This Technical Note provides general descriptions of conservation shrubs and trees recommended for use in the Intermountain West (parts of Idaho, Oregon, Nevada, Utah and Washington). It covers plant origin, 20 year height, growth rate, growth habit, drought resistance, wildlife values, flowers/cones, disease and/or pest problems, recommended within row spacing when planted in windbreak or shelterbelt applications and other special attributes and/or cautions.
SHRUBS

ALMOND, RUSSIAN  
*Prunus tenella*

Origin: introduced  
Mature Height: 3- 5 feet  
Growth Rate: slow  
Growth Habit: upright, suckering  
Drought Resistance: good  
Wildlife Value: exc. nesting and food source  
for birds  
Flowers: abundant pink to red  
Disease/Pests: No major pests  
In-row Spacing: 3- 5 feet  
Other: prefers medium soils

BUFFALOBERRY, SILVER  
*Shepherdia argentea*

Origin: native  
Mature Height: 6- 14 feet  
Growth Rate: moderate  
Growth Habit: loosely branched and thorny  
Drought Resistance: excellent  
Wildlife Value: good cover, nesting, browse  
and winter food source  
Flowers: yellowish with red fruit  
Disease/Pests: stem decay, branch canker  
In-row Spacing: 6- 10 feet  
Other: well adapted to dry, mod. sodic to  
saline soils; berries used for jellies; fixes  
nitrogen

CHERRY, NANKING  
*Prunus tomentosa*

Origin: introduced  
Mature Height: 6- 10 feet  
Growth Rate: fast  
Growth Habit: upright, semi-spreading  
Drought Resistance: good  
Wildlife Value: browse; fruit for song birds  
Flowers: small pink  
Disease/Pests: branch cankers  
In-row Spacing: 6– 8 feet  
Other: prefers medium soils; short- lived;  
excellent fruit for pies and jellies
SHRUBS

CHOKECHERRY  
*Prunus virginiana*

Origin: native  
Mature Height: 12-25 feet  
Growth Rate: moderate  
Growth Habit: oval to round; suckering  
Drought Resistance: good  
Wildlife Value: excellent food and cover  
Flowers: creamy white  
Disease/Pests: western x-disease, black knot, stem decay, shothole canker; tent caterpillar  
In-row Spacing: 8-12 feet  
Other: landscaping – purple leaf, adapted to a wide variety of soils, fruits for jellies; do not plant near cherry or peach orchards

COTONEASTER  
*Cotoneaster integerrimus*

Origin: introduced  
Mature Height: 6-12 feet  
Growth Rate: moderate  
Growth Habit: spreading, open-upright arching branches  
Drought Resistance: good  
Wildlife Value: fruit attracts birds  
Flowers: pinkish white  
Disease/Pests: fireblight; pear slug  
In-row Spacing: 6-10 feet  
Other: showy red berries, should not be planted near crabapples

CURRANT, GOLDEN  
*Ribes aureum*

Origin: native  
Mature Height: 5-8 feet  
Growth Rate: moderate  
Growth Habit: spreading and upright  
Drought Resistance: good to excellent  
Wildlife Value: roosting, loafing, nesting and fruit attracts birds  
Flowers: fragrant golden yellow  
Disease/Pests: current worm; anthracnose, leafspots, white pine blister rust host  
In-row Spacing: 4-6 feet  
Other: berries used fresh and for jellies; tolerant of slight to medium soil salinity
SHRUBS

DOGWOOD, REDOSIER

*Cornus sericea*

Origin: native  
Mature Height: 7-10 feet  
Growth Rate: rapid  
Growth Habit: loose and round – many stems  
Drought Resistance: poor  
Wildlife Value: dense cover and food (browse)  
Flowers: creamy white  
Disease/Pests: twig blight  
In-row Spacing: 6–10 feet  
Other: blood-red bark provides winter color

HONEYSUCKLE, BLUELEAF

*Lonicera korolkowii*

Origin: introduced  
Mature Height: 6-10 feet  
Growth Rate: moderate  
Growth Habit: spreading  
Drought Resistance: good  
Wildlife Value: nesting and food  
Flowers: yellowish pink  
Disease/Pests: no major pest problems  
In-row Spacing: 5–8 feet  
Other: plant only aphid resistant varieties; tolerates high pH soils

