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Trees and Shrubs Tested in Western North Dakota and South Dakota



Cover Photo:

Bur oak from Barnes County, North Dakota, at Sweet Briar Arboretum

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Executive Summary

A role of the Natural Resources Conservation Service (NRCS) Plant Materials Program is to select conservation plants and develop innovative planting technology to solve the nation's most important resource concerns. Since 1972, the Bismarck Plant Materials Center (PMC) has established Off-Center Evaluation Plantings to identify woody plants with the potential to address a wide range of resource concerns. Initially, the main purpose was to find additional plants suited to preventing soil erosion and controlling sediment on agricultural land. Other resource concerns that have gradually received more emphasis are:

- Wildlife habitat
- Riparian plantings
- Plants for urban areas
- Outreach
- Invasive species/native species

Plants evaluated by the PMC have the potential to provide a vegetative solution to many resource concerns. This report summarizes the woody plants evaluated at four sites in western North Dakota and South Dakota. A total of 135 species of trees and shrubs have been evaluated.

This report includes many of the trees and shrubs which performed poorly. For most of the species, only a limited number of accessions were evaluated. Failure of individual accessions was often affected by adverse weather conditions. Other accessions, planted in years of adequate moisture, might have had better survival. In some other cases, soils were a limiting factor. Failure at this site does not necessarily mean that a particular species should not be planted.

Acknowledgements

Cooperators and partners in these four trial sites, together with the USDA, NRCS Plant Materials Center at Bismarck, North Dakota have included: Morton County Parks, Mandan, North Dakota; NDSU, Research Extension Centers at Dickinson and Williston, North Dakota; USDA, Forest Service, Buffalo Gap National Grassland near Cottonwood, South Dakota; USDA, NRCS field and area offices and Soil Conservation District offices at Dickinson and Williston, North Dakota, and Kadoka, South Dakota.

Trees and Shrubs Tested in Western North Dakota and South Dakota

Compiled by Michael Knudson, Forester
USDA-NRCS Plant Materials Center, Bismarck, North Dakota

Introduction

The Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service (SCS), has been designing tree plantings in the Northern Great Plains since the 1930s. A role of the NRCS Plant Materials Program has been to select conservation plants and develop innovative planting technology to solve the nation's most important resource concerns. Since 1954, the Bismarck Plant Materials Center (PMC) has identified hardy accessions (seed sources) for a wide range of resource concerns. Initially, tree and shrub species were planted for soil erosion and sediment control on agricultural land. Over the years, the PMC has addressed other resource concerns, including wildlife habitat, riparian plantings, urban areas, outreach, native species, and invasive species. Most of the tree and shrub species evaluated by the PMC have the potential to provide vegetative solutions to many resource concerns.

In 1972, the PMC planted large numbers of different tree and shrub species in Off-Center Evaluation Plantings (OCEP) in Minnesota, North Dakota and South Dakota. The first planting made in the western Dakotas was at the Sweet Briar Recreation Area in Morton County, North Dakota, in 1972. In the late 1970s, three additional plantings were started at the Dickinson Research Extension Center, the Williston Research Extension Center, and on the USDA Forest Service Buffalo Gap National Grassland near Cottonwood, South Dakota. The location of these plantings is shown in **Figure 1**.

Sweet Briar Recreation Area

Location

This site is an arboretum on the west side of Sweet Briar Recreation Area in Morton County, 17 miles west and three miles north of Mandan, North Dakota. The legal description is the SW1/4 SE1/4 sec. 4, T. 139 N, R. 84 W.

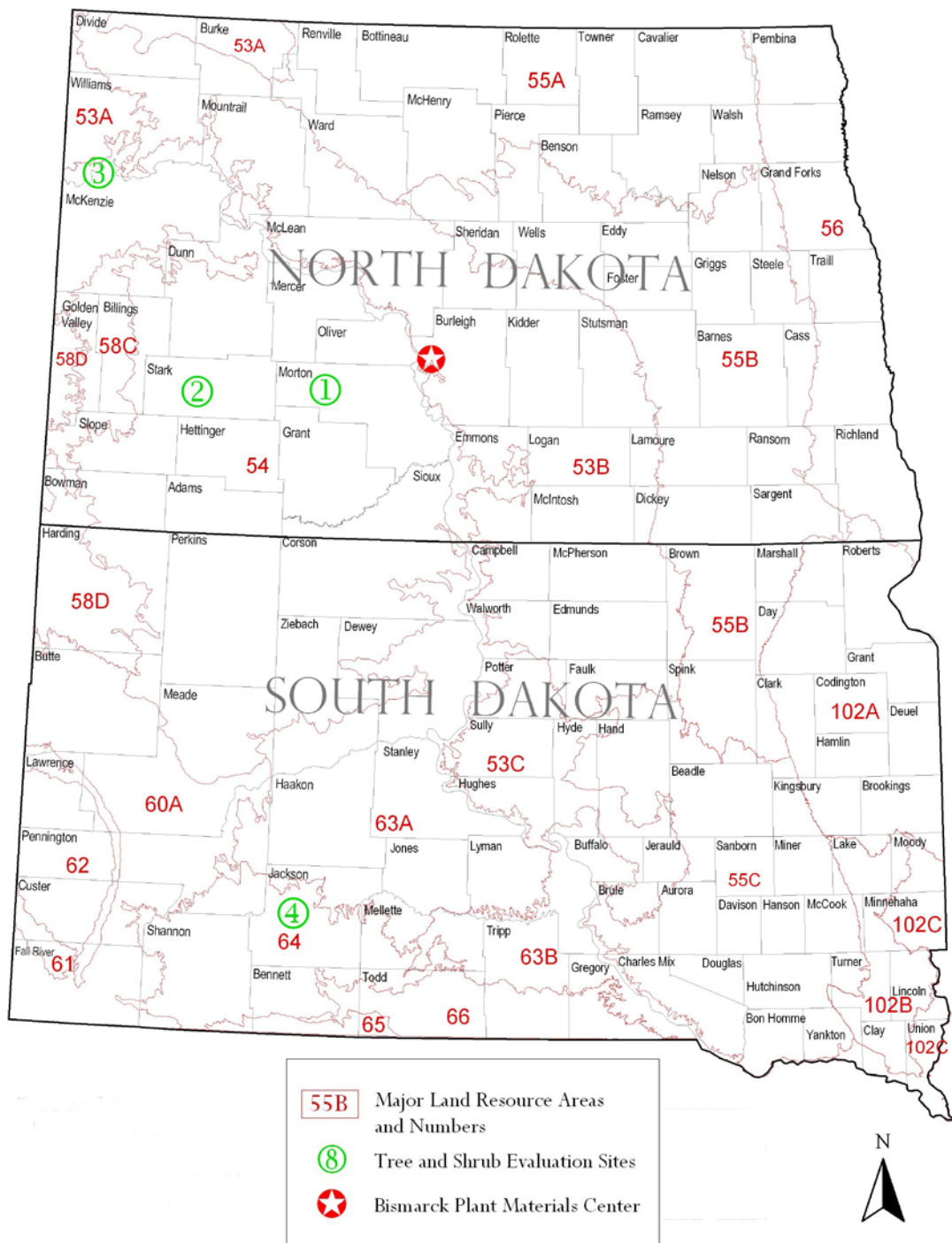
Cooperators

Beginning in 1972, the NRCS PMC staff and Morton County Parks established trees and shrubs. In the early years, the planting site was maintained by Elmer 'Buck' Worthington, a retired SCS woodland conservationist. Duncan Warren maintained the plots after Worthington retired.

