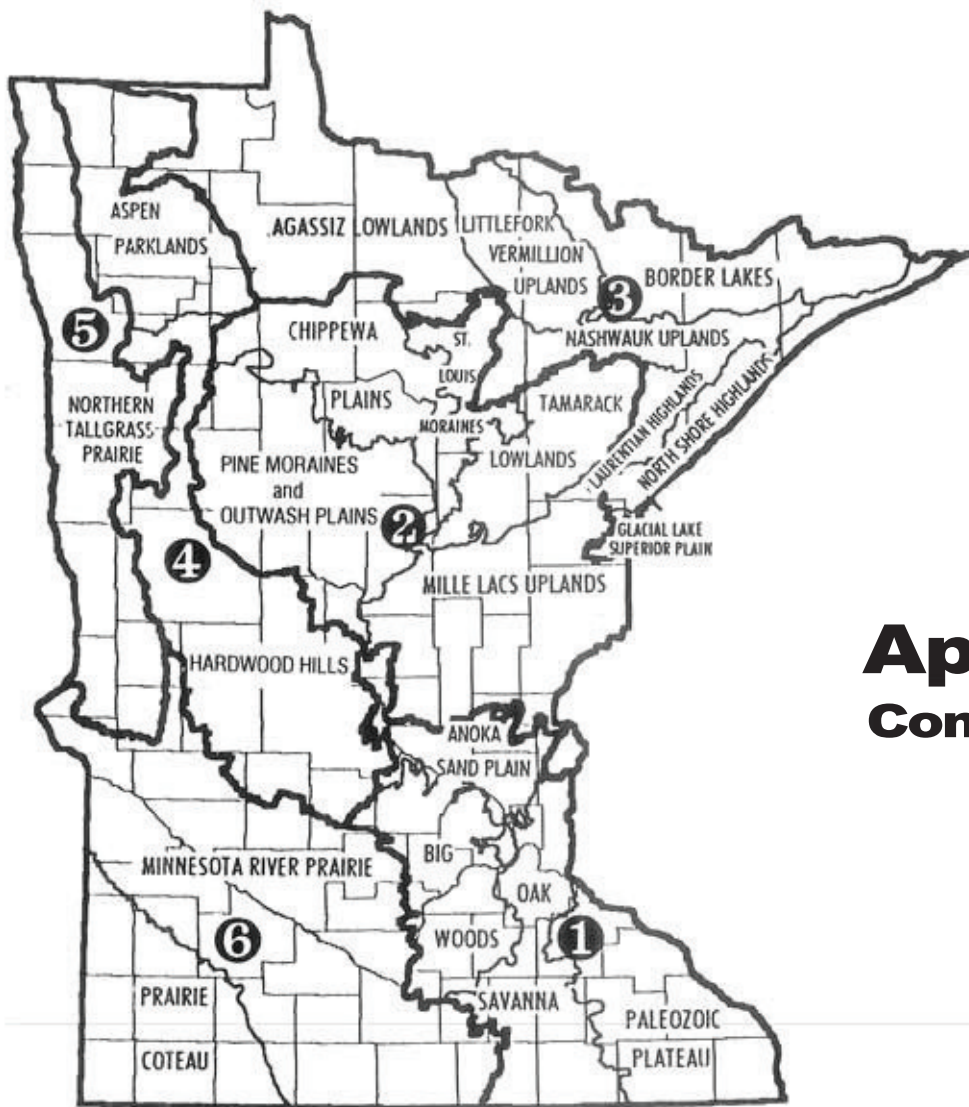


Grantees can only chose from TREE listings. Shrubs are not eligible for this grant program.