LILAC, COMMON

*Syringa vulgaris*

Origin: introduced  
Mature Height: 6-12 feet  
Growth Rate: moderate  
Growth Habit: upright, leggy, suckering  
Drought Resistance: excellent  
Wildlife Value: nesting  
Flowers: white to purple, fragrant and showy  
Disease/Pests: powdery mildew; lilac borer  
In-row Spacing: 5–10 feet  
Other: root sprouts
SHRUBS

PEASHRUB, SIBERIAN
Caragana arborescens
Origin: introduced
Mature Height: 16-20 feet
Growth Rate: rapid
Growth Habit: erect oval shrub
Drought Resistance: excellent
Wildlife Value: nesting
Flowers: small showy yellow
Disease/Pests: stem decay, leaf spot, branch cankers; blister beetles
In-row Spacing: 5-10 feet
Other: produces pods with multiple seeds; saline tolerant; very drought tolerant

PLUM, AMERICAN
Prunus americana
Origin: native to N. America
Mature Height: 8-10 feet
Growth Rate: moderate
Growth Habit: round-headed crown, suckers
Drought Resistance: good
Wildlife Value: nesting, loafing, food, browse
Flowers: white
Disease/Pests: stem decay, branch cankers, black knot, plum pockets; tent caterpillar
In-row Spacing: 6-10 feet
Other: thorny, winter-hardy, thicket-forming tall shrub, edible fruit

ROSE, WOODS
Rosa woodsii
Origin: native
Mature Height: 3-6 feet
Growth Rate: moderate
Growth Habit: stems upright, semi-weeping, suckers
Drought Resistance: fair
Wildlife Value: nesting, cover and exc. food source for upland birds
Flowers: showy pink
Disease/Pests: no major problems
In-row Spacing: 3-5 feet
Other: thorny, thicket-forming small shrub, rose hips edible fruit and source of Vitamin C
SHRUBS

SANDCHERRY, WESTERN

*Prunus pumila*

Origin: native to N. America
Mature Height: 3-6 feet
Growth Rate: moderate
Growth Habit: open and spreading
Drought Resistance: good
Wildlife Value: loafing, food, browse
Flowers: white
Disease/Pests: leaf curl, black knot, fireblight
In-row Spacing: 3-6 feet
Other: relatively short-lived, fruit in pies and jellies

[Image 1] Herman, D.E. et al. ND Tree Handbook, USDA NRCS

SEA-BUCKTHORN

*Hippophae rhamnoides*

Origin: introduced
Mature Height: 12-20 feet
Growth Rate: moderate
Growth Habit: spreading, irregular rounded, loose and open
Drought Resistance: excellent
Wildlife Value: cover
Flowers: yellow before leaf-out
Disease/Pests: no major problems
In-row Spacing: 5-10 feet
Other: relatively short-lived, thorns, fruit high in Vitamin C, prefers moist soils, saline tolerant, attractive silver-green foliage

[Image 2] Herman, D.E. et al. ND Tree Handbook, USDA NRCS

SERVICEBERRY

*Amelanchier alnifolia*

Origin: native
Mature Height: 6-15 feet
Growth Rate: slow
Growth Habit: upright
Drought Resistance: good
Wildlife Value: good cover and food
Flowers: white
Disease/Pests: no major problems
In-row Spacing: 5-10 feet
Other: nutritious fruit used fresh or processed

[Image 3] Williams, Margaret. Nevada Plant Society
SHRUBS

SILVERBERRY, HYBRID
   *Elaeagnus commutata X E. angustifolia*
Origin: sterile hybrid
Mature Height: 6-10 feet
Growth Rate: moderate
Growth Habit: upright, weeping
Drought Resistance: excellent
Wildlife Value: dense thickets for cover, food source (seed is sterile)
Flowers: light yellow
Disease/Pests: none known
In-row Spacing: 5-8 feet
Other: tolerates high pH soils, use in place of Russian-olive

SUMAC, SKUNKBUSH
   *Rhus trilobata*
Origin: native
Mature Height: 6-8 feet
Growth Rate: slow to moderate
Growth Habit: ascending, new branches hairy
Drought Resistance: excellent
Wildlife Value: fall and winter food for bird, browse, loafing, nesting
Flowers: light yellow
Disease/Pests: no major problems
In-row Spacing: 4-8 feet
Other: scented leaves and stems, fruit red

