

# **Alberta Tree Species Rating Guide**

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This *Alberta Tree Species Rating Guide* and evaluation techniques discussed **should only be used by qualified tree appraisers**. The authors and the Prairie Chapter accept no responsibility for any consequences resulting from improper use of the information or any errors or omissions here in.

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The purpose of this publication is to establish regional species ratings, standard replacement tree size and standard size (height and caliper) of conifers.

The regions included in this publication are the Calgary, Red Deer and Edmonton regions. Two more regions may be added at a later date. The region of Medicine Hat, Brooks and Lethbridge show great variance in adaptability of plant material than what is found in the other areas. The region of Grande Prairie, Peace River and Ft. McMurray may show differences as well.

It is intended that this guide be used in conjunction with the *Council of Tree and Landscape Appraiser's Guide for Plant Appraisal*. 9<sup>th</sup> edition published by the International Society of Arboriculture, Champaign IL in 2000. To purchase this guide contact the Prairie Chapter office at (403)224-3722.

This guide may also be used by urban foresters, homeowners, landscapers, landscape architects and arborists to aid in the selection of trees for planting in the urban landscape. In cases where a tree is too large that it cannot be replaced with a comparable tree, the use of the Trunk Formula Method may be required.

The Regional Plant Appraisal Committee for Alberta has made the following determinations to provide the appraiser with specific criteria to be used in the formula.

**The species rating of 110% will be for "special class" or "historic" species.** This will be noted in one's reports if used but the Species Rating list itself will only go to 100%.

**The committee adopted a constant replacement tree size of 60 – 85mm for deciduous trees for use in the Trunk Formula Method.** This size reflects the availability and survivability of most species in the province of Alberta.

**Wholesale tree costs** are to be used when calculating the unit tree cost. Unit tree cost calculation example. A 75mm caliper tree costs \$375.00 the resulting unit tree cost would be:

$$\$375.00 / 0.785 (7.5\text{cm})^2 = \$375.00 / 44\text{cm}^2 = \mathbf{\$8.52/\text{cm}^2}$$

The municipalities of Edmonton and Calgary use a standard unit tree cost that they have developed themselves that reflect the differences in labour costs and tree availability that is different from the private sector. When the private appraiser uses the above guidelines to determine the unit tree cost, it will be within the same unit tree cost range that is used by those municipalities.

**Conifers** were treated separately. Their appraised value using the Trunk Formula Method has been difficult to assess for the following reasons:

- Conifers are sold according to height rather than caliper.
- The caliper size of mature conifers is significantly smaller than the same deciduous tree of the same age.

**The committee assigned a constant replacement tree size of 2.0 - 2.5 m in height for conifers and established the caliper size of 5cm to be used in the formula.** The resulting unit tree cost will be higher than that of deciduous trees.

**Installation costs** should include delivery, planting and maintenance. These costs should reflect the current arboriculture research for the establishment of newly planted trees which may incur additional costs. For example:

- Use original backfill and excavate the planting hole 2-3X the diameter of the root ball
- Removal of the wire basket, burlap, twine, etc. (yet maintain the integrity of the rootball)
- Encourage the development of ectomycorrhizae and other beneficial microorganisms
- use materials and techniques to improve site drainage and aeration
- provide an extended maintenance period to ensure the establishment of the new planting

The nomenclature follows the Krussmann's *Manual of Cultivated Broad-leaved Trees and Shrubs*, Krussmann's *Manual of Cultivated Conifers* and Griffith's *Index of Garden Plants*. Species ratings were developed after considering factors such as soil adaptability, cold hardiness, climate adaptability, growth characteristics and resistance to insects and disease organisms.

The ratings for some species have changed drastically since the last publications. These changes may be due to a number of factors including their performance in a region. Appraisers outside of the regions may use these ratings as a guide but it is up to the appraiser to use their judgement and be prepared to defend their determination of species value.

**Shaded areas** in the species list indicate insufficient numbers of these trees in the area for the members to assign a rating. For these plants it is the responsibility of the appraiser to use professional discretion according to the criteria on page 26 of the Guide. To avoid double depreciation be careful not to use condition or location to determine the species rating. These are factored separately later in the Trunk Formula. The values assigned by the other regions can also be used as a guide.