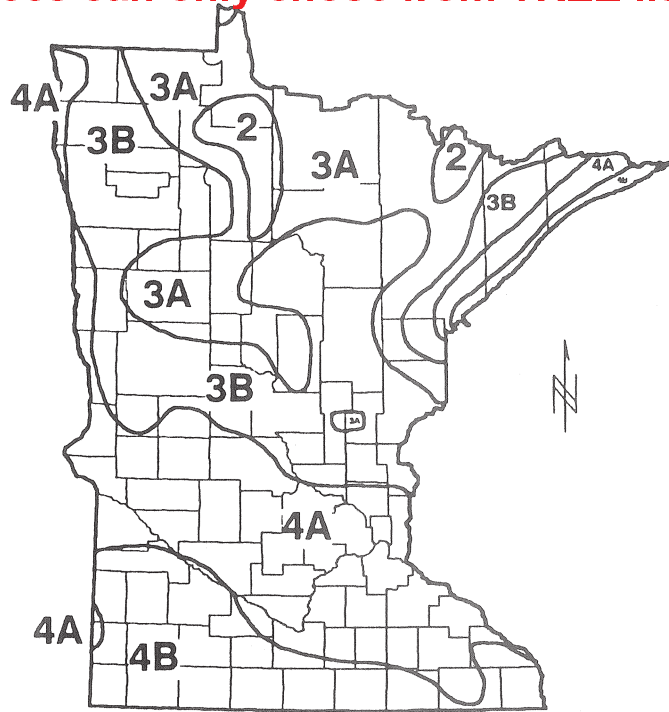


Approved Native Trees Community Forest Bonding Grant

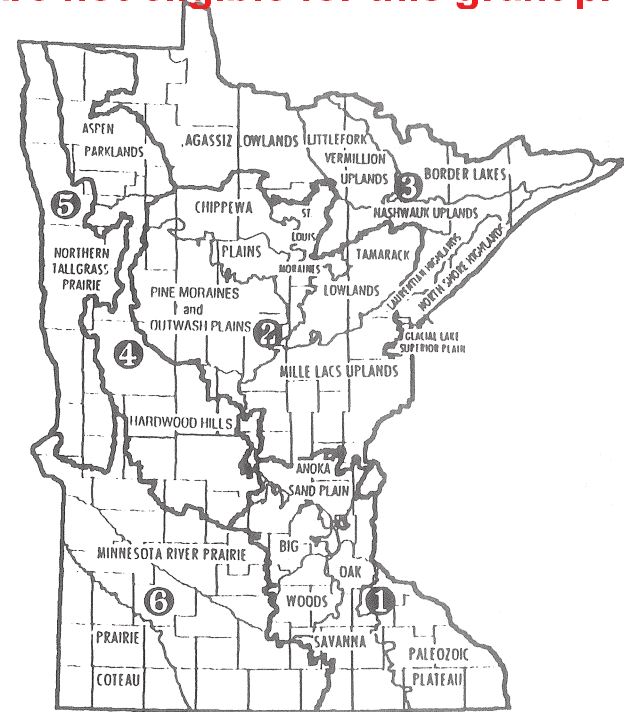
**MSA TREE RATING ZONES (1-6)
and Ecological Subsections**



Grantees can only chose from TREE listings. Shrubs are not eligible for this grant program.



USDA PLANT HARDINESS ZONES



**MSA TREE RATING ZONES (1-6)
and Ecological Subsections**

(Note: Three subsections have been subdivided since preparation of the information contained in these tables: Inner Coteau and Coteau Moraines (shown here as Prairie Coteau); Rochester Plateau and Blufflands (shown here as Paleozoic Plateau); Twin Cities Highlands and Oak Savanna (shown here as Oak Savanna).

TREE RATING ZONES INDEX	EVERGREEN TREES (paper color)	EVERGREEN TREES Page no.	DECIDUOUS TREES Page no.	EVERGREEN SHRUBS Page no.	DECIDUOUS SHRUBS Page no.
Zone 1 Southeast	(green)	5	5	7	8
Zone 2 Central	(gray)	9	9	11	11
Zone 3 Northern	(blue)	13	14	16	16
Zone 4 North Central	(yellow)	17	18	19	20
Zone 5 Red River Valley	(pink)	21	21	23	23
Zone 6 Southwest	(tan)	25	25	27	27

Comprehensive list of Tree and Large Shrub Species Native to Minnesota's Ecological Regions - Page 4

Grantees can only chose from TREE listings. Shrubs are not eligible for this grant program.