SYRINGA (MOCKORANGE)
   *Philadelphus lewisii*
Origin: native
20 Year Height: 6-10 feet
Growth Rate: rapid
Growth Habit: upright
Drought Resistance: poor
Wildlife Value: cover and food
Flowers: white & fragrant
Disease/Pests: voles girdle stems
In-row Spacing: 5-8 feet
Other: very sensitive to broadleaf herbicides
SMALL TREES

CRABAPPLE, SIBERIAN
_Malus baccata_

Origin: introduced
Mature Height: 10-25 feet
Growth Rate: moderate
Growth Habit: round to spreading
Drought Resistance: fair
Wildlife Value: fair cover, good food and browse
Flowers: white
Disease/Pests: fireblight, cedar-apple rust, apple scab, canker; cankerworm, apple maggot
In-row Spacing: 12-16 feet
Other: edible fruit, protect from rodents/rabbits, do not plant with juniper species

HAWTHORN, ARNOLD
_Crataegus arnoldiana_

Origin: native to N. America
Mature Height: 15-20 feet
Growth Rate: slow - moderate
Growth Habit: upright, symmetrical
Drought Resistance: good
Wildlife Value: nesting, food, browse
Flowers: white with disagreeable odor
Disease/Pests: hawthorn rust; aphid
In-row Spacing: 12-16 feet
Other: large thorns, tolerates urban pollution

HAWTHORN, BLACK (DOUGLAS)
_Crataegus douglasii_

Origin: native
20 Year Height: 15-20 feet
Growth Rate: slow - moderate
Growth Habit: upright
Drought Resistance: poor
Wildlife Value: cover, food, browse
Flowers: white
Disease/Pests: unknown
In-row Spacing: 4-8 feet
Other: thorns, thicket forming
SMALL TREES

MAPLE, AMUR  \(\textit{Acer ginnala}\)
- Origin: introduced
- Mature Height: 15-20 feet
- Growth Rate: moderate
- Growth Habit: multi-stemmed
- Drought Resistance: good
- Wildlife Value: browse, fair cover
- Flowers: yellowish white
- Disease/Pests: leaf spot
- In-row Spacing: 12-16 feet
- Other: sensitive to phenoxy herbicides, iron chlorosis may occur on saline/sodic poorly drained soils

WILLOW, LAUREL  \(\textit{Salix pentandra}\)
- Origin: introduced
- Mature Height: 20-40 feet
- Growth Rate: rapid
- Growth Habit: ascending long flexible limbs, rounded crown
- Drought Resistance: low
- Wildlife Value: excellent cover, food
- Flowers: golden yellow
- Disease/Pests: leaf disease, aphids when stressed – seeping sweet sap
- In-row Spacing: 10-16 feet
- Other: very attractive shinny bright green leaves on upper side
MEDIUM TO TALL TREES

ASH, GREEN
Fraxinus pennsylvanica
Origin: native to N. America
Mature Height: 35-65 feet
Growth Rate: moderate
Growth Habit: single trunk, oval to elliptical crown,
Drought Resistance: good
Wildlife Value: cover, nesting and seeds are eaten by birds
Flowers: ---
Disease/Pests: stem decay, branch/twig canker, anthracnose, leaf rust, ash yellow; cankerworm, ash borers, ash plant bugs
In-row Spacing: 12-16 feet
Other: can withstand flooding for short periods and has some tolerance to salinity

ASPEN, QUAKING
Populus tremuloides
Origin: native
Mature Height: 25-50 feet
Growth Rate: moderate - rapid
Growth Habit: single trunk, fairly straight, drops lower limbs and suckers
Drought Resistance: poor – requires moist soils to sub moisture to perform well
Wildlife Value: heavily browsed in winter, grouse utilize buds for food
Flowers: catkin
Disease/Pests: canker and stem decay
In-row Spacing: 12-16 feet
Other: usually regenerates from root suckers, does not survive well in hot valley bottoms of the intermountain west – recommended in mountains and mountain foothills, commonly damaged by livestock, deer and beaver

ELM, SIBERIAN
Ulmus pumila
Origin: introduced
Mature Height: 25-50 feet
Growth Rate: moderate
Growth Habit: open with ascending branches
Drought Resistance: good
Wildlife Value: nesting
Flowers: ---
Disease/Pests: canker and wetwood; cankerworm
In-row Spacing: 12-16 feet
Other: highly sensitive to phenoxy herbicides; brittle wood subject to breakage; saline and urban pollution tolerant; may be invasive
MEDIUM TO TALL TREES