Major Land Resource Area

The site is located in Major Land Resource Area 54, Rolling Soft Shale Plain. This moderately dissected rolling plain is underlain by calcareous shale and sandstones. Strongly dissected areas of local relief or badland topography border major streams and valleys in some areas. The elevation is 1,800 to 3,100 feet. Sixty percent of the area is rangeland.

Figure 1. Locations of Off-Center Evaluation Plantings in western North and South Dakota



Tree and Shrub Evaluation Sites

- 1 Sweet Briar Recreation Area, ND
- 2 NDSU, Dickinson Research Extension Center, ND
- 3 NDSU, Williston Research Extension Center, ND
- 4 USFS, Buffalo Gap National Grassland, Cottonwood, SD

Soils

The soil is a Stady loam. The Stady series consists of deep, well-drained soils formed in loamy sediments moderately deep over sand and gravel on outwash plains and stream terraces. This series is in North Dakota Windbreak Suitability Group 6. Generally, this soil series is poorly suited for windbreaks and other types of woody plantings. Though the soils are quite shallow in the south half of the planting, a dense shelterbelt on the west side provides excellent protection to the various accessions planted by the PMC.

Climate

The precipitation at the Sweet Briar site is similar to the Bismarck-Mandan average of approximately 16 inches. The mean temperature is 41.2 degrees F. The January mean temperature is 8 degrees F, while the July mean temperature is near 70 degrees F.

Plant Performance

In the spring of 1972, 16 different species of trees and shrubs were planted. The purpose of the planting was to establish an outdoor classroom for local students. New accessions of woody plants were added until 1987. A complete list of all accessions and the year of planting is listed in **Table 1**. Accessions that died or were removed are marked (d). **Figure 2** is a map showing the accessions remaining in the planting in 1988.

This site has been well maintained by the Morton County Park Board. Many of the tree and shrub accessions have continued to flourish. Accessions that continue to perform well through 2008 are ND-674 bur oak, ND-1030 buckeye, ND-686 Pekin lilac, 'McDermand' Ussurian pear, and several accessions of hackberry.



'McDermand' Ussurian pear at the Sweet Briar Recreation Area

Figure 2. Map of Off-Center Evaluation Planting at Sweet Briar Recreation Area Arboretum

MISCELLANEOUS BLOCKS														
WINDBREAK	R													
	o													
	w													
	#													
	7	green ash	honeylocust	willow	nannyberry	mayday	Noreaster poplar	'Prairie Red' plum	creeping juniper	creeping juniper	European cotoneaster			
	6													
	5													
	4	black alder	cottonwood	hackberry	Ohio buckeye	Russian olive								
	3													
	2	honeylocust	late lilac	Kentucky coffeetree		Harbin pear	caragana	silver maple	black walnut	Ohio buckeye	river bank grape			
1	honeylocust	Pekin lilac	mulberry	sloe	black walnut									
BLOCK 2														
5	Russian olive	apricot	sand cherry	Brooks plum	European cotoneaster	Redman elder	Nanking cherry	black walnut	yellow chokecherry	laurel willow	'Imperial' poplar	Nanking cherry		
4														
3	'Sakakawea' buffaloberry	'Legacy' late lilac	'Bighorn' skunkbush sumac	'Regal' Russian almond	'Indigo' silky dogwood	eastern red cedar	western juniper	Scots pine	blue spruce	ponderosa pine	Siberian larch			
2	boxelder	black ash	butternut	black walnut	Siberian elm	bur oak	Russian olive	juneberry	sloe X Nanking cherry	'Bighorn' skunkbush sumac	Schubert choke-cherry	Hansen hedge rose	smooth sumac	
1	green ash	hoptree	bur oak	Manchurian walnut	hackberry	walnut	hackberry	amur maple	hackberry	'Midwest' crabapple	downy hawthorn	sea buckthorn	'Homestead' hawthorn	tatarian honey-suckle
BLOCK 1														



Dickinson Research Extension Center

Location

The planting site is located on the west side of Dickinson, at the Research Extension Center. The legal description is NE¼ sec. 5, 139 N., R. 96 W. in Stark County, North Dakota.

Cooperators

The NRCS PMC staff and staff of the Research Extension Center worked together to establish this planting. In the early years, Tom Conlon, the station superintendent, helped the planting get off to a good start. The staff at the Research Extension Center continues to support and maintain the planting.

Major Land Resource Area

The site is located in Major Land Resource Area 54, Rolling Soft Shale Plain. This moderately dissected rolling plain is underlain by calcareous shales and sandstones. Strongly dissected areas of sharp local relief or badland topography border major streams and valleys in some areas. Elevation is 1,800 to 3,100 feet. Sixty percent of the area is rangeland.

Soils

The soil type at the site is a Parshall sandy loam. The Parshall series consists of deep, well-drained soils formed in fine sandy loam alluvium on terraces and outwash plains and in upland swales. This soil is in North Dakota Windbreak Suitability Group 5. Erosion hazard is serious. In the dry years of 1990 and 1991, a cover crop was maintained to prevent soil erosion.



'McKenzie' black chokeberry at Dickinson with NRCS student employees

Climate

The average rainfall in Dickinson is approximately 16.4 inches per year. The mean annual temperature is 40.6 degrees F. The mean January temperature is 9.3 degrees F, while the hottest month is July, with a mean temperature of 68.6 degrees F. In July 2008, there was one day in which the temperature was above 110 degrees.

Plant Performance

Since 1978, a total of 195 accessions from 113 different species have been planted. Currently, 66 species are being evaluated. The map in **Figure 3** shows the species currently being evaluated. In the years when the precipitation was average to above average, new plantings became well established. In the years of below average moisture, new plants had difficulty surviving on the sandy loam. Dry years often were combined with high summer temperatures, which put new seedlings under a lot of stress. Some of the trees which have done well at Dickinson include Siberian larch, white poplar, ponderosa pine, honeysuckle, and 'Homestead' hawthorn. A complete list of accessions planted at Dickinson is shown in **Table 1**. Site maintenance by the staff of the Research Extension Center has been excellent.