EXPLANATORY NOTES

This report provides information on native species in Minnesota for each of six Tree Rating Zones and for 21 Subsections which occur within them (see map on cover or on page 2). It is organized into six separate tables printed on different paper colors.

MnReLeaf Native Designation

All species on each Tree Rating Zone list can be considered "native" to the planting sites in all of the Tree Rating Zone for the purpose of counting native trees and windbreak shrubs within the Minnesota ReLeaf program. Site suitable cultivars and selections of the species listed may be counted as native. Minnesota ReLeaf participants are encouraged to use plants from local seed sources whenever that material is available as suitable nursery stock

Purpose of this List of Native Species

The Minnesota Legislature through the Legislative Commission on Minnesota Resources (LCMR) approved funding in 1995-97 for the Minnesota ReLeaf program stipulating in the appropriation language that the program "achieve the strategic planting of predominantly native shade trees and community windbreaks for statewide energy conservation and carbon dioxide abatement". Thus, this list of *Trees and Large Shrubs: Species Native to Minnesota's Ecological Regions* was developed by the Minnesota Department of Natural Resources, Division of Forestry for purposes of determining what may be counted as a Minnesota "native" by communities undertaking Minnesota ReLeaf projects.

This list is not intended as a recommended species list because some of the plants listed have serious problems or limitations in their use. Nor should these lists be used to determine species for use in a native plant community restoration project. Species listed for each region may be very common throughout the region or may be found only in a limited number of sites with special conditions.

MSA Tree Rating Zones

The ecologically-defined regions called Tree Rating Zones are based upon the Ecological Classification System (ECS) in which the Minnesota Department of Natural Resources (DNR), in cooperation with national efforts, subdivided the state into three provinces (which are commonly called the prairie, hardwood forests, and boreal forests). These are further divided into Subsections based upon natural patterns of geology, soils, climate and native plant communities. (Three of the 21 original Subsections have recently been subdivided, as indicated on page 2, resulting in a new total of 24 Subsections).

The Minnesota Society of Arboriculture (MSA) worked with DNR Forestry staff to group the Subsections into six Tree Rating Zones. Basically, each of the three provinces was divided into two zones following the Subsection boundaries.

USDA Plant Hardiness Zones

The following tables also provide information on the hardiness of the species. As shown in the map above, the USDA Plant Hardiness Zones 2, 3 and 4 occur in Minnesota. For each species, the tables include either the range of minimum and maximum hardiness zones, or solely the minimum hardiness zone, as derived from various sources. (In some cases, zone information was not available and is displayed n/a).

Windbreak Shrubs

Only shrubs integral to the design and function of windbreaks will be funded through MnReLeaf. Therefore, this list of native species only includes shrubs which may grow six feet or taller. However, not all native shrubs listed here are likely to function well in a windbreak situation. For purposes of MnReLeaf, tree and windbreak shrub selection should take into account hardiness and site suitability as well as whether the species is native to the region.

Supplemental Native Range Information

The information in the right-side shaded columns of the following tables is supplemental and indicates whether the native range of each species includes all or part of the entire tree rating zone, and all, part, or none of each ecological subsection.

Determination of Native Species Lists

Whether the species listed here are native in any part of Minnesota was determined by using two published sources of information: Elbert L. Little's *Atlas of United States Trees* and Ownbey and Morley's *Vascular Plants of Minnesota*. Little's work consists of range maps for trees and some shrubs based upon published botanical lists, herbarium specimens, and field observations which are considered to represent the pre-Columbian ranges of vegetation. Ownbey and Morley's work consists of state maps which show dots where specimens were collected primarily for the University of Minnesota herbarium.

All 125 woody species (except Poison Sumac) which may grow over six feet tall and which occur anywhere in Minnesota according to either of these sources are included in the "Comprehensive List" on page 4 and in the following tables for each Tree Rating Zone.