HACKBERRY, COMMON  
*Celtis occidentalis*

Origin: native to N. America
Mature Height: 35-60 feet
Growth Rate: moderate
Growth Habit: single trunk, broadening crown
Drought Resistance: good
Wildlife Value: fruit eaten by birds/mammals
Flowers: ---
Disease/Pests: damaged by rodents, rabbits, deer
In-row Spacing: 12-16 feet
Other: good alternate for elm due to similar form and adaptability, somewhat saline tolerant

HONEYLOCUST  
*Gleditsia triacanthos*

Origin: introduced
Mature Height: 30-50 feet
Growth Rate: moderate - rapid
Growth Habit: develops a deep tap-root
Drought Resistance: good
Wildlife Value: food deer, nesting for birds
Flowers: ---
Disease/Pests: relatively disease free, canker sometimes develops; gall midge
In-row Spacing: 12-16 feet
Other: thorns, fine leaves, legume, must irrigate and fertilize to avoid winter dieback

MAPLE, SILVER  
*Acer saccharinum*

Origin: native to N. America
Mature Height: 40-65 feet
Growth Rate: moderate to rapid
Growth Habit: spreading branches form uniform rounded crown
Drought Resistance: fair
Wildlife Value: browsed by deer/rabbits, seeds eaten by squirrels, nesting for birds
Flowers: ---
Disease/Pests: very subject to iron and manganese chlorosis in alkaline soils
In-row Spacing: 12-16 feet
Other: performs poorly on clay soils, does not tolerate saline-sodic soils
MEDIUM TO TALL TREES

OAK, BUR

Quercus macrocarpa

Origin: native to N. America
Mature Height: 35-70 feet
Growth Rate: slow
Growth Habit: stout limbs with a broad crown
Drought Resistance: good
Wildlife Value: excellent food and cover
Flowers: ---
Disease/Pests: leaf-twig anthracnose, leaf curl, stem decay
In-row Spacing: 12-16 feet
Other: long-lived, deep taproot, acorns may be messy, commonly damaged by rodents, rabbits and deer

POPLAR, HYBRID

Populus species/crosses

Origin: native to introduced crosses
Mature Height: 40-70 feet
Growth Rate: rapid
Growth Habit: upright spreading branches
Drought Resistance: poor
Wildlife Value: cover, buds provide food for birds, good browse
Flowers: ---
Disease/Pests: leaf rust, leaf spot, canker, wetwood, stem decay; poplar borers, aphids, bud gall mite, leaf beetle
In-row Spacing: 12-16 feet
Other: relatively short-lived, commonly damaged by mice, rodents, rabbits, livestock, deer and beaver; do not plant in riparian areas

POPLAR, SIMON

Populus simonii

Origin: introduced
Mature Height: 35-50 feet
Growth Rate: rapid
Growth Habit: upright tall narrow branches
Drought Resistance: poor
Wildlife Value: cover, buds provide food for birds, good browse
Flowers: ---
Disease/Pests: leaf rust, leaf spot, canker, wetwood, stem decay; poplar borers, aphids, bud gall mite, leaf beetle
In-row Spacing: 8-16 feet
Other: relatively short-lived, commonly damaged by mice, rodents, rabbits, livestock, deer and beaver
MEDIUM TO TALL TREES

WALNUT, BLACK

*Juglans nigra*

Origin: native to N. America
Mature Height: 35-60 feet
Growth Rate: slow-moderate
Growth Habit: large oval to round tree
Drought Resistance: fair
Wildlife Value: excellent food and cover
Flowers: ---
Disease/Pests: no major pest problems
In-row Spacing: 12-16 feet
Other: long-lived, drops lower branches, deep taproot, prefers moist well drained soils, nuts may be messy

WILLOW, GOLDEN (WHITE)

*Salix alba*

Origin: introduced
Mature Height: 40-60 feet
Growth Rate: rapid
Growth Habit: large low branching tree with broad-rounded crown and slender drooping branches
Drought Resistance: poor
Wildlife Value: excellent food and cover
Flowers: ---
Disease/Pests: aphid can be a serious problem
In-row Spacing: 12-16 feet
Other: long-lived, branches shed easily throughout year, prefers moist soils, tolerates flooding and high water-tables
CONIFERS