If you have any questions regarding this publication please contact Anita Schill  
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<b>SPECIES RATING IN ALBERTA</b>		<b>Calgary</b>	<b>Red Deer</b>	<b>Edmonton</b>
<b>Range 40% - 100%</b>		<b>Region</b>	<b>Region</b>	<b>Region</b>
<b>Species</b>	<b>Common Name</b>	<b>%</b>	<b>%</b>	<b>%</b>
Abies balsamea	Balsam Fir	70	80	100
Abies concolor	White Fir	60	70	
Abies lasiocarpa	Alpine Fir	70	80	
Abies sibirica	Siberian Fir	80	90	
Acer negundo	Manitoba Maple	60	60	50
Acer platanoides	Norway Maple	50	50	
Acer platanoides cvs.	Norway Maple cvs.	50	50	
Acer saccharinum	Silver Maple	60	60	100
Acer saccharinum cvs.	Silver Maple cvs.	60	60	100
Acer saccharum	Sugar Maple	50	50	
Acer tataricum	Tartarian Maple	80	80	
Acer tataricum ssp. ginnala	Amur Maple	70	70	80
Aesculus glabra	Ohio Buckeye	90	90	100
Aesculus hippocatanum	Horse Chestnut	60	60	100
Alnus sp.	Alder sp.	60	70	60
Betula albosinensis septentrionalis	Brown China Birch	80	80	
Betula davurica	Dahurian Birch	80	80	
Betula fontinalis (occidentalis)	Fountain or Water Birch	80	80	
Betula mandshurica (platyphylla)	Manchurian Birch	80	80	
Betula neoalaskana	Alaska Birch	80	80	
Betula nigra	River Birch	80	80	
Betula papyrifera	Paper Birch	80	80	80
Betula papyrifera 'Chikadee'	Chickadee Birch	80	85	100
Betula pendula (verrucosa)	European Weeping Birch	70	70	100
Betula pendula 'Gracilis'	Cutleaf Weeping Birch	70	80	100
Betula pendula 'Youngii'	Young's Weeping Birch	80	80	80
Caragana arborescens	Common Caragana	70	70	60
Caragana arborescens 'Sutherland'	Sutherland Caragana	70	70	60
Caragana arborescens 'Lorbergii'	Fernleaf Caragana	70	70	60
Celtis occidentalis	Common Hackberry	60	60	
Crataegus arnoldiana	Arnold's Hawthorn	80	80	
Crataegus cerronis	Chocolate Hawthorn	80	80	80
Crataegus chlorosarca	Black Hawthorn	80	80	
Crataegus X mordenensis 'Snowbird'	Snowbird Hawthorn	80	80	80
Crataegus X mordenensis 'Toba'	Toba Hawthorn	80	80	80
Crataegus succulenta	Fleshy Hawthorn	70	80	80
Elaeagnus angustifolia	Russian Olive	80	60	100
Fraxinus americana	White Ash	50	50	
Fraxinus mandschurica	Manchurian Ash	100	90	100
Fraxinus nigra and cultivars	Black Ash	90	90	100
Fraxinus pennsylvanica 'Patmore'	Patmore Green Ash	90	90	100
Fraxinus pennsylvanica lanceolata	Green Ash	80	80	80
Juglans cinerea	Butternut	60	60	
Juglans mandshurica	Manchurian Walnut	50	50	
Juglans nigra	Black Walnut	70	50	70