The tables for each Tree Rating Zone and subsection were developed by first determining if Little's range maps showed the species in all, part, or none of that ecological region. This information was supplemented by adding species (primarily shrubs and additional juneberry, hawthorn, and willow species) that are in Ownbey, but not in Little. Out of these, most of the juneberry, hawthorn, and willow are mentioned without providing specific ranges. For the other additional species in Ownbey, as well as for species with collection points shown in Ownbey beyond the range shown in Little, the ranges were interpreted as "part" within a Tree Rating Zone or subsection if either a) two or more collection points were shown in Ownbey, or one point was shown within about 80 miles of two points; or b) one collection point was shown in Ownbey within about 80 miles of the Little range map. The Little range maps and selected Ownbey maps have been digitized into computer files and are available from DNR Metro Forestry upon request.

Several selections or subspecies (e.g., Freeman Maple and Flame Willow) that are genetically derived from native species were parenthetically added to the list.

Grantees can only chose from TREE listings. Shrubs are not eligible for this grant program.

Comprehensive List of TREES AND LARGE SHRUBS: Species Native to Minnesota's Ecological Regions.

Only the five species marked * are native throughout Minnesota.
For all other species, refer to Tree Rating Zone lists for native range.

BOTANICAL NAME	COMMON NAME	ALTERNATE NAME(S)	BOTANICAL NAME	COMMON NAME	ALTERNATE NAME(S)	BOTANICAL NAME	COMMON NAME	ALTERNATE NAME(S)
EVERGREEN TREES			DECIDUOUS TREES (con't)			EVERGREEN SHRUBS		
<i>Abies balsamea</i>	Balsam Fir		<i>Evonymus atropurpureus</i>	Eastern Wahoo		<i>Juniperus communis</i>	Common Juniper	
<i>Juniperus virginiana</i>	Eastern Redcedar		<i>Fraxinus americana</i>	White Ash		DECIDUOUS SHRUBS		
<i>Picea glauca</i>	White Spruce		<i>Fraxinus nigra</i>	Black Ash		<i>Alnus viridis crispa</i>	Mountain Alder	Green Alder
<i>(Picea glauca densata (Black Hills Spruce) MAY BE CONSIDERED NATIVE FOR PURPOSES OF THE MnRELEAF PROGRAM.)</i>			<i>Fraxinus pennsylvanica</i> *	Green Ash		<i>Amelanchier alnifolia</i>	Saskatoon Serviceberry	Western Serviceberry
<i>Picea mariana</i>	Black Spruce		<i>Gleditsia triacanthos</i>	Common Honeylocust		<i>(THE SPECIES Amelanchier bartramiana, humilis, intermedia and sanguinea MAY ALSO BE CONSIDERED NATIVE FOR PURPOSES OF THE MnRELEAF PROGRAM.)</i>		
<i>Pinus banksiana</i>	Jack Pine		<i>Gymnocladus dioica</i>	Kentucky Coffeetree		<i>Amorpha fruticosa</i>	Dull-leaf Indigobush	
