado blue spruce.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
15-30	25-45

Suggested Spacing (ft.)

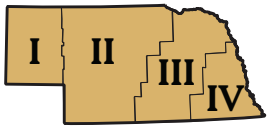
Within Rows:	*Between Rows:*
16-20	12-24

Colorado Blue Spruce (Picea pungens)

Colorado blue spruce is native to the Rocky Mountain region. The color ranges from dark green to silvery blue green. Blue spruce will form a very dense windbreak when planted close together, but they only have a medium growth rate. Colorado blue spruce is best used as the inside row of farmstead windbreaks. Survival is best if the seedlings are protected from drying winds by placing wooden shingles on the south and west sides. The tree cannot withstand long-term drought.

Spider mites can be a problem. Rhizosphaera needle cast can be a problem under persistent wet conditions.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
18-26	30-45

Suggested Spacing (ft.)

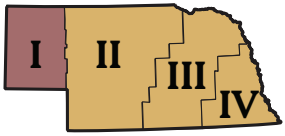
Within Rows:	*Between Rows:*
16-20	12-24

Concolor Fir (Abies concolor)

Concolor fir, also known as white fir, is native to the mountains of western North America. The tree grows in an almost perfect pyramidal Christmas tree shape when young (and is often grown commercially as a Christmas tree). At maturity the tree develops a dome-like crown. The short, flat, soft needles are silvery blue-green both above and below, although the undersides may have a whitish bloom.

Concolor fir is a fairly slow-growing, drought-resistant tree. It does best in deep, rich and well-drained soils. Avoid heavy clay and wet spots, such as near over-irrigated lawns. This fir may need some protection on very windy, exposed sites.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
20-30	30-50

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
16-20	12-24

Eastern Redcedar (Juniperus virginiana)

Eastern redcedar is native to Nebraska. It is highly adapted to a wide range of sites and has the highest survival rate of any conifer planted in Nebraska. Its deep roots and small leaf surface make it very drought resistant. The foliage turns a russet color in winter. It is the primary species in most windbreaks.

Two foliage diseases, Cercospora blight and Phomopsis blight, can cause substantial defoliation and kill redcedar if not controlled. Cercospora blight is common and widespread. A third foliage disease, Kabatina blight, can kill branch tips but is not a serious concern. Spider mites occasionally cause damage, and young trees may require protection.

Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
12-25	25-35

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
12-16	12-24

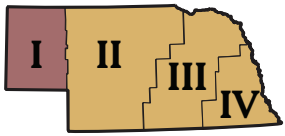
Eastern White Pine (Pinus strobus L.)

Eastern white pine grows on a variety of soils ranging from light, sandy to heavy textured soils. It has fair wildlife value. Gray and red squirrels, deer, mice and 16 species of songbirds have been known to eat the seed. White pine is frequently used for windbreaks and screens along fields and right-of-ways.

In dense stands, trees produce tall, cylindrical stems with pyramidal shaped crowns, characterized by distinctive, plate like branching, especially noticeable as the trees become older. Its evergreen needles are in clusters of 5, soft, flexible, 2 1/2 to 5 inches long, and bluish-green in appearance. Its cones are about 4 to 8 inches long and 1 inch thick.

Diseases, including white pine blister rust, red ring rot, root rot, wood decay, and certain needle fungi, can cause losses in white pine stands. Such natural elements as snow, ice, and wind may also cause damage to white pine.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
25-35	35-60

Suggested Spacing (ft.)

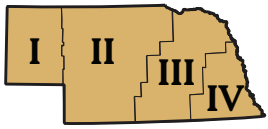
Within Rows:	*Between Rows:*
16-20	12-24

Jack Pine (Pinus banksiana)

Jack pine is native to Canada and the Great Lake States. Needles are in pairs 1 to 2 inches long and are usually twisted. Cones are 1 to 1 1/2 inches long and persistent for many years. It is drought resistant and can be planted on a wide variety of sites, but is not recommended for limestone soils. It is best used on inside rows of windbreaks in central and western Nebraska, or as outside rows in eastern Nebraska. The jack pine's general pyramidal form and persistent branches makes it a good substitute for eastern redcedar.

Jack pine has no serious diseases, but pine tip moths can be a problem.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
18-30	35-45

Suggested Spacing (ft.)

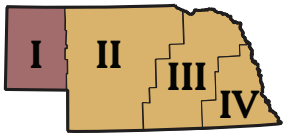
Within Rows:	*Between Rows:*
16-20	12-24

Norway Spruce (Picea abies)

Norway spruce has been planted for windbreaks and shelterbelts in western prairies, although it grows better in more humid environments. It is recommended for shelterbelt plantings in humid, severe-winter regions. Norway spruce grows best in cool, humid climates on rich soils. Preferred soils include well-drained sandy loams. It also grows well on almost all other types of soils.