Figure 3. Map of Off-Center Evaluation Planting at Dickinson Research Extension Center, Dickinson, North Dakota

	Block 1A		Block 1B		Block 2		Block 3				Block 4	
Row 1			ND-1729 Siberian larch		ND-313 red tatarian honeysuckle	ND-1730 red tatarian honeysuckle	'Midwest' Manchurian crabapple		'Red Splendor' crabapple		SD-156 green ash	ND-1734 green ash
Row 2	9082885 aspen	9082619 green ash	SL-383-T Siberian larch		9082684 smooth sumac	9008183 Sheridan source chokecherry	ND-1731 Siberian crabapple		'McDermand' Ussurian pear		'Cardan' green ash	ND-1759 green ash
Row 3	14392 Walker poplar	'Canam' Walker poplar	ND-1765 Siberian larch		ND-26 honeysuckle/ ND-452 honeysuckle	ND-170 cotoneaster	'Freedom' honey- suckle	9063143 red tatarian honey- suckle	Survivor false indigo	'Arnolds Red' honey- suckle	ND-647 black ash	ND-1432 Ohio buckeye
Row 4	ND-3796 white poplar	Raverdeau poplar	ND-1763 ponderosa pine	ND-1565 bristlecone pine	9082711 winterberry euonymus	'Regal' Russian almond	'Konza' aromatic sumac	'Scarlet' Mongolian cherry		'Legacy' late lilac	ND-1879 honeylocust	
Row 5	9082640 Gambel oak	9069090 quaking aspen	9057413 ponderosa pine	9069169 Siberian pine	ND-11 amur honeysuckle	'Centennial' cotoneaster	'Sakakawea' silver buffaloberry		'Magenta' crabapple		9063116 black ash	
Row 6		Assiniboine poplar	9069172 Scots pine		9057406 rugosa rose	9082638 western blue elderberry	9076726 tatarian maple		9091969 Russian peashrub		9063115 green ash	9076724 Russian olive
Row 7	9063141 eastern cottonwood	9082739 ironwood		ND-3803 white poplar	9076737 black cherry	323957 chokeberry	9076686 roundleaf hawthorn		9082653 skunkbush sumac		ND-989 Japanese elm	9069166 Russian olive
Row 8	Hunter ponderosa pine	Bridger- Select juniper	9092140 Korean mtn. ash	9082687 black currant	9063142 Japanese cherry	9082713 Siberian peach	'Prairie Red' plum		ND-629 amur maple		'Oahe' hackberry	
Row 9	9069164 Scots pine	9069168 Siberian larch	9063148 corktree	ND-21 nannyberry	'Homestead' Arnold hawthorn		ND-1873 amur maple		ND-686 Pekin lilac		SD-75 hackberry	
Row 10	9082641 pinyon pine	9082889 mugo pine	9069081 littleleaf linden	9063126 Japanese elm	mayday/ common juniper	salt tree/ bittersweet	9069129 amur chokecherry					9057410 hackberry
	Block 1A		Block 1B		Block 2		Block 3				Block 4	

Williston Research Extension Center

Location

The planting site is located one mile west of Williston, at the Williston Research Extension Center. The legal description is NE¼ sec. 25, T. 154 N., R. 102 W. in Williams County.

Cooperators

The PMC staff began working with the Williston Experiment Station and the Williston field office in 1975. In 1975, Marc Vrem, District Conservationist in the Williston field office, planned a tree planting at the Experiment Station, using accessions received from the PMC. A test planting to the south of the 1975 planting, was established by the PMC with the assistance of Quentin Johnson.

Major Land Resource Area

The site is located in Major Land Resource Area 53A, Dark Brown Glaciated Plain. Most soils are derived from calcareous glacial till. Elevation is 1,500 to 3,000 feet. The gently rolling plain includes some areas of kames and moraines that have irregular topography. Forty percent of the area is rangeland.

Soils

The soil type is a Williams loam. The Williams series consists of deep, well-drained, moderately slow or slowly permeable soils formed in calcareous glacial drift on uplands. This soil is in Windbreak Suitability Group 3. If moisture is conserved, these soils are well suited to all types of windbreak and other plantings.



Williston Off-Center Evaluation Planting in 1988

Climate

The average annual precipitation at Williston is 13.8 inches. The average mean temperature is 40.5 degrees F. The average January temperature is 7.6 degrees F, while the average July temperature is 69.8 degrees F.

Plant Performance

The windbreak planted in 1975 provided excellent protection for the trial planted in 1979. A complete list of accessions planted in 1979 is included in **Table 1**. Seventy-five percent of the accessions planted were conifers. No additional trees were planted after 1979. **Figure 4** shows the accessions remaining in 1988. The planting was evaluated by the PMC until 1993. Most of the trees planted in 1979 were still alive when the study ended in 1993. The best performing trees in 1993 were several accessions of Scots pine from Greece and Turkey, as well as an accession of Norway spruce. The trees have been maintained by the Williston Research Extension Center staff.

Figure 4. Map of Off-Center Evaluation Planting at Williston, North Dakota

Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7	Row 8	Row 9
	'Bighorn' skunkbush sumac	ND-1873 Amur maple	ND-1720 Japanese red pine		ND-1722 Douglas fir	ND-1719 Scots pine	ND-1710 Crimean pine	
	ND-26 honeysuckle	ND-629 Amur maple	ND-1718 Scots pine	ND-1716 hybrid Austrian pine	ND-1723 white cedar	ND-1724 Norway spruce	ND-1717 Scots pine	

Cottonwood Off-Center Evaluation Planting

Location

This study was 1.2 miles west of Cottonwood, South Dakota. The legal description is NE¼ NW¼ NE¼ sec. 14, T. 1 S., R. 18 E., Jackson County, South Dakota.

Cooperators

The PMC staff established this planting in cooperation with the USDA, U.S. Forest Service, Buffalo Gap National Grassland, Cottonwood, South Dakota, and the NRCS field office at Kadoka, South Dakota.



*Tom Coleman, District Conservationist,
measures tree height at Cottonwood OCEP*

Major Land Resource Area

The site is located in Major Land Resource Area 63A, Northern Rolling Pierre Shale Plain. These areas are nearly level to rolling and have long smooth slopes and a well-defined dendritic drainage system. River and creek valleys have smooth floors and steep walls. Elevation is 1,300 to 3,000 feet. In most years, precipitation is inadequate for maximum plant growth.

Soils

The soil types are Kyle clay and Cactusflat silty clay. The Kyle series consists of deep, well-drained soils formed in clay sediments weathered from clay shales. It occurs on uplands, colluvial fans, and terraces. The Cactusflat series consists of deep, well-drained soils formed in sodium enriched silty sediments on foot slopes, terraces, uplands, and alluvial fans.

Kyle clay is in Conservation Tree and Shrub Group (CTSG) 4CC. Cactusflat silty clay is in CTSG 4C. High clay content and water availability influence the selection of tree and shrub species suitable for these soils.

Climate

The mean annual precipitation at Cottonwood, South Dakota is 16.7 inches. The mean temperature is 46.7 degrees F. The mean January temperature is 19.1 degrees F, while the July temperature is 74.7 degrees F.

Plant Performance

The PMC staff began planting trees and shrubs in 1979. **Figure 5** shows the layout of the plots and the accessions surviving in 1989 at Cottonwood. New accessions were last added to the planting in 1996. The last evaluations were in 1998. A complete list of accessions in the planting is included in **Table 1**. Animal and insect damage and exposure to wind, hail, cold, and weed competition reduced performance of most of the plants. Russian almond was one of the few species which survived on the heavy soils. Other trials at Cottonwood included various tree shelters and fabric and terra-sorb hydrogel. The plots were maintained by the Jackson County Soil Conservation District.