<b>SPECIES RATING IN ALBERTA</b>		<b>Calgary</b>	<b>Red Deer</b>	<b>Edmonton</b>
<b>Range 40% - 100%</b>		<b>Region</b>	<b>Region</b>	<b>Region</b>
<b>Species</b>	<b>Common Name</b>	<b>%</b>	<b>%</b>	<b>%</b>
Juniperus scopulorum cvs.	Rocky Mountain Juniper	80	80	80
Larix decidua	European Larch	80	80	
Larix gmelinii (dahurica)	Dahurian Larch	80	80	
Larix laricina	Tamarack	80	80	100
Larix lyallii	Alpine Larch	80	80	100
Larix sibirica ( russica )	Siberian Larch	100	100	100
Maackia amurensis	Amur Maackia	60	60	
Malus baccata cvs.	Siberian Crabapple cvs.	80	80	80
Malus X adstringens cvs	Rosybloom Crabapples cvs.	80	80	80
Phellodendron amurense	Amur Corktree	80	80	
Phellodendron sachalinense	Sakhalin Corktree	80	80	
Picea abies	Norway Spruce	90	90	100
Picea engelmannii	Engelmann Spruce	100	100	100
Picea glauca	White Spruce	90	100	100
Picea glauca 'Densata'	Black Hills Spruce	100	100	100
Picea mariana	Black Spruce	60	60	100
Pcea omorika	Serbian Spruce	100	100	100
Picea pungens	Colorado Spruce	100	100	100
Picea pungens cvs	Colorado Spruce cvs.	100	100	100
Pinus albicaulis	Whitebark Pine	100	100	100
Pinus aristata	Bristlecone Pine	100	100	100
Pinus banksiana	Jack Pine	90	80	100
Pinus cembra	Swiss Stone Pine	100	100	100
Pinus contorta latifolia	Lodgepole Pine	70	80	100
Pinus flexilis	Limber Pine	100	100	100
Pinus uncinata ( mugo rostrata)	Swiss Mountain Pine	100	100	100
Pinus nigra	Austrian Pine	90	90	100
Pinus ponderosa	Ponderosa Pine	100	100	100
Pinus resinosa	Red Pine	50	50	
Pinus strobiformis	Southwestern White Pine	80	80	
Pinus strobus	Eastern White Pine	70	70	100
Pinus sylvestris	Scots Pine	100	80	100
Populus jackii 'Northwest'	Northwest Poplar	80	80	80
Populus balsamifera	Balsam Poplar	60	60	40
Populus X 'Brooks #6'	Brooks#6 Poplar	70	70	40
Populus X canescens 'Tower'	Tower Poplar	80	80	80
Populus deltoides (sargentii)	Plains Cottonwood	90	90	
Populus tremula 'Erecta'	Swedish Columnar Aspen	90	90	100
Populus tremuloides	Trembling Aspen	70	70	40
Populus X 'Assiniboine'	Assiniboine Poplar	80	80	
Populus X 'Byland Green'	Byland Green Poplar	80	80	
Populus x 'Griffin'	Griffin Poplar	50	50	40
Populus X 'Walker'	Walker Poplar	50	50	
Populus X 'Prairie Sky'	Prairie Sky Poplar	70	70	
Populus X 'Thevestina'	Theves Poplar	80	80	

<b>SPECIES RATING IN ALBERTA</b>		<b>Calgary</b>	<b>Red Deer</b>	<b>Edmonton</b>
<b>Range 40% - 100%</b>		<b>Region</b>	<b>Region</b>	<b>Region</b>
<b>Species</b>	<b>Common Name</b>	<b>%</b>	<b>%</b>	<b>%</b>
Prunus maackii	Amur Cherry	60	80	80
Prunus mandshurica	Apricot	70	70	80
Prunus nigra (americana)	Canada Plum	70	70	80
Prunus X nigrella 'Muckle'	Muckle Plum	70	70	80
Prunus padus commutata	Mayday	60	70	80
Prunus pensylvanica	Pincherry	70	70	80
Prunus virginiana melanocarpa	Western Chokecherry	70	70	80
Prunus virginiana 'Schubert'	Schubert Chokecherry	70	80	80
Prunus virginiana other cvs.	Chokecherry cvs.	80	80	80
Pseudotsuga menziesii glauca	Blue Douglas Fir	90	90	100
Pyrus ussuriensis	Ussurian Pear	90	90	80
Quercus alba	White Oak	90	90	100
Quercus ellipsoidalis	Northern Pin Oak	80	80	100
Quercus macrocarpa	Bur Oak	100	100	100
Quercus mongolica	Mongolian Oak	100	100	
Salix acutifolia	Sharp Leaf Willow	90	90	80
Salix alba varieties	White Willow varieties	60	60	60
Salix amygdaloides	Peach Leaf Willow	70	70	40
Salix bebbiana	Diamond Willow	70	70	40
Salix discolor	Pussy Willow	70	70	40
Salix pentandra	Laurel Leaf Willow	80	80	40
Salix selections	Various willow selections	60	60	60
Sorbus americana	American Mountain Ash	70	90	80
Sorbus aucuparia	European Mountain Ash	70	90	80
Sorbus aucuparia cultivars	Eg. 'Rossica'	80	90	80
Sorbus decora	Showy Mountain Ash	90	90	80
Sorbus scopulina	Greene's Mountain Ash	90	90	80
Syringa pekinensis	Peking Tree Lilac	90	90	
Syringa reticulata	Japanese Tree Lilac	90	90	100
Thuja occidentalis	Arborvitae selections	80	80	100
Tilia americana cultivars	American Linden	70	60	100
Tilia cordata cultivars	Littleleaf Linden	70	70	100
Tilia flavescens 'Dropmore'	Dropmore Linden	80	90	100
Tilia mongolica	Mongolian Linden	70	70	
Ulmus americana and cultivars	American Elm	90	100	100
Ulmus davidiana 'Japonica'	Japanese Elm			
Ulmus pumila	Siberian/Manchurian Elm	70	70	60