Norway spruce provides important winter cover for a number of species of wildlife. Grouse eat spruce leaves and the seeds are consumed by a number of birds and small mammals.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
25-35	30-60

Suggested Spacing (ft.)

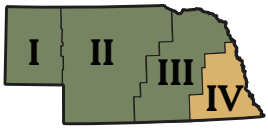
Within Rows:	*Between Rows:*
16-20	12-24

Ponderosa Pine (Pinus ponderosa)

Ponderosa pine is native to northwest and northcentral Nebraska. Needles are grouped in threes, and sometimes pairs, 5 to 10 inches long. Cones are 3 to 6 inches long and each scale is armed with a sharp recurved spine. It can withstand prolonged drought and is the best pine to use on severe sites. It is best used in east and south inside rows of windbreaks.

Zimmerman pine moths and Sphaeropsis (Diplodia) blight can be serious problems and can kill or deform trees if not controlled. Pine tip moths can stunt growth by killing branch tips and Dothistroma needle blight can occasionally cause defoliation if not controlled.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
18-30	35-55

Suggested Spacing (ft.)

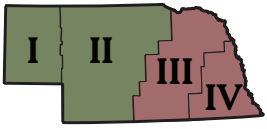
Within Rows:	*Between Rows:*
16-20	12-24

Rocky Mountain Juniper (Juniperus scopulorum)

Rocky Mountain juniper is native to northwest Nebraska. It is similar in appearance to eastern redcedar with a more compact pyramidal shape. It's drought resistant, prefers slightly alkaline soils, and retains a bluish-green color throughout winter. It is best used on the north and west outside rows in windbreaks.

Rocky Mountain juniper is subject to the same insect and disease problems as eastern redcedar. Rocky Mountain juniper is more susceptible than eastern redcedar to Cercospora blight, which is very common in eastern Nebraska. Rocky Mountain juniper is not recommended for planting in the eastern half of Nebraska.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
10-20	15-25

Suggested Spacing (ft.)

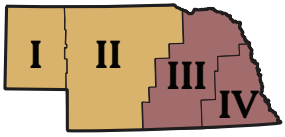
Within Rows:	*Between Rows:*
12-16	12-24

Southwestern White Pine (Pinus strobiformis)

Southwestern white pine grows in Arizona, New Mexico and southwest Colorado. It is not native to Nebraska. Needles are in groups of 5, soft, dark to bluish green, 2 to 4 inches long, and tips are often finely toothed. Bark is thin, rough, and furrowed.

Young trees tend to be rather dense and symmetrical and pyramidal in shape. Its mature form tends to be open and irregular. It is more heat and drought tolerant than eastern white pine. White pine blister rust is a problem in southwestern white pine's native range.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
15-30	30-55

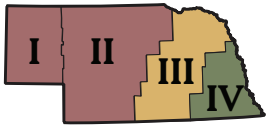
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
16-20	12-24

Black Cherry (Prunus serotina)

Black cherry, also called rum cherry, is a native species valuable for its rich, reddish-brown wood. It grows best on deep moist, fertile soils in eastern Nebraska. The wood is used in fine furniture and the cherries are used in jellies and wine. The cherries are excellent bird food during mid-summer. Black cherry does not grow naturally in pure stands. It should be planted either in wildlife habitat for a bushy large tree or with other species like walnut in a forest plantation.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
18-20	35-40

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
16-22	16-24

Black Walnut (Juglans nigra)

Black walnut is native to Nebraska's eastern and north central fertile bottomlands. It is highly prized for its rich, chocolate-brown wood and nut meats. Straight, limb-free trees are very valuable in the timber industry. Walnut trees have a medium growth rate and a long life span. Walnut requires a deep, silty-loam soil having good internal drainage for maximum growth. Walnut seedlings have been planted in the Sandhills for wildlife habitat and as a local source of nut meats.

Walnut caterpillars can defoliate trees in mid- to late summer, but this seldom does any permanent damage. Walnut is highly susceptible to broadleaf herbicide damage.

Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
20-26	40-50

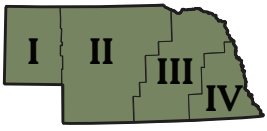
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
16-22	16-24

Bur Oak (Quercus macrocarpa)

Bur oak is native to Nebraska. It grows on a wide variety of sites, but grows best on rich, moist bottomlands. Bur oak has a slow to moderate growth rate and is fairly drought tolerant. It is an excellent species to include in wildlife habitat plantings. It is less susceptible to oak wilt than northern red oak and has no serious insect problems. Oaks may have to be protected from deer when young.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
20-26	35-45

Suggested Spacing (ft.)