<i>Pinus resinosa</i>	Red Pine	Norway Pine	<i>Juglans cinerea</i>	Butternut		<i>Aronia melanocarpa</i>	Black Chokeberry	<i>Pyrus melanocarpa</i>
<i>Pinus strobus</i>	Eastern White Pine		<i>Juglans nigra</i>	Black Walnut		<i>Betula pumila</i>	Bog Birch	<i>Betula glandulifera</i>
<i>Taxus canadensis</i>	Canada Yew	American Yew	<i>Larix laricina</i>	Tamarack	Eastern/American Larch	<i>Cephalanthus occidentalis</i>	Common Buttonbush	
<i>Thuja occidentalis</i>	Northern White Cedar	American Arborvitae	<i>Malus ioensis</i>	Prairie Crabapple		<i>Cornus amomum</i>	Silky Dogwood	
		Eastern Arborvitae	<i>Morus rubra</i>	Red Mulberry		<i>Cornus racemosa</i>	Gray Dogwood	
		Canadian Hemlock	<i>Ostrya virginiana</i>	Ironwood	Eastern Hop Hornbeam	<i>Cornus rugosa</i>	Round-leaved Dogwood	
<i>Tsuga canadensis</i>	Eastern Hemlock		<i>Populus balsamifera</i>	Balsam Poplar		<i>Cornus sericea</i> *	Red-osier Dogwood	<i>stolonifera</i>
			<i>Populus deltoides</i>	Eastern Cottonwood	Eastern Poplar	<i>(Cornus baileyi (Red-twigged Dogwood) CAN ALSO BE CONSIDERED NATIVE FOR PURPOSES OF THE MnRELEAF PROGRAM.)</i>		Red-twigged Dogwood
DECIDUOUS TREES			<i>Populus grandidentata</i>	Bigtooth Aspen		<i>Corylus americana</i>	American Hazelnut	
<i>Acer negundo</i>	Box Elder	Manitoba Maple	<i>Populus tremuloides</i>	Quaking Aspen		<i>Corylus cornuta</i>	Beaked Hazel	
<i>Acer nigrum</i>	Black Maple		<i>Populus tremuloides</i>	Quaking Aspen		<i>Dirca palustris</i>	Leatherwood	
<i>Acer rubrum</i>	Red Maple		<i>Prunus americana</i>	American Plum		<i>Hamamelis virginiana</i>	Witch Hazel	
<i>Acer saccharinum</i>	Silver Maple	Soft Maple	<i>Prunus nigra</i>	Canada Plum		<i>Ilex verticillata</i>	Common Winterberry	
<i>(Acer x freemanii (Freeman Maple) IS A SILVER & RED HYBRID THAT MAY BE CONSIDERED NATIVE FOR PURPOSES OF THE MnRELEAF PROGRAM.)</i>			<i>Prunus pennsylvanica</i>	Pin Cherry		<i>Physocarpus opulifolius</i>	Common Ninebark	
<i>Acer saccharum</i>	Sugar Maple	Hard Maple	<i>Prunus serotina</i>	Black Cherry		<i>Rhus glabra</i>	Smooth Sumac	
<i>Acer spicatum</i>	Mountain Maple		<i>Prunus virginiana</i> *	Common Chokecherry		<i>Rhus typhina</i>	Staghorn Sumac	
<i>Alnus rugosa</i>	Speckled Alder	<i>Alnus incana</i> , Hazel Alder	<i>Quercus alba</i>	White Oak	Swamp White Oak	<i>Salix discolor</i>	Fussy Willow	
<i>Amelanchier interior</i>	Inland Serviceberry	Inland Juneberry	<i>Quercus bicolor</i>	Bicolor Oak		<i>Salix exigua</i>	Coyote Willow	Sandbar Willow