FIR, DOUGLAS
  *Pseudotsuga menziesii*

Origin: native
Mature Height: 40-60 feet
Growth Rate: slow
Growth Habit: pyramidal with stiff branches
  (upper ascending - lower drooping),
  dense when young – more open with age
Drought Resistance: fair
Wildlife Value: good nesting, birds and rodents utilize seed, good browse
Cones: oval, 2-4 inches long, 3-lobed bracts extend beyond cone scales
Disease/Pests: fir beetle, bud worm
In-row Spacing: 12–16 feet
Other: does not tolerate ponding, tolerates slightly saline-sodic soils

JUNIPER, ROCKY MOUNTAIN
  *Juniperus scopulorum*

Origin: native
Mature Height: 20-40 feet
Growth Rate: moderate
Growth Habit: pyramidal to narrow crown
  with numerous long, upward-reaching branches
Drought Resistance: excellent
Wildlife Value: excellent food, nesting, cover
Cones: juniper “berry” ovoid, pitted, dark blue, matures 2nd year - 1-3 seeds
Disease/Pests: cedar-apple rust, tip blight, spider mites
In-row Spacing: 6–10 feet
Other: do not plant near crabapple, currant, serviceberry or hawthorn

JUNIPER, EASTERN REDCEDAR
  *Juniperus virginiana*

Origin: native to N. America
Mature Height: 25-45 feet
Growth Rate: moderate
Growth Habit: dense irregular pyramidal
  Crown; more open with age
Drought Resistance: good
Wildlife Value: excellent food, nesting, cover
Cones: juniper “berry” globose to ovoid,
  pitted, matures 1st year - 1-3 seeds
Disease/Pests: cedar-apple rust, tip blight, spider mites
In-row Spacing: 6–10 feet
Other: do not plant near crabapple, currant, serviceberry or hawthorn; susceptible to stem breakage by snow
CONIFERS

PINE, AUSTRIAN

\textit{Pinus nigra}

\textbf{Origin:} introduced
\textbf{Mature Height:} 40- 60 feet
\textbf{Growth Rate:} moderate
\textbf{Growth Habit:} pyramidal when young, rounded flat top when mature
\textbf{Drought Resistance:} fair - good
\textbf{Wildlife Value:} cover, nesting and bird food, browse for deer
\textbf{Cones:} yellowish-brown, 2-4 inches long, broad at base – taper to a point
\textbf{Disease/Pests:} no serious problems
\textbf{In-row Spacing:} 12– 16 feet
\textbf{Other:} tree somewhat trashy and not recommended for yards, very tolerant of high pH and slight salinity, requires at least 20 inches mean annual precipitation

Ogle, Dan, USDA NRCS, Ada Co. ID

& Hurst, Steve, ARS (seed)

Herman, D.E. et al. \textit{ND Tree Handbook, USDA NRCS;}

Hurst, Steve, ARS

PINE, LIMBER

\textit{Pinus flexilis}

\textbf{Origin:} native
\textbf{Mature Height:} 25- 40 feet
\textbf{Growth Rate:} slow
\textbf{Growth Habit:} dense, pyramidal when young, flat topped when mature, flexible branches
\textbf{Drought Resistance:} fair - good
\textbf{Wildlife Value:} cover, nesting and food source for birds and small animals
\textbf{Cones:} 3 – 6 inches long, 2 winged seeds per scale
\textbf{Disease/Pests:} white pine blister rust
\textbf{In-row Spacing:} 12– 16 feet
\textbf{Other:} tolerant of road salt

Herman, D.E. et al. \textit{ND Tree Handbook, USDA NRCS;}

Hurst, Steve, ARS

PINE, LODGEPOLE

\textit{Pinus contorta}

\textbf{Origin:} native
\textbf{Mature Height:} 25- 40 feet
\textbf{Growth Rate:} slow - moderate
\textbf{Growth Habit:} slender, tall, straight, with short stout branches
\textbf{Drought Resistance:} poor
\textbf{Wildlife Value:} good grouse habitat, food, browse
\textbf{Cones:} clustered, broadest near base, 1- 2 inches long, each scale armed with a short spine
\textbf{Disease/Pests:} pine beetles, sawflies, budworm
\textbf{In-row Spacing:} 8– 16 feet
\textbf{Other:} can tolerate very wet conditions