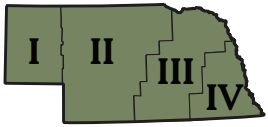
Within Rows:	*Between Rows:*
16-22	16-24

Cottonwood (Populus deltoides)

Cottonwood is the Nebraska state tree. It is native across the state and usually is found adjacent to rivers, streams, and around lakes. Cottonwood has a fast growth rate and provides most of the lumber processed in Nebraska today. It is planted in riparian areas for filter strips, and near streams to reduce sedimentation and stabilize stream banks. It also can be used in multiple row windbreaks for height and quick protection.

Native trees can become infested by leaf beetles, twig borers and stem canker, but these are rarely serious problems.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
45-55	65-85

Suggested Spacing (ft.)

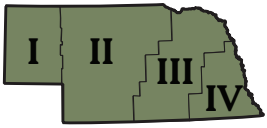
Within Rows:	*Between Rows:*
16-22	20-30

Hackberry (Celtis occidentalis)

Hackberry is a native tree found throughout Nebraska. It has a medium to long life span. Hackberry leaves are elm shaped; the grayish bark has a warty appearance. Once established, a moderate rate of growth and tolerance to adverse weather can be expected. Hackberry can be used in single row windbreaks to slow summer winds and increase the snow catch over fields during the winter.

Witches broom on branches and nipple-galls on lower leaf surfaces can be unsightly, but cause little adverse effect.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

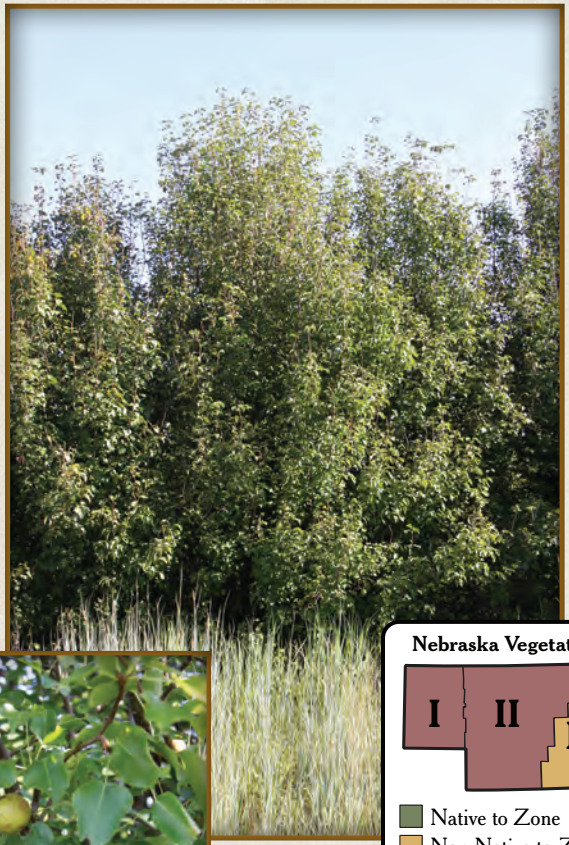
20 Years:	*Maturity:*
22-28	45-55

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
16-20	16-24

Harbin Pear (Pyrus ussuriensis)

Also known as Chinese pear, the harbin pear is the hardiest of all pears, introduced from northeastern Asia. The harbin pear is a small to medium tree for farmstead and field windbreaks and riparian plantings. It is used for food by a wide variety of birds and mammals and as a nesting site for songbirds. Grows 15 to 30 feet.



Nebraska Vegetative Zones

- Native to Zone
- Non-Native to Zone
- Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
15-25	15-25

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
8-12	12-18

Honeylocust (Gleditsia triacanthos)

Honeylocust is native to eastern Nebraska. This medium-lived, relatively fast growing tree lends itself well to windbreak plantings. The fine-textured foliage of the honeylocust gives partial shade and turns a golden yellow in the fall. Honeylocust is used in multi-row windbreaks to increase the effective height of the windbreak. The twisted flat seed pods are 6-10 inches long. Cattle often eat the seed pods because they have a sweet taste.

Mimosa webworm and other insects present minor problems. Canker diseases may cause occasional branch dieback but are usually not serious problems unless the trees are in a weakened condition. The "thornless" variety is distributed.

Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
24-32	35-45

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
16-20	16-24

Kentucky Coffeetree (Gymnocladus dioicus)

Kentucky coffeetree is a medium to large tree of the legume family reaching 50 to 75 feet in height on favorable sites. Grows naturally on moist, streamside soils but adapts well to varying soil types and conditions, moderately drought tolerant when established. Open crowned with sparse branching. Fruit is a large brown pod.

Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

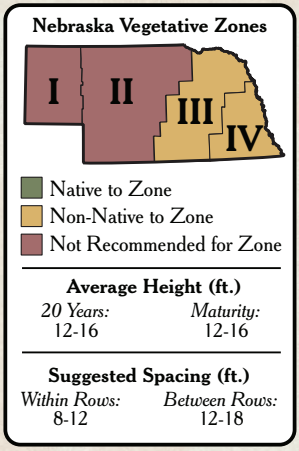
20 Years:	*Maturity:*
25-30	30-70

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
16-20	16-24

Manchurian Apricot (Prunus mandshurica)

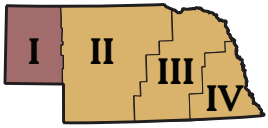
Manchurian apricot is a small tree 15 to 20 feet tall. It has a beautiful pinkish flower that blooms in the spring before the leaves emerge, and the leaves turn a nice yellow-orange color in the fall. The fruit provides food for wildlife during the fall but the tree seldom produces fruit in the west due to its early blooming habits. It can be used for one of the outer rows in multi-row windbreaks.



Midwest Crabapple (Malus baccata var. Mandshurica)

'Midwest' crabapple is a medium-sized tree growing to 20 feet. It will have a rounded crown when open and will maintain its branches close to the ground. It is extremely hardy and disease resistant. The small apples are only 1/4 to 1/2 inch in diameter. The persistent fruit makes excellent wildlife food throughout the fall and winter. The white blossoms are especially attractive during the spring. Crabapple is good for single row windbreaks where a shorter tree is needed, and between the central and outside rows of multi-row windbreaks. Avoid planting close to redcedar or juniper to reduce the potential for cedar-apple rust.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
12-16	12-16

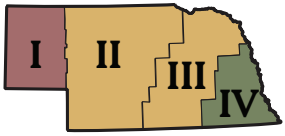
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
8-12	12-16

Northern Catalpa (Catalpa speciosa)

Northern catalpa trees are very fast growing trees with large heart-shaped leaves. Also known as Hardy Catalpa, Western Catalpa, Cigar Tree, and Catawba-Tree. The height at 20 years is about 20 feet. Catalpas prefer moist, deep, well drained soil, but adapts to dry or wet soils. The white flowers are on 4-8 inch long panicles in late June. Fruit is a long pod. Very tolerant of tough conditions.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
25-30	25-50

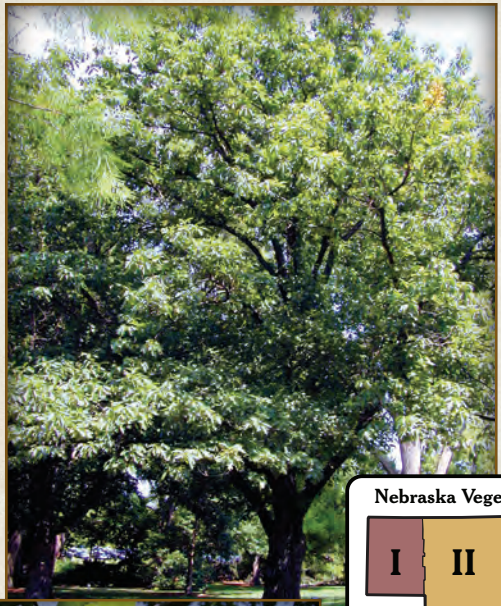
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
16-20	16-24

Northern Red Oak (Quercus rubra)

Northern red oak is a medium- to large-sized tree native to eastern Nebraska. It has a medium growth rate and oval shaped crown with bronze-red autumn color. This long-lived species is excellent for wildlife. It will provide food, shelter, and nesting for a wide variety of birds and animals. Northern red oak is not recommended for planting in the western half or extreme northern part of the state due to moisture and soil limitations.

Oak wilt, a vascular disease, is potentially a serious problem along the eastern edge of the state.



Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

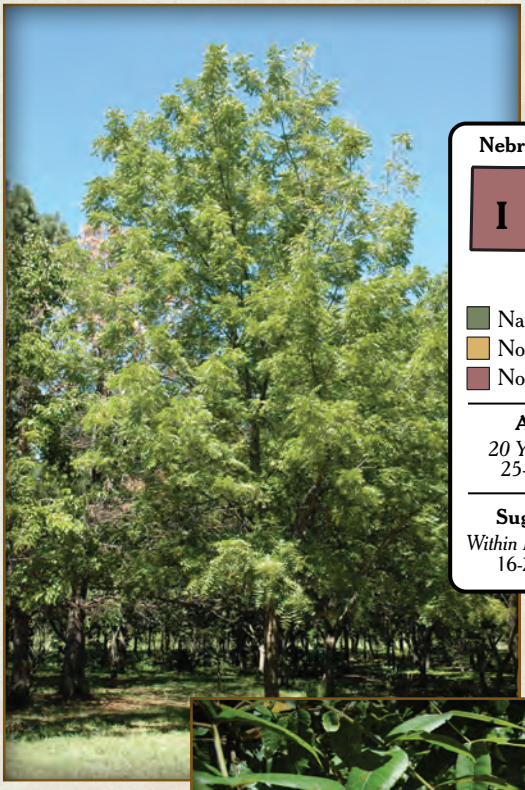
20 Years:	*Maturity:*
20-26	40-50

Suggested Spacing (ft.)