Figure 5. Map of Off-Center Evaluation Planting at Cottonwood, South Dakota

	Row #	BLOCK 1 (Shrubs)		BLOCK 2 (Medium trees)		BLOCK 3 (Tall trees)		BLOCK 4
WINDBREAK	1					'Cardan' green ash		EVERGREENS
	2	'Sakakawea' silver buffaloberry	ND-1867 silver buffaloberry			SD-156 green ash		
	3		ND-1864 common lilac			ND-1734 green ash	ND-1753 green ash	
	4	ND-313 tatarian honeysuckle	ND-1865 tatarian honeysuckle	ND-1868 chokecherry		ND-1754 green ash	ND-1759 green ash	
	5	ND-26 honeysuckle	'Regal' Russian almond	ND-1869 American plum	ND-81 sloe	ND-363 Russian olive	ND-364 Russian olive	
	6	'Sakakawea' silver buffaloberry		ND-686 Pekin lilac		ND-1871 Russian olive	ND-541 Russian olive	
	7					ND-1170 mulberry		
	8	ND-3815 Peking cotoneaster	ND-3816 Siberian peashrub			ND-1843 Russian olive	ND-1844 Russian olive	
	9		ND-3888 cotoneaster	ND-3818 chokecherry		'Oahe' hackberry	'Oahe' hackberry	
	10					ND-1879 honeylocust	SD-75 hackberry	
	11	'Centennial' cotoneaster				ND-1863 honeylocust	ND-1863 honeylocust	
	12							
	13							
	14							
	15					ND-3820 Siberian elm	ND-3820 Siberian elm	

Summary and Discussion

A wide range of native and introduced species have been planted and observed at the four Off-Center Evaluation Plantings in western North and South Dakota. All of the species planted are listed in **Table 1**. Many of these species have been approved for inclusion in the NRCS Field Office Technical Guide (FOTG). All of the species that are included in the North Dakota FOTG (MLRAs 53, 54, 58) or the South Dakota FOTG (MLRAs 54, 63A, 64, 65, 66) have the state abbreviation after the species name. Accessions which are releases from the Bismarck PMC are marked (PMC) following the accession number. Accessions that died or were removed are marked (d).

Table 1. Accessions planted at the Off-Center Evaluation Planting sites

Scientific Name ¹	Accession ²	Common Name	Location/Year Planted (d=died) ³				Source/Remarks	Drought Hardy ⁴
			Dickinson	Sweetbriar	Williston	Cottonwood		
<i>Acer ginnala</i> ^{ND,SD}	ND-629	Amur maple	1979	1972	1979	1980 ^d	Arboretum, Morden, Manitoba	M
	Flame	Amur maple	1987 ^d			1987 ^d	PMC, Elsberry, MO	L
	ND-1873	Amur maple	1979		1979		Lincoln-Oakes Nursery, Bismarck, ND	M
	ND-3817	Amur maple				1982 ^d	Lincoln-Oakes Nursery, Bismarck, ND	M
<i>Acer negundo</i> ^{ND,SD}	ND-670	boxelder		1973			Arboretum, Morden, Manitoba	M
<i>Acer saccharinum</i> ^{SD}	ND-3825	silver maple	1983 ^d				Bismarck, ND	L
	ND-3886	silver maple	1983 ^d				Bismarck, ND	L
	ND-1009	silver maple		1975			Finley, ND	L
<i>Acer tataricum</i> ND	9076726	Tatarian maple	1996				ARS, Mandan, ND	M
<i>Aesculus glabra</i>	ND-1432	buckeye	1978				Arboretum, Morden, Manitoba	M
	ND-574	buckeye		1976			Arboretum, Morden, Manitoba	H
	ND-1030	buckeye		1975			Murray Co., MN	H
<i>Alnus glutinosa</i>	Mich-823	European alder		1976			PMC, Rose Lake, MI	L
<i>Alnus rugosa</i>	9082665	speckled alder	2000 ^d				Lawyer Nursery, Plains, MT	L
<i>Amelanchier alnifolia</i> ^{SD}	ND-46	juneberry		1973			Cando, ND	M
<i>Amorpha canescens</i>	9082678	leadplant	2002				Lincoln-Oakes Nursery, Bismarck, ND	H

¹ND=indicates the species is included in the North Dakota electronic Field Office Technical Guide (FOTG), SD=indicates the species is included in the South Dakota electronic FOTG)

²PMC=indicates the variety is a release from the Bismarck Plant Materials Center

³d=accession has died or been removed

⁴(L=low, M=medium, H=high)

Scientific Name ¹	Accession ²	Common Name	Location/Year Planted (d=died) ³				Source/Remarks	Drought Hardy ⁴
			Dickinson	Sweetbriar	Williston	Cottonwood		
<i>Amorpha fruticosa</i> ^{ND,SD}	9047236	false indigo	1987 ^d				Lincoln-Oakes Nursery, Bismarck, ND	M
	Survivor ^{PMC}	false indigo	1987				PMC, Aberdeen, ID	M
<i>Berberis koreana</i>	ND-3744	Korean barberry	1988 ^d			1988	Asia/ NDSU, Fargo, ND	L
<i>Betula pendula</i>	9076722	European birch	1996 ^d				ARS, Mandan, ND	L
<i>Caragana arborescens</i> ^{ND,SD}	ND-1171	Siberian peashrub		1975			Harding Co., SD	H
	ND-3816	Siberian peashrub				1982	Jackson-Washabaugh Conservation District	H
	ND-3887	Siberian peashrub				1983 ^d	Lawyer Nursery, Plains, MT	H
<i>Caragana frutex</i>	9091969	Russian peashrub	2005				Big Sioux Nursery, SD	M
<i>Caragana pygmaea</i>	ND-2507	pygmy caragana	1988			1988 ^d	Bottineau, ND	M
<i>Celastrus scandens</i>	9082712	bittersweet	2002				Lincoln-Oakes Nursery, Bismarck, ND	L
<i>Celtis occidentalis</i> ^{ND,SD}	Oahe ^{PMC}	hackberry	1980	1972		1980	Gettysburg, SD/ARS, Mandan, ND	H
	SD-75	hackberry	1981	1972		1981	Potter Co., SD	H
	9057410	hackberry	1988			1988 ^d	McHenry Co., ND	H
	ND-471	hackberry		1976			Arboretum, Morden, Manitoba	H
	SD-211	hackberry		1972			Sanborn Co., SD	H
<i>Cornus amomum</i>	Indigo	silky dogwood	1983 ^d	1973		1983 ^d	PMC, Rose Lake, MI	M
<i>Cornus stolonifera</i> ^{ND,SD}	ND-3889	redosier dogwood				1983 ^d	Lawyer Nursery, Plains, MT	L

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⁴(L=low, M=medium, H=high)