<i>Amelanchier laevis</i>	Allegheny Serviceberry	<i>Amelanchier arborea</i>	<i>Quercus ellipsoidalis</i>	Northern Pin Oak		<i>(OTHER Salix (Willow) SPECIES THAT MAY BE CONSIDERED NATIVE FOR PURPOSES OF THE MnRELEAF PROGRAM ARE humilis, planifolia, and gracilis.)</i>		
		Downy Serviceberry	<i>Quercus macrocarpa</i>	Bur Oak		<i>Sambucus canadensis</i>	American Elder	
		Shadblow	<i>Quercus muehlenbergii</i>	Chinkapin Oak	Chestnut Oak	<i>Sambucus pubens</i>	Red-berried Elder	
<i>(THE HYBRID Amelanchier x grandiflora (Apple Serviceberry) and Amelanchier species huronensis and viogandii MAY ALSO BE CONSIDERED NATIVE FOR PURPOSES OF THE MnRELEAF PROGRAM.)</i>			<i>Quercus rubra borealis</i>	Northern Red Oak	<i>Quercus borealis</i>	<i>Shepherdia argentea</i>	Silver Buffalo-berry	
<i>Betula alleghaniensis</i>	Yellow Birch	<i>Betula lutea</i>	<i>Quercus velutina</i>	Black Oak		<i>Staphylea trifolia</i>	American Bloddernut	
<i>Betula cordifolia</i>	Heart Leaved Birch		<i>Salix amygdaloides</i>	Peachleaf Willow		<i>Viburnum lentago</i>	Nannyberry	
<i>Betula nigra</i>	River Birch		<i>Salix bobbiana</i>	Long-beaked Willow	Bebb Willow	<i>Viburnum rafinesquianum</i>	Downy Arrow-wood	Rafinesque Viburnum
<i>Betula papyrifera</i>	Paper Birch	White Birch	<i>Salix lucida</i>	Shining Willow		<i>Viburnum trilobum</i>	American Cranberry Bush	
<i>Carpinus caroliniana</i>	Blue Beech	American Hornbeam	<i>Salix nigra</i>	Black Willow		<i>Zanthoxylum americanum</i>	Common Prickly-ash	
<i>Carya cordiformis</i>	Bitternut Hickory		<i>Salix pellita</i>	Ontario Willow				
<i>Carya ovata</i>	Shagbark Hickory		<i>Salix petiolaris</i>	Meadow Willow				
<i>Celtis occidentalis</i>	Hackberry		<i>Salix pyrifolia</i>	Balsam Willow				
<i>Cornus alternifolia</i>	Pagoda Dogwood	Alternate-leaf Dogwood	<i>Salix serotina</i>	Autumn Willow				
<i>Crataegus mollis</i>	Downy Hawthorn		<i>(Salix spp. 'Flame' AND S. eriocephala MAY ALSO BE CONSIDERED NATIVE FOR PURPOSES OF THE MnRELEAF PROGRAM.)</i>					
<i>Crataegus punctata</i>	Dotted Hawthorn		<i>Sorbus americana</i>	American Mountain Ash	<i>Pyrus americana</i>			
<i>(OTHER Crataegus (Hawthorn) SPECIES THAT MAY BE CONSIDERED NATIVE FOR PURPOSES OF THE MnRELEAF PROGRAM ARE calpodendron, chryscarpa, douglasii, faxoni, irritata, lauratiflora, macrocartha, pedicellata, roanensis, and succulenta.</i>			<i>Sorbus decora</i>	Showy Mountain Ash	<i>Pyrus decora</i>			
			<i>Tilia americana</i> *	Basswood	American Linden			
			<i>Ulmus americana</i> *	American Elm				
			<i>Ulmus rubra</i>	Slippery Elm	Red Elm			
			<i>('Lincoln' IS A DUTCH ELM DISEASE-RESISTANT SELECTION OF Ulmus rubra.)</i>					
			<i>Ulmus thomasi</i>	Rock Elm				