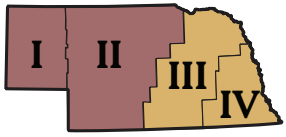
Within Rows:	*Between Rows:*
16-22	16-24

Pecan (Carya illinoinensis)

Pecan is a large tree, 60-80 feet, with a broad rounded crown. Pecans are truly multipurpose trees. In the landscape, these long-lived and sturdy trees provide ample shade and bright yellow fall color. Wildlife conservationists appreciate the food and cover pecan trees produce for squirrels, turkeys, and deer.



Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
25-30	60-80

Suggested Spacing (ft.)

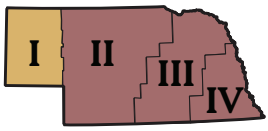
Within Rows:	*Between Rows:*
16-22	16-24

Siberian Elm (Ulmus pumila)

Siberian elm is sometimes called Chinese elm by mistake. It is adapted to almost all soil and moisture conditions in the state, but is usually short-lived. Siberian elm is resistant to Dutch elm disease. The wood is brittle and breaks in wind, snow and ice storms. Siberian elm should be planted only on severe sites where other species are likely to fail. Siberian elm can be invasive on pasture lands in the central and east because of its prolific seeding.

Pest problems for the Siberian elm are elm leaf beetles and wetwood (slimeflux).

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	Maturity:
24-40	26-42

Suggested Spacing (ft.)

Within Rows:	Between Rows:
16-20	20-30

Silver Maple (Acer saccharinum)

Silver maple is a fast growing, long-lived tree native to eastern Nebraska. The species is ideal for wet bottomland sites and can easily recover from extended periods of flooding. It performs well on uplands, but does not tolerate alkaline or calcareous soil or drought conditions. Silver maple can be used in riparian buffer plantings. The wood of the silver maple is brittle and can break in wind, snow or ice storms.

Possible problems are multiple main stems, scale insects, greenstriped maple worms, and maple bladder-gall mites.

Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

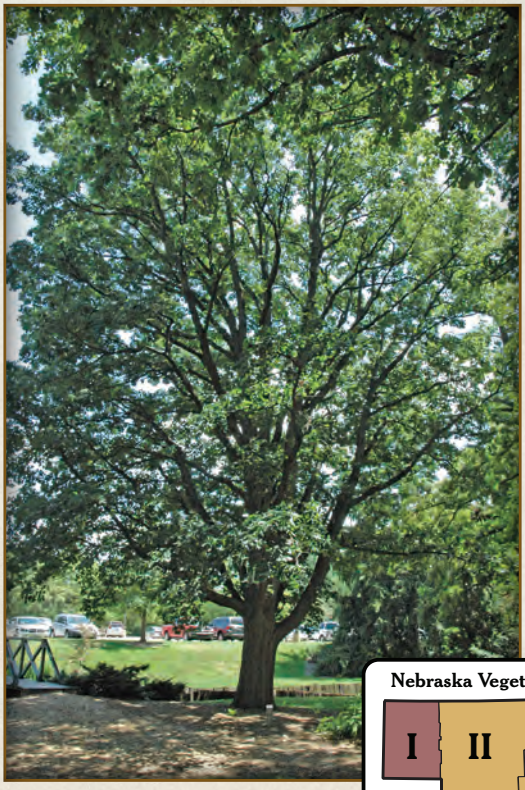
20 Years:	Maturity:
30-34	40-50

Suggested Spacing (ft.)

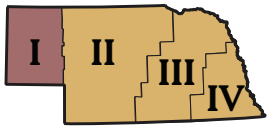
Within Rows:	*Between Rows:*
16-22	20-30

Swamp White Oak (Quercus bicolor)

Swamp white oak is native to the central and southern United States. It grows best on moist, bottomland forested soils. It is a large tree with specimens over 60 feet tall. The tree is valuable for wildlife habitat and for its wood. The wood is used in fine furniture, flooring, and wine casks.



Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
16-26	30-45

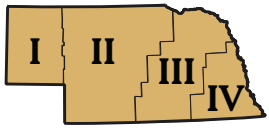
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
16-22	16-24

Washington Hawthorn (Crataegus phaenopyrum)

Washington hawthorn is a medium-sized tree growing to 25 to 30 feet on better sites. It has thin spikes 3 inches long on the younger branches. In the spring, the rounded crown is filled with snow-white clusters of flowers. The resulting fruit is about a 1/4 inch in diameter and turns a bright red in the fall. The persistent fruit is great food for songbirds in the fall and winter. Washington hawthorn can be used for wildlife habitat or between the central and outside rows of multi-row windbreaks. Avoid planting close to redcedar or juniper to reduce the potential for hawthorn rust.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
12-16	12-16

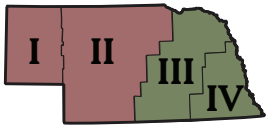
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
8-12	12-18

American Hazelnut (Corylus americana)

American hazelnut is native to eastern Nebraska. Best growth is obtained on moist, fertile loam soils and can grow to 15 feet, but 8 to 10 feet is more common. It is medium to fast growing, and starts producing nuts within 3 to 5 years. The nuts mature in late summer to early fall and are very tasty if you can collect them before the birds and animals.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
6-8	6-8

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16

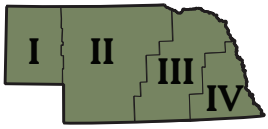
39

American Plum (Prunus americana)

American plum is native to Nebraska and is well adapted to a wide variety of soil and climatic conditions. It forms dense thickets ideal for the outside rows of windbreaks and for wildlife habitat. Birds use the thickets for nesting, feeding, and resting areas. The twigs are a preferred source of browse for deer and rabbits during the winter. White flowers bloom in May, with red to purple plums ripening during September. The earliest ripening fruit is usually the sweetest and makes the best jelly.

Brown spot, plum pocket and tent caterpillars can cause some problems.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
5-8	5-8

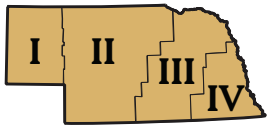
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16

Amur Maple (Acer ginnala)

Amur maple is an introduced medium- to large-sized shrub from northern Asia. It is somewhat drought tolerant but subject to chlorosis on heavy alkaline soils. The leaves turn scarlet to deep red during the fall. It is best used for wildlife habitat and as the outside row on the leeward side of windbreaks.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
16-20	16-20

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
8-12	12-18

Caragana (Caragana arborescens)

Caragana, also called Siberian peashrub, is a large upright shrub. It provides dense cover for wildlife and is ideal for the shrub row in a windbreak. In Canada, it is planted as single row windbreaks. Caragana is adaptable to conditions of extreme cold and wind. It tolerates a wide range of soil types, including alkaline and saline soils.

Grasshoppers can be a problem, but very rarely kill an established plant.

Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
8-10	8-10

Suggested Spacing (ft.)

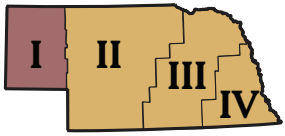
Within Rows:	*Between Rows:*
6-10	12-16

Black Chokeberry (Aronia melanocarpa)

A member of the Rose family, black chokeberry is a deciduous shrub which can grow to a height of 3 to 6 feet tall. Berries (also known as Aronia berries) can be canned whole or the juice extracted for jelly making, as well as healthful fruit drinks. Plants are browsed by white-tailed deer and rabbits. The fruit are eaten by ruffed grouse, sharp-tailed grouse and prairie chickens.

The best growth and fruit production occurs on low moist but well-drained sites, in full sun. It is not drought-tolerant.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
4-8	4-8

Suggested Spacing (ft.)

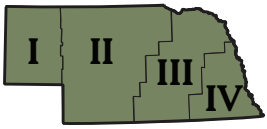
Within Rows:	*Between Rows:*
6-10	12-16

Chokecherry (Prunus virginiana)

Chokecherry is a medium/large-sized shrub that forms a dense thicket from root suckers. It is used for the outer row in multi-row windbreaks. Chokecherry is good wildlife habitat, providing food and cover for birds and small mammals. Showy white flowers bloom in April or May, and the cherries ripen during July. The cherries can be used for making jelly and wine.

Chokecherry should not be planted near other stone-fruit species because of western x-disease and black knot. Tent caterpillars are often a problem in the spring but rarely kill the plant.

Nebraska Vegetative Zones



- Native to Zone
- Non-Native to Zone
- Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
6-12	6-12

Suggested Spacing (ft.)

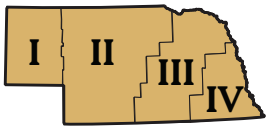
Within Rows:	*Between Rows:*
6-10	12-18

Common Lilac (Syringa vulgaris)

Common lilac is a suckering, upright medium-tall shrub that is best located in the outside row of windbreaks. Fragrant white to lavender flowers bloom during May. Lilac is rarely used in wildlife plantings since it does not form thickets and the seeds have little food value.