Scientific Name ¹	Accession ²	Common Name	Location/Year Planted (d=died) ³				Source/Remarks	Drought Hardy ⁴
			Dickinson	Sweetbriar	Williston	Cottonwood		
<i>Cotoneaster acutifolia</i> ^{ND,SD}	ND-3815	Peking cotoneaster				1982	Jackson-Washabaugh Conservation District	M
	ND-3888	Peking cotoneaster				1983 ^d	Lawyer Nursery, Plains, MT	M
<i>Cotoneaster integerrimus</i> ^{ND,SD}	ND-170	European cotoneaster	1990	1974			Kingsbury Co., SD (seems more resistant to fireblight)	M
	Centennial ^{PMC}	European cotoneaster	1985	1985		1985	ARS, Cheyenne, WY (is affected by fireblight)	M
<i>Crataegus</i> sp.	ND-1567	hawthorn	1988 ^d				Wells Co., ND	M
<i>Crataegus x anomala</i> ^{ND,SD}	Homestead ^{PMC}	Arnold hawthorn	1984	1972			Arboretum, Morden, Manitoba	M
	ND-19	Arnold hawthorn				1984 ^d	Arboretum, Morden, Manitoba	M
<i>Crataegus chrysocarpa</i>	9076686	roundleaf hawthorn	2004 ^d				PMC, Bismarck, ND (composite of 5 sources from SD)	H
<i>Crataegus mollis</i> ND	ND-25	downy hawthorn		1972			NDSU, Fargo, ND	M
<i>Elaeagnus</i> X ' <i>Jefmorg</i> '	Silverscape	silverberry hybrid	2006				Jeffries Nurseries, Ltd/Lincoln-Oakes Nursery	L

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Scientific Name ¹	Accession ²	Common Name	Location/Year Planted (d=died) ³				Source/Remarks	Drought Hardy ⁴
			Dickinson	Sweetbriar	Williston	Cottonwood		
<i>Elaeagnus angustifolia</i> ^{ND,SD}	ND-364	Russian olive	1978 ^d	1973		1979 ^d	Burleigh Co., ND	H
	ND-1843	Russian olive	1980 ^d			1980	Arboretum, Morden, Manitoba	H
	ND-363	Russian olive	1978 ^d			1979 ^d	Burleigh Co., ND	H
	ND-3890	Russian olive	1983 ^d				Lawyer Nursery, Plains, MT	H
	ND-1735	Russian olive	1978 ^d				Lincoln-Oakes Nursery, Bismarck, ND	H
	9076724	Russian olive	1996				Russia/ARS, Mandan, ND	H
	9069166	Russian olive	1996				Russia, Dr. Helmet Mattis	H
	ND-541	Russian olive	1978 ^d	1974		1979 ^d	Haakon Co., SD	H
	ND-1871	Russian olive				1979	Burleigh Co., ND	H
	ND-1844	Russian olive				1980	Arboretum, Morden, Manitoba	H
	9047231	Russian olive				1988 ^d	PMC, Tucson, AZ	H
<i>Elaeagnus commutata</i> ^{ND,SD}	ND-628	silverberry	1978 ^d			1979 ^d	Kidder Co., ND	H
<i>Elaeagnus umbellata</i>	Cardinal	autumn olive	1987 ^d				China/PMC, Elsberry, MO	L
	Redwing	autumn olive	1987 ^d				China/Rose Lake, MI	L
<i>Euonymus bungeanus</i>	9082711	winterberry euonymus	2002				China/NDSU, Fargo, ND	M
<i>Fraxinus americana</i>	9063127	white ash	1992 ^d				Wisconsin/Lincoln-Oakes Nursery, Bismarck, ND	L
<i>Fraxinus nigra</i> ^{SD}	ND-647	black ash	1978	1973			Arboretum, Morden, Manitoba	L
	9063116	black ash	1994				Itasca State Park, MN	L

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<i>Fraxinus pennsylvanica</i> ^{ND,SD}	SD-156	green ash	1978			1979	Deuel Co., SD	H
	ND-1759	green ash	1978			1979 ^d	PMC, Bismarck, ND (Cardan X SD-156)	H
	ND-1734	green ash	1978			1979 ^d	Lincoln-Oakes Nursery, Bismarck, ND	H
	Cardan ^{PMC}	green ash	1978	1972		1979 ^d	Montana/ARS, Mandan, ND	H
	9063115	green ash	1994				Itasca State Park, MN	H
	9082619	green ash	2002				Jordan, MT, Clayton Berg	H
	ND-3207	green ash		1982			Hettinger Co., ND	H
	ND-1753	green ash				1979	Gurney Seed & Nursery, Yankton, SD	H
	ND-1754	green ash				1979 ^d	Plumfield Nursery, Fremont, NE	H
<i>Gleditsia triacanthos</i> ^{SD}	ND-1863	honey locust	1982 ^d	1982		1982	Brown Co., SD	M
	ND-1879	honey locust	1980			1980	Woodward, OK	M
	ND-777	honey locust		1975			Hughes Co., SD	M
	ND-1221	honey locust		1974			Beadle Co., SD	M
<i>Gymnocladus dioica</i>	ND-1135	Kentucky coffeetree		1975			Madison Co., NE	L
<i>Halimodendron halidendron</i>	9057438	Siberian salt tree	1994				PFRA, Indianhead, Saskatchewan	M
<i>Hippophae rhamnoides</i> ^{ND,SD}	9047238	seaberry	1987 ^d			1987 ^d	PFRA, Indianhead, Saskatchewan	M
	ND-3891	seaberry	1983 ^d				Lawyer Nursery, Plains, MT	M
	ND-1276	seaberry		1972			Arboretum, Morden, Manitoba	M
<i>Juglans cathayensis</i>	ND-573	Cathay walnut	1978 ^d	1972 ^d			Asia/Arboretum, Morden, Manitoba	L
<i>Juglans cinerea</i>	ND-547	butternut		1973 ^d			Arboretum, Morden, Manitoba	L

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<i>Juglans mandshurica</i>	ND-548	Manchurian walnut	1978 ^d				Asia/Arboretum, Manitoba	L
<i>Juglans nigra</i> ^{SD}	ND-428	black walnut	1985 ^d			1985 ^d	NDSU, Fargo, ND	L
	9063098	black walnut	1991 ^d				Big Sioux Nursery, Watertown, SD	L
	ND-465	black walnut		1974			Arboretum, Morden, Manitoba	L
	SD-158	black walnut		1973			Davison Co., SD	L
<i>Juniperus communis</i>	ND-3742	common juniper	2006				Wilton Mine site/PMC, Bismarck, ND	H
<i>Juniperus horizontalis</i>	Mich-768	creeping juniper		1982			Golden Valley Co., ND	H
	ND-1550	creeping juniper		1982			Lawrence Co., SD	H
<i>Juniperus occidentalis</i>	BOTT.	western juniper		1973			NDFS, Bottineau, ND	M
<i>Juniperus scopulorum</i> ^{ND,SD}	ND-3821	Rocky Mtn. juniper				1982 ^d	Big Sioux Nursery, Watertown, SD	H
	ND-3822	Rocky Mtn. juniper				1982 ^d	Halsey Nursery, NE	H
	Bridger Select	Rocky Mtn. juniper	2005				PMC, Bridger, MT	H
<i>Juniperus virginiana</i> ^{ND,SD}	ND-3823	eastern red cedar				1982 ^d	Big Sioux Nursery, Watertown, SD	M
<i>Larix laricina</i>	9058862	tamarack	1990 ^d				Chippewa Farms, MN	L
<i>Larix olgensis</i>	9063151	Dahurian larch	1996 ^d				China/Xiao-bei-hu Forest Farm	M