Herman, D.E. et al. \textit{ND Tree Handbook, USDA NRCS;}

Hurst, Steve, ARS; Peterson, Scott, USDA NRCS

16
CONIFERS

PINE, PONDEROSA  
*Pinus ponderosa*

- **Origin:** native
- **Mature Height:** 45-70 feet
- **Growth Rate:** moderate
- **Growth Habit:** pyramidal when young; irregular-oblong-open with age
- **Drought Resistance:** good
- **Wildlife Value:** nesting and food
- **Cones:** 3-5 inches long with sharp thorn at tip of scale—seeded winged
- **Disease/Pests:** needle cast, gall rust; tip moth, sawfly, scale, aphid
- **In-row Spacing:** 12–16 feet
- **Other:** 5-9 inch long needles, prefers well-drained soils—full sun, tolerates slight salinity/sodicity, does not tolerate flooding

PINE, SCOTS (SCOTCH)  
*Pinus sylvestris*

- **Origin:** introduced
- **Mature Height:** 25-50
- **Growth Rate:** moderate
- **Growth Habit:** pyramidal when young, flat-rounded top and open when mature
- **Drought Resistance:** good
- **Wildlife Value:** nesting and winter cover
- **Cones:** 1.5-2.5 inches long, diamond shaped scales, seed two-winged
- **Disease/Pests:** needle cast, gall rust; tip moth, sawfly, scale, aphid
- **In-row Spacing:** 12–16 feet
- **Other:** lower stump is commonly crooked, prefers well-drained soils, does not tolerate the high pH soils in Intermountain West valley bottoms

SPRUCE, BLUE  
*Picea pungens*

- **Origin:** native
- **Mature Height:** 30-60
- **Growth Rate:** moderate
- **Growth Habit:** pyramidal, broad and dense branching to ground level
- **Drought Resistance:** good
- **Wildlife Value:** nesting sites for birds
- **Cones:** 2.5-4 inches long, papery scales, small winged seed
- **Disease/Pests:** needle cast, canker, needle blight; spider mites, needle miner, scale, sawfly and aphid
- **In-row Spacing:** 12–16 feet
- **Other:** not tolerant of flooding, tolerates high pH soils; susceptible to wind throw
CONIFERS

SPRUCE, ENGELMANN
*Picea engelmannii*

Origin: native
Mature Height: 30-45 feet
Growth Rate: slow
Growth Habit: pyramidal to conical, long stout ascending branches
Drought Resistance: fair
Wildlife Value: browse, nesting, winter cover
Cones: leathery, broadest at middle tapering to a rounded tip, scales wedge-shaped
Disease/Pests: needle blight, needle cast, canker; spider mite, needle miner, budworm, scale, sawfly, aphids
In-row Spacing: 12–16 feet
Other: prefers moist soils, very tolerant of wet conditions

SPRUCE, WHITE (BLACK HILLS)
*Picea glauca*

Origin: native
Mature Height: 35-60 feet
Growth Rate: slow
Growth Habit: pyramidal to conical, long stout ascending branches
Drought Resistance: fair
Wildlife Value: browse, nesting, winter cover
Cones: 1.5-2 inches, rounded smooth scales, small winged seed
Disease/Pests: needle blight, needle cast, canker; spider mite, needle miner, budworm, scale, sawfly, aphids
In-row Spacing: 12–16 feet
Other: prefers moist soils, tolerates wet feet

ADDITIONAL INFORMATION

"Common Insect Pests of Trees and Shrubs in North Dakota"
http://www.ext.nodak.edu/extpubs/plantsci/trees/e296w.htm

"Deciduous Tree Diseases"
http://www.ext.nodak.edu/extpubs/plantsci/hortcrop/pp697-1.htm

"Diseases and Related Problems of Evergreens"
http://www.ext.nodak.edu/extpubs/plantsci/trees/pp789-1.htm

"Insect and Disease Management Guide for Woody Plants in North Dakota"
http://www.ext.nodak.edu/extpubs/plantsci/trees/f1192w.htm


“Pruning Trees and Shrubs” http://www.ext.nodak.edu/extpubs/plantsci/trees/h1036w.htm

“Weed Control in Tree Plantings” http://www.ext.nodak.edu/extpubs/plantsci/weeds/w1097-1.htm


"Windbreak Establishment", University of Nebraska Extension EC 91-1764-B. http://www.unl.edu/nac/brochures/ec1764/ec1764.pdf

"Windbreak Management", University of Nebraska Cooperative Extension EC 96-1768-X. http://www.unl.edu/nac/brochures/ec1768/ec1768.pdf

"Windbreak Renovation" University of Nebraska Cooperative Extension EC 98-1777-X http://www.unl.edu/nac/brochures/ec1777/ec1777.pdf

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA’s TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.