Powdery mildew and oystershell scale are common problems.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
5-8	5-8

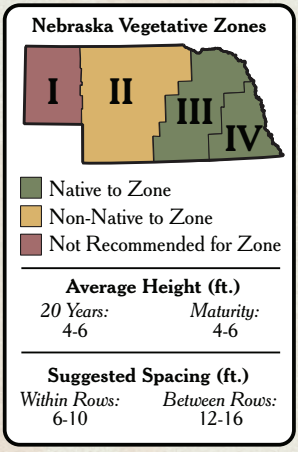
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-18

Elderberry (Sambucus canadensis)

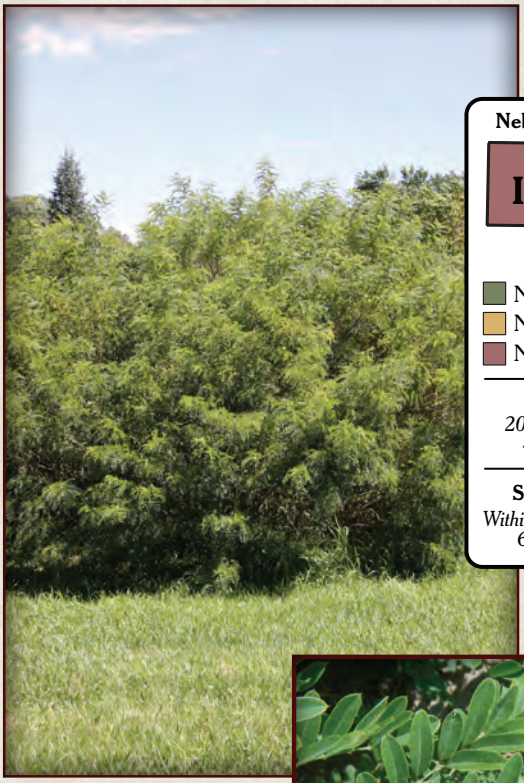
Elderberry is a medium-large, semi-wood species native to Nebraska. It is primarily used in wildlife plantings for summer food. The dark purple berries are formed on umbrella-like heads and ripen during mid- to late summer. The berries make excellent jelly and syrups.

Elderberry is susceptible to some winter dieback in the western part of the state.



False Indigo (Amorpha fruitcosa)

False indigo is a moderately fast growing shrub that is sometimes used for shoreline and riverbank stabilization. It can reach heights of 5-20', likes full sun or light shade and thrives in moist soils that are poorly drained. It also performs well on silt loams to dry sands. It prefers sandy soil and is a legume, so it can extract nitrogen from the air and enrich poor soil. False indigo is good for establishing wildlife food and cover on upland sites.



Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
4-10	4-10

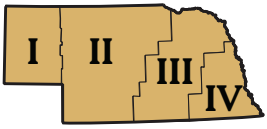
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16

Golden Currant (Ribes aureum)

Golden currant is a winter-hardy, drought-tolerant, small, native shrub. On the best sites, it will grow to 5 to 7 feet tall. It has very fragrant yellow flowers during May. The edible fruit is yellowish to purplish black when ripe. The fruit can be eaten directly from the bush or made into jelly. Golden currant is an excellent wildlife habitat species or can be used on the outside row of multi-row windbreaks.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
4-6	4-6

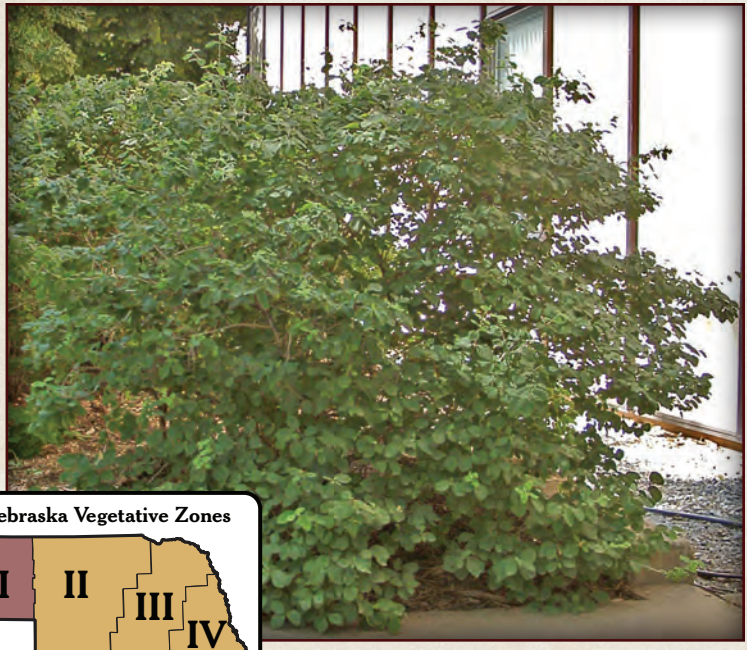
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16

Nanking Cherry (Prunus tomentosa)

A winter hardy, moderately fast-growing, medium shrub. Broad spreading, densely twiggy, becoming more open and picturesque with age. Also called Manchu cherry. Edible fruits are dark red and excellent for pies and jellies. Fruit is relished by many songbirds. Provides nesting cover for a few species of songbirds.