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<i>Larix sibirica</i> ^{ND,SD}	ND-1729	Siberian larch	1978				Towner Nursery, Towner, ND	H
	ND-1765	Siberian larch	1978				USFS, Bottineau, ND	H
	SL-383-T	Siberian larch	1978				USFS, Bottineau, ND	H
	9069168	Siberian larch	1998				Altai region, Dr. Helmut Mattis	H
<i>Lonicera</i> sp.	ND-26	honeysuckle	1979		1979	1979	ARS, Mandan, ND	H
<i>Lonicera korolkowii</i> ^{ND,SD}	Freedom	blueleaf honeysuckle	1990				U of Minnesota (aphid resistant)	M
<i>Lonicera maackii</i> ^{SD}	ND-11	Amur honeysuckle	1981			1981 ^d	Arboretum, Morden, Manitoba	M
	Cling-Red	Amur honeysuckle	1987 ^d			1987 ^d	PMC, Elsberry, MO	L
	Rem-Red	Amur honeysuckle				1988 ^d	PMC, Cape May, NJ	L
<i>Lonicera tatarica</i> ND	9069080	Tatarian honeysuckle	1993				Lee Nursery, Fertile, MN (Arnold's Red, aphid resistant)	H
	9063143	Tatarian honeysuckle	1993				Schumacher Nursery, MN (Hawkeye-aphid resistant)	H
	9069128	Tatarian honeysuckle	1994 ^d				Big Sioux Nursery, Watertown, SD	H
	ND-1865	Tatarian honeysuckle				1979	Lincoln-Oakes Nursery, Bismarck, ND	H
<i>Lonicera tatarica sibirica</i> ND	ND-313	Tatarian honeysuckle	1978	1972		1979	ARS, Cheyenne, WY	H
	ND-1730	Tatarian honeysuckle	1978				Lincoln-Oakes Nursery, Bismarck, ND	H
	ND-3892	Tatarian honeysuckle				1983 ^d	Lawyer Nursery, Plains, MT	H
<i>Lonicera xylosteoides</i>	Hedge King	honeysuckle	1988 ^d			1988 ^d	Wedge Nursery, Albert Lea, MN	M
<i>Lonicera xylosteum mollis</i>	ND-452	fly honeysuckle	1979				ARS, Cheyenne, WY	H
<i>Malus</i>	Magenta	crabapple	1992				PMC, Rose Lake, MI	M

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<i>Malus baccata</i> ^{ND,SD}	ND-1731	Siberian crabapple	1978				Lincoln-Oakes Nursery, Bismarck, ND	M
	Red Splendor	Siberian crabapple	1978			1979 ^d	Lee Nursery, Fertile, MN	M
	ND-1870	Siberian crabapple				1979 ^d	Lincoln-Oakes Nursery, Bismarck, ND	M
<i>Malus mandshurica</i> ^{ND,SD}	Midwest ^{PMC}	Manchurian crabapple	1978	1972		1979 ^d	PMC, Bismarck, ND	M
<i>Malus sargentii</i>	Roselow	Sargent's crabapple	1983 ^d			1983 ^d	PMC, Rose Lake, MI	L
<i>Morus alba</i> ^{SD}	ND-1170	white mulberry	1978 ^d			1979 ^d	Burleigh Co., ND	L
	ND-1169	white mulberry		1976			Jerauld Co., SD	L
<i>Phellodendron amurense</i>	ND-3805	Amur corktree	1982 ^d			1982 ^d	U of Minnesota, Chaska, MN	M
<i>Phellodendron sachalinense</i>	9063148	Sakhalin corktree	1995				Clay Co., MN	M
	ND-3806	Sakhalin corktree				1982 ^d	U of Minnesota, Chaska, MN	M
<i>Photinia melanocarpa</i> ^{SD}	McKenzie ^{PMC}	black chokeberry	2000			1988 ^d	ARS, Plant Introduction Station, Ames, IA	M
<i>Picea abies</i>	ND-1724	Norway spruce	1979 ^d		1979	1979 ^d	USFS, Lincoln, NE	M
<i>Picea engelmanni</i>	ND-1760	Engelmann spruce	1978 ^d				USFS, Bottineau, ND	L
<i>Pinus aristata</i>	ND-1565	bristlecone pine	1978				USFS, Bottineau, ND	M
<i>Pinus contorta</i>	9057411	lodgepole pine	1988 ^d			1988 ^d	Canada/NDFS, Towner, ND	M

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<i>Pinus densiflora</i>	ND-1720	Japanese red pine	1979 ^d		1979	1979 ^d	USFS, Lincoln, NE	L
<i>Pinus edulis</i>	9082641	pinyon pine	1999 ^d				Colorado/Lincoln-Oakes Nursery, Bismarck, ND	L
<i>Pinus mugo</i>	9082889	mugo pine	2004				Big Sioux Nursery, Watertown, SD	L
<i>Pinus nigra</i> ^{SD}	ND-1715	Austrian pine	1979 ^d			1979 ^d	USFS, Lincoln, NE	M
<i>Pinus nigra caramanica</i>	ND-1714	Crimean pine	1979 ^d		1979 ^d	1979 ^d	USFS, Lincoln, NE	L
<i>Pinus nigra pallasiana</i>	ND-1710	Crimean pine	1979 ^d		1979 ^d	1979 ^d	USFS, Lincoln, NE	L
	ND-1712	Crimean pine	1979 ^d		1979 ^d	1979 ^d	USFS, Lincoln, NE	L
<i>Pinus nigra x densiflora</i>	ND-1716		1979 ^d		1979	1979 ^d	USFS, Lincoln, NE	L
<i>Pinus ponderosa</i> ^{ND,SD}	9057413	ponderosa pine	1988			1988 ^d	Montana/NDFS, Towner, ND	H
	ND-1763	ponderosa pine	1978				South Dakota/USFS, Bottineau, ND	H
	ND-3681	ponderosa pine				1979 ^d	Bessey Nursery, Halsey, NE	H
	Hunter	ponderosa pine	2005				PMC, Bridger, MT	H
<i>Pinus rigida</i>	ND-1721	pitch pine	1979 ^d		1979 ^d	1979 ^d	USFS, Lincoln, NE	L
<i>Pinus sibirica</i>	9069169	Siberian pine	2003				Russia, Dr. Helmut Mattis	M