Grantees can only chose from TREE listings. Shrubs are not eligible for this grant program.

TREES AND ~~LARGE SHRUBS~~:
Species Native to Minnesota's
Ecological Regions



SOUTHEAST

TREE RATING ZONE (Tree Rating Zone 1)

Range in *SOUTHEAST* Tree Rating Zone
(Tree Rating Zone 1)

ECOLOGICAL SUBSECTIONS

Botanical Name	Common Name	Alternative Name(s)	USDA Plant Hardiness Zone	ENTIRE Tree Rating Zone	Anoka Sand Plain	Big Woods	Oak Savanna	Paleozoic Plateau
EVERGREEN TREES								
<i>Abies balsamea</i>	Balsam Fir		2	part	part	none	part	part
<i>Juniperus virginiana</i>	Eastern Redcedar		3a	part	part	all	all	all
<i>Picea glauca</i>	White Spruce		2	part	part	none	none	none
Note: <i>Picea glauca densata</i> (Black Hills Spruce) may be considered native for purposes of the MnReLeaf program.								
<i>Picea mariana</i>	Black Spruce		2	part	part	none	part	none
<i>Pinus banksiana</i>	Jack Pine		2-7	part	part	none	none	part
<i>Pinus resinosa</i>	Red Pine	Norway Pine	2	part	part	none	part	part
<i>Pinus strobus</i>	Eastern White Pine		3-8	part	part	none	part	part
<i>Taxus canadensis</i>	Canada Yew	American Yew	2	part	part	none	part	part
<i>Thuja occidentalis</i>	Northern White Cedar	American Arborvitae Eastern Arborvitae	2	part	part	none	none	part
<i>Tsuga canadensis</i>	Eastern Hemlock	Canadian Hemlock	3b	part	part	none	none	none
DECIDUOUS TREES								
<i>Acer negundo</i>	Box Elder	Manitoba Maple	2	all	all	all	all	all
<i>Acer nigrum</i>	Black Maple		3b	part	none	part	part	all
<i>Acer rubrum</i>	Red Maple		3-6	part	all	part	part	part
<i>Acer saccharinum</i>	Silver Maple	Soft Maple	3-7	all	all	all	all	all
Note: <i>Acer x freemanii</i> (Freeman Maple) is a Silver & Red hybrid that may also be considered native for purposes of the MnReLeaf program.								
<i>Acer saccharum</i>	Sugar Maple	Hard Maple	3-5	part	all	part	part	all
<i>Acer spicatum</i>	Mountain Maple		2	part	part	none	none	part

Grantees can only chose from TREE listings. Shrubs are not eligible for this grant program.

Botanical Name	Common Name	Alternative Name(s)	USDA Plant Hardiness Zone	<u>ENTIRE</u> Tree Rating Zone	Anoka Sand Plain	Big Woods	Oak Savanna	Paleozoic Plateau
<i>Alnus rugosa</i>	Speckled Alder	<i>Alnus incana</i> Hazel Alder	2	part	part	part	part	part
<i>Amelanchier interior</i>	Inland Serviceberry	Inland Juneberry	n/a	part	part	part	part	part
<i>Amelanchier laevis</i>	Allegheny Serviceberry	<i>Amelanchier arborea</i> Downy Serviceberry Shadblow	2-4	part	part	part	part	part
Note: The hybrid <i>Amelanchier x grandiflora</i> (Apple Serviceberry) may also be considered native for purposes of the MnReLeaf program.								
<i>Betula alleghaniensis</i>	Yellow Birch	<i>Betula lutea</i>	3	part	part	part	part	part
<i>Betula nigra</i>	River Birch		4-8	part	none	part	part	part
<i>Betula papyrifera</i>	Paper Birch	White Birch	2-7	part	all	all	part	part
<i>Carpinus caroliniana</i>	Blue Beech	American Hornbeam	3	part	part	part	part	part
<i>Carya cordiformis</i>	Bitternut Hickory		4	all	all	all	all	all
<i>Carya ovata</i>	Shagbark Hickory		4	part	none	none	part	part
<i>Celtis occidentalis</i>	Hackberry		3a	all	all	all	all	all
<i>Cornus alternifolia</i>	Pagoda Dogwood	Alternate-leaf Dogwood	3-7	part	all	part	part	part
<i>Crataegus mollis</i>	Downy Hawthorn		3b	part	part	part	part	part
<i>Crataegus punctata</i>	Dotted Hawthorn		4b	part	part	part	part	part
Note: Other <i>Crataegus</i> (Hawthorn) species that may also be considered native for purposes of the MnReLeaf program are <i>calpodendron</i> , <i>chrysocarpa</i> , <i>faxoni</i> , <i>irrasa</i> , <i>macracantha</i> , <i>pedicellata</i> , <i>roanensis</i> , and <i>succulenta</i> .								
<i>Euonymus atropurpureus</i>	Eastern Wahoo		4b	part	part	part	part	part
<i>Fraxinus americana</i>	White Ash		4a	part	none	none	part	part
<i>Fraxinus nigra</i>	Black Ash		2	part	all	all	part	all
<i>Fraxinus pennsylvanica</i>	Green Ash		2-7	all	all	all	all	all
<i>Gleditsia triacanthos</i>	Common Honeylocust		4b-7	part	none	none	none	part
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree		4b-8	part	none	part	part	part
<i>Juglans cinerea</i>	Butternut		3	part	part	part	part	all
<i>Juglans nigra</i>	Black Walnut		4	part	none	part	part	all
<i>Larix laricina</i>	Tamarack	Eastern Larch American Larch	2	part	part	part	part	part
<i>Malus ioensis</i>	Prairie Crabapple		n/a	part	none	part	part	part
<i>Morus rubra</i>	Red Mulberry		5b	part	part	part	part	all
<i>Ostrya virginiana</i>	Ironwood	Eastern Hop Hornbeam	3-9	part	all	part	all	all