Browsed by rabbits, mice, and deer, which could cause serious injury if control measures are not taken. It is sometimes a rather short-lived plant.



Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
4-7	4-7

Suggested Spacing (ft.)

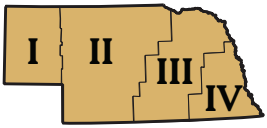
Within Rows:	*Between Rows:*
6-10	12-16

Peking Cotoneaster (Cotoneaster acutifolia)

Peking cotoneaster is a low to medium-growing shrub introduced from Asia. It has dark, glossy green foliage that turns orange to red during the fall. The berry-like fruit ripens to a dark red or black in early October and persists late into the winter, providing a good winter food source for birds. This is a sturdy shrub for the outside row of windbreaks.

Fireblight of the twigs and stems can be a problem.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
5-8	5-8

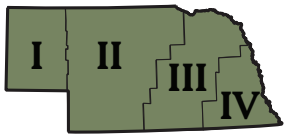
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16

Redosier Dogwood (Cornus sericea)

An open, spreading, multi-stemmed, medium to large shrub for farmstead and field windbreaks, and riparian plantings. Horizontal branches at the base. Fruit and twigs are used by several species of wildlife, such as robins, cedar waxwings, rabbits, and deer. Provides dense cover for a large number of wildlife species.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
5-10	5-10

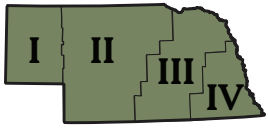
Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16

Sandcherry (Prunus besseyi)

Sandcherry is a low growing shrub native to western Nebraska. It has showy white flowers in May and produces small, sweet, purplish-black cherries in July. Sandcherry can tolerate hot, dry conditions, and prefers well-drained soils. The cherries are especially good for making jelly or jam.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
2-4	2-4

Suggested Spacing (ft.)

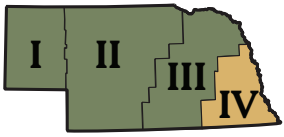
Within Rows:	*Between Rows:*
6-10	12-16

Serviceberry (Amelanchier alnifolia)

Serviceberry, also called Juneberry and Saskatoon, is popular for its good tasting fruit similar to blueberry in its looks and taste. It is a slow growing, mid to tall, thicket forming shrub blooming in late spring. Big game browse on the leaves and twigs while songbirds and upland game savor the fruit.

Leaf spots, rust, and pear slugs can be problematic.

Nebraska Vegetative Zones



Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
5-10	5-10

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16

Skunkbush Sumac (Rhus trilobata)

Skunkbush sumac is native to Nebraska. It can tolerate alkaline and extreme drought conditions. The clusters of berry-like fruit are covered with a soft, dense hair and turn a deep red in late summer, and the shrub has a good fall color. Skunkbush sumac is a good wildlife species, providing food for birds throughout the winter. It can be used on the inside or outside rows of windbreaks. Good fall color.

Nebraska Vegetative Zones

Native to Zone
Non-Native to Zone
Not Recommended for Zone

Average Height (ft.)

20 Years:	*Maturity:*
4-6	4-6

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16

54

Silver Buffaloberry (Shepherdia argentea)

Silver buffaloberry is a native species of western Nebraska. This thorny, thicket-forming, tree-like shrub is drought tolerant and adaptable to alkaline soils. The persistent, fleshy berries provide food for birds during the winter. The tart berries also are used in jellies.

Nebraska Vegetative Zones

- Native to Zone
- Non-Native to Zone
- Not Recommended for Zone

Average Height (ft.)

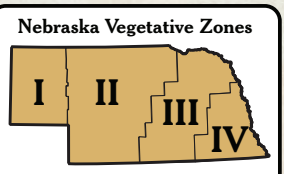
20 Years:	*Maturity:*
10-12	10-12

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16

Winterberry Euonymus (Euonymus bungeanus)

Winterberry euonymus was introduced from China. It is an excellent species for the inside row of farmstead windbreaks or anywhere fall coloration is desirable. The leaves turn pale yellow to reddish brown, the four-winged fruit is pink and the seeds are a reddish-pink color. The shrub is used by many song birds for nesting habitat and, to some extent, for food.



Average Height (ft.)

20 Years:	*Maturity:*
8-14	8-14

Suggested Spacing (ft.)

Within Rows:	*Between Rows:*
6-10	12-16