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<i>Pinus sylvestris</i> ^{ND,SD}	ND-1718	Scots pine	1979 ^d		1979	1979 ^d	USFS, Lincoln, NE	M
	ND-1719	Scots pine	1979 ^d		1979	1979	USFS, Lincoln, NE	M
	9069172	Scots pine	1997				Altai Region, Dr. Helmut Mattis	M
	ND-1717	Scots pine	1979 ^d		1979	1979 ^d	USFS, Lincoln, NE	M
<i>Pinus sylvestris</i> var. <i>mongolica</i> ^{ND,SD}	9069164	Mongolian Scots pine	1998				China	M
<i>Populus</i> ^{ND,SD}	Canam ^{PMC}	poplar	1990				ARS, Mandan, ND	L
	14392	poplar	1990				ARS, Mandan, ND	L
	Theves	poplar	1993 ^d				Lee Nursery, Fertile, MN	L
	9063146	poplar	1993				PFRA, Indianhead, Saskatchewan	L
	Assiniboine	poplar	1993				PFRA, Indianhead, Saskatchewan	L
	Raverdeau	poplar	1993				Lee Nursery, Fertile, MN	L
	9082650	poplar	2002				Valley Nursery, Helena, MT	L
<i>Populus alba</i> ^{ND,SD}	ND-3796	white poplar	1992				Turner Co., SD	M
	ND-3803	white poplar	1994				Turner Co., SD	M
<i>Populus canadensis</i>	Imperial	hybrid poplar		1974			PMC, Rose Lake, MI	M
<i>Populus deltoides</i> ^{ND,SD}	9063141	cottonwood	1993				Lincoln-Oakes Nursery, Bismarck, ND	M
	Mich-1083	cottonwood		1976			PMC, Rose Lake, MI	M
	Lydick	cottonwood		1982 ^d			Dept. of Forestry, Lincoln, NE	M
	Ashford	cottonwood		1982 ^d			Dept. of Forestry, Lincoln, NE	M

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<i>Populus deltoides</i> x <i>nigra</i> ^{ND,SD}	14271	hybrid poplar	1990				ARS, Mandan, ND	L
	14272	hybrid poplar	1990				ARS, Mandan, ND	L
	14273	hybrid poplar	1990 ^d				ARS, Mandan, ND	L
	14274	hybrid poplar	1990 ^d				ARS, Mandan, ND	L
	Noreaster	hybrid poplar		1982			Dept. of Forestry, Lincoln, NE	L
<i>Populus tremuloides</i> ND	9069090	quaking aspen	1993				Lee Nursery, Fertile, MN	L
	9082885	quaking aspen	2004				NDFS, Towner Nursery, Towner, ND	L
<i>Potentilla fruticosa</i>	Dakota Sunrise	bush cinquefoil				1980 ^d	ARS, Mandan, ND	H
<i>Prunus</i>	Prairie Red ^{PMC}	plum	1985	1985		1985 ^d	Hand Co., SD	M
	9063142	Japanese cherry	1993				Lincoln-Oakes Nursery, Bismarck, ND	M
	ND-684	sloe x Nanking cherry		1973			Lincoln-Oakes Nursery, Bismarck, ND	M
<i>Prunus americana</i> ^{ND,SD}	ND-1869	American plum				1979	Lincoln-Oakes Nursery, Bismarck, ND	M
	ND-3893	American plum				1983 ^d	Lawyer Nursery, Plains, MT	M
<i>Prunus armeniaca</i> ^{ND,SD}	ND-1178	apricot	1978 ^d				Walsh Co., ND	L
	ND-423	apricot	1978 ^d				Stark Co., ND	L
	Mantoy	apricot	1978 ^d				ARS, Mandan, ND	L
	SD-132	apricot	1978 ^d				Brookings, SD	L
	SD-133	apricot	1978 ^d				Brookings, SD	L
	SD-134	apricot	1978 ^d				Brookings, SD	L
	ND-416	apricot	1978 ^d				Burleigh Co., ND	L
	Morden	apricot		1974			Arboretum, Morden, Manitoba	L

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<i>Prunus fruticosa</i> ^{ND,SD}	Scarlet ^{PMC}	Mongolian cherry	1990	1973 ^d		1979 ^d	Arboretum, Morden, Manitoba	M
<i>Prunus maackii</i> ^{SD}	9069129	Amur chokecherry	1994				Big Sioux Nursery, Watertown, SD	M
	9057418	Amur chokecherry	1988 ^d				Lawyer Nursery, Plains, MT	M
<i>Prunus padus</i>	SD-131	mayday	1985	1985		1985 ^d	Moody Co., SD	L
<i>Prunus persica</i>	9082713	peach	2002				Lincoln-Oakes Nursery, Bismarck, ND	L
	ND-3925	peach	1986 ^d	1986 ^d		1986 ^d	Meade Co., SD	L
<i>Prunus pumila</i> ^{ND,SD}	ND-983	sand cherry		1974(d)			Sturgis, SD	H
	ND-1327	sand cherry				1979 ^d	Mercer Co., ND	H
<i>Prunus salicina</i>	ND-768	Japanese plum		1974			Brooks Research Sta., Alberta, CA	M
<i>Prunus serotina</i> ND	9076737	black cherry	1997				Lincoln-Oakes Nursery, Bismarck, ND (collected Apple Valley)	M
<i>Prunus spinosa</i>	ND-81	sloe	1978 ^d	1976		1979 ^d	Arboretum, Morden, Manitoba	M
<i>Prunus tenella</i> ^{ND,SD}	Regal ^{PMC}	Russian almond	1980	1973		1980	ND Game & Fish Dept.	M
<i>Prunus tomentosa</i> ^{ND,SD}	ND-433	Nanking cherry		1974			ARS, Mandan, ND	M
	ND-32	Nanking cherry		1974			Sutherland, Saskatchewan	M
	ND-3896	Nanking cherry				1983 ^d	Lawyer Nursery, Plains, MT	M

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<i>Prunus virginiana</i> ^{ND,SD}	Schubert	chokecherry	1978 ^d	1973		1979	ARS, Mandan, ND	M
	ND-1336	chokecherry	1978 ^d				Mercer Co., ND	M
	ND-1732	chokecherry	1978 ^d				Lincoln-Oakes Nursery, Bismarck, ND	M
	ND-621	yellow chokecherry		1974			Heart Butte, ND	M
	ND-1868	chokecherry				1979	Lincoln-Oakes Nursery, Bismarck, ND	M
	ND-3818	chokecherry				1982 ^d	Dept. of Forestry, Lincoln, ND	M
	9008183	chokecherry	2005				Lincoln-Oakes Nursery, Bismarck, ND/Sheridan County, ND	M
<i>Pseudotsuga menziesii</i>	ND-1722	Douglas fir	1979 ^d		1979	1979 ^d	Douglas County, CO/USFA, Lincoln, NE	L
<i>Ptelea trifoliata</i>	ND-624	common hoptree	1982 ^d	1972		1982 ^d	Ramsey County, ND	M
<i>Pyrus ussuriensis</i> ^{ND,SD}	McDermand ^{PMC}	Ussurian pear	1978	1975		1979	Manchuria/Morden, Manitoba	M
<i>Quercus gambelii</i>	9082640	Gambel's oak	1999				Lincoln-Oakes Nursery, Bismarck, ND/northwest Colorado	M
<i>Quercus macrocarpa</i> ^{ND,SD}	9057412	bur oak	1988 ^d				Towner Nursery, ND/Foster County, ND	M
	ND-630	bur oak		1972			Barnes County, ND	M
	ND-674	bur oak		1973			Barnes County, ND	M
	ND-3819	bur oak				1982 ^d	Big Sioux Nursery, Watertown, SD	M
	ND-1737	bur oak				1979 ^d	Lincoln-Oakes Nursery, Bismarck, ND	M
<i>Quercus robur</i>	9069170	English oak	1996 ^d				Dr. Mattis, Volgograd, Russia	L
<i>Rhus aromatica</i>	Konza	fragrant sumac	1987				PMC, Manhattan, KS	L