Grantees can only chose from TREE listings. Shrubs are not eligible for this grant program.

Botanical Name	Common Name	Alternative Name(s)	USDA Plant Hardiness Zone	ENTIRE Tree Rating Zone	Anoka Sand Plain	Big Woods	Oak Savanna	Paleozoic Plateau
<i>Populus balsamifera</i>	Balsam Poplar		n/a	part	part	part	none	part
<i>Populus deltoides</i>	Eastern Cottonwood	Eastern Poplar	3	part	part	all	all	all
<i>Populus grandidentata</i>	Bigtooth Aspen		3	all	all	all	all	all
<i>Populus tremuloides</i>	Quaking Aspen		2	all	all	all	all	all
<i>Prunus americana</i>	American Plum		2-4	part	part	all	all	all
<i>Prunus nigra</i>	Canada Plum		n/a	part	part	none	part	part
<i>Prunus pennsylvanica</i>	Pin Cherry		2-5	part	all	all	part	part
<i>Prunus serotina</i>	Black Cherry		3b	all	all	all	all	all
<i>Prunus virginiana</i>	Common Chokecherry		2-4	all	all	all	all	all
<i>Quercus alba</i>	White Oak		4a	part	part	part	part	all
<i>Quercus bicolor</i>	Bicolor Oak	Swamp White Oak	4a	part	part	part	part	part
<i>Quercus ellipsoidalis</i>	Northern Pin Oak		3b	part	all	all	part	all
<i>Quercus macrocarpa</i>	Bur Oak		2-8	all	all	all	all	all
<i>Quercus muehlenbergii</i>	Chinkapin Oak	Chestnut Oak	4b	part	none	none	none	part
<i>Quercus rubra borealis</i>	Northern Red Oak	<i>Quercus borealis</i>	3b	all	all	all	all	all
<i>Quercus velutina</i>	Black Oak		4b	part	none	none	none	part
<i>Salix amygdaloides</i>	Peachleaf Willow		3a	all	all	all	all	all
<i>Salix bebbiana</i>	Long-beaked Willow	Bebb Willow	2	all	all	all	all	all
<i>Salix lucida</i>	Shining Willow		2	part	all	part	part	part
<i>Salix nigra</i>	Black Willow		3	part	part	part	all	all
<i>Salix petiolaris</i>	Meadow Willow		n/a	all	all	all	all	all
<i>Salix serissima</i>	Autumn Willow		n/a	part	part	part	part	part
Note: <i>Salix</i> spp. 'Flame' and <i>S. eriocephala</i> may also be considered native for purposes of the MnReLeaf program.								
<i>Sorbus decora</i>	Showy Mountain Ash	<i>Pyrus decora</i>	2	part	part	none	none	none
<i>Tilia americana</i>	Basswood	American Linden	3-8	all	all	all	all	all
<i>Ulmus americana</i>	American Elm		2	all	all	all	all	all
<i>Ulmus rubra</i>	Slippery Elm	Red Elm	3	all	all	all	all	all
Note: 'Lincoln' is a Dutch elm disease-resistant selection of <i>Ulmus rubra</i> .								
<i>Ulmus thomasii</i>	Rock Elm		n/a	part	part	all	all	all
EVERGREEN SHRUBS								
<i>Juniperus communis</i>	Common Juniper		2-6	part	part	part	part	part