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<i>Rhus glabra</i>	9082684	smooth sumac	2003				Lincoln-Oakes Nursery, Bismarck, ND	L
	ND-678	smooth sumac		1973			Timberlake, SD	L
<i>Rhus trilobata</i> ^{ND,SD}	Bighorn	skunkbush sumac	1978	1973	1979	1979 ^d	Bighorn County, WY	H
	9082653	skunkbush sumac	2003				Cave Hills, Harding County, SD	H
	9082673	skunkbush sumac	2003 ^d				Lincoln-Oakes Nursery, Bismarck, ND/Lewis & Clark County, MT	H
<i>Ribes americanum</i> ND	9082687	black currant	2007				Big Sioux Nursery, Watertown, SD	M
<i>Robinia pseudoacacia</i>	ND-3804	black locust	1982 ^d	1982 ^d		1982 ^d	NDFS, Towner, ND	L
<i>Rosa rugosa</i> x ^{ND,SD}	Hansen	hedge rose	2002	1973			Asia/Lincoln-Oakes Nursery, Bismarck, ND	H
<i>Salix</i>	ND-3773	willow	1982 ^d	1982		1982 ^d	Norman County, MN	L
<i>Salix fragilis</i>	370126	crack willow	1982 ^d			1982 ^d	Russia/ARS, Glenn Dale, MD	L
<i>Salix humilis</i>	ND-995	prairie willow	1982 ^d			1982 ^d	ARS, Ames, IA	L
<i>Salix matsudana</i> x <i>alba</i>	9058896 (C)	austree	1990 ^d				Australia/CA	L
	9058899	austree	1991				Australia/Worthington, MN	L
<i>Salix pentandra</i> ^{ND,SD}	Mich-433	laurel leaf willow	1982 ^d	1974		1982 ^d	Europe/PMC, Rose Lake, MI	L
<i>Sambucus canadensis</i>	ND-671	American elder		1982 ^d			Arboretum, Morden, Manitoba	L
	ND-760	American elder		1974 ^d			Arboretum, Morden, Manitoba	L

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<i>Sambucus cerulea</i>	9082638	western blue elderberry	1999				Lincoln-Oakes Nursery, Bismarck, ND	M
<i>Sambucus racemosa</i>	ND-450	European red elder		1974 ^d			ARS, Cheyenne, WY	L
<i>Shepherdia argentea</i> ^{ND,SD}	Sakakawea ^{PMC}	silver buffaloberry	1990	1973		1979 ^d	Arboretum, Morden, Manitoba	H
	ND-1867	silver buffaloberry				1979 ^d	Lincoln-Oakes Nursery, Bismarck, ND	H
	9063123	silver buffaloberry				1996	Apple Valley composite, Lincoln-Oakes Nursery, Bismarck, ND	H
<i>Sorbus alnifolia</i>	9092140	Korean mountain ash	2007				Big Sioux Nursery, Watertown, SD	L
<i>Syringa pekinensis</i> ND	ND-686	Pekin lilac	1979	1976		1979 ^d	Asia/Lincoln-Oakes Nursery, Bismarck, ND	M
<i>Syringa villosa</i> ^{ND,SD}	Legacy ^{PMC}	villosa lilac	1988	1973		1988 ^d	China/Arboretum, Morden, Manitoba	M
<i>Syringa vulgaris</i> ^{ND,SD}	ND-1864	common lilac				1979 ^d	Lincoln-Oakes Nursery, Bismarck, ND	H
	ND-3901	common lilac				1983 ^d	Lawyer Nursery, Plain, MT	H
<i>Thuja occidentalis</i>	ND-1723	white cedar	1979 ^d		1979	1979 ^d	Canada/USFS, Lincoln, NE	L
	Mich-1841	white cedar	1983 ^d				PMC, Rose Lake, MI	L
	Mich-1468	white cedar	1983 ^d				PMC, Rose Lake, MI	L
<i>Tilia cordata</i> ^{SD}	9069081	littleleaf linden	1993				Europe / Lee Nursery, Fertile, MN	M
<i>Ulmus carpiniifolia</i>	9076725	smooth-leaf elm	1996				Russia/ARS, Mandan, ND	H
<i>Ulmus japonica</i>	ND-989	Japanese elm	1994 ^d				ARS, Mandan, ND	M
	9063126	Japanese elm	1992				Manchuria/PFRA, Indianhead, Saskatchewan	M

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³d=accession has died or been removed

⁴(L=low, M=medium, H=high)

Scientific Name ¹	Accession ²	Common Name	Location/Year Planted (d=died) ³				Source/Remarks	Drought Hardy ⁴
			Dickinson	Sweetbriar	Williston	Cottonwood		
<i>Ulmus parvifolia</i>	Elsmo	lace bark elm	1990 ^d				China/PMC, Elsberry, MO	L
<i>Ulmus pumila</i> ^{ND,SD}	401	Siberian elm	1991 ^d				Burleigh County/ARS, Mandan, ND	H
	35	Siberian elm	1991 ^d				Dickey County/ARS, Mandan, ND	H
	6	Siberian elm	1991 ^d				Grand Forks County/ARS, Mandan, ND	H
	74	Siberian elm	1991 ^d				Barnes County/ARS, Mandan, ND	H
	39	Siberian elm	1991 ^d				Sargent County/ARS, Mandan, ND	H
	9	Siberian elm	1993 ^d				ARS, Mandan, ND	H
	12	Siberian elm	1993 ^d				ARS, Mandan, ND	H
	427	Siberian elm	1993 ^d				ARS, Mandan, ND	H
	14444	Siberian elm	1993 ^d				ARS, Mandan, ND	H
	27	Siberian elm	1993 ^d				ARS, Mandan, ND	H
	11737	Siberian elm	1993 ^d				ARS, Mandan, ND	H
	408	Siberian elm	1993 ^d				ARS, Mandan, ND	H
	9016318	Siberian elm	1995 ^d				PMC, Bridger, MT	H
	9054820	Siberian elm	1995 ^d				PMC, Bridger, MT	H
	9076723	Siberian elm	1996 ^d				ARS, Mandan, ND	H
	9069171	Siberian elm	1996 ^d				ARS, Mandan, ND	H
	ND-723	Siberian elm		1973			Twin Valley, MN	H
	ND-3820	Siberian elm				1982 ^d	Big Sioux Nursery, Watertown, SD	H
<i>Viburnum lentago</i> ^{ND,SD}	ND-21	nannyberry	1986	1986		1986 ^d	ARS, Mandan, ND	M
	ND-276	nannyberry	1979 ^d			1988 ^d	Arboretum, Morden, Manitoba	M
<i>Viburnum opulus</i>	ND-2103	European cranberry				1988 ^d	Yugoslavia/ARS, Ames, IA	L

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Scientific Name ¹	Accession ²	Common Name	Location/Year Planted (d=died) ³				Source/Remarks	Drought Hardy ⁴
			Dickinson	Sweetbriar	Williston	Cottonwood		
<i>Vitis riparia</i>	ND-1020	riverbank grape		1975			Arboretum, Morden, Manitoba	M
<i>Yucca glauca</i>	ND-1480	yucca				1979 ^d	Haakon County, SD	H

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