



TREES ARE OUR PASSION

Trees for Southern Alberta

Southern Alberta is known for endless prairie landscapes with natural cottonwood and some willows. Closer to the mountains and foothills there are plenty of white spruce, pines, aspen, balsam poplar and in some places Douglas fir. Most of the trees you see around yards, fields, streets, parks, and RV campgrounds were planted in the last 120 years. Some natural regenerated bluffs of aspen, spruce and pine occur in areas that are sheltered or protected in the coulees or North Slope exposures.

Some cities/towns have a majestic trees on their boulevards; many farms are surrounded by amazing shelterbelts, many fields are divided by field tree/shrub windbreaks, and in other places it feels that trees have been there forever even though they were planted not long ago. Trees add beauty to our farms, yards, homes and the community where we live. Tree and forests make our parks, RV campgrounds, and recreation areas very relaxing while enjoying the beauty that forests bring to all us.

If you are planning to build a home or improve the look of your community, parks, or recreational areas what kind of trees grow in best southern Alberta? Before choosing what tree to plant you need to know some key basic information about the site. The following are key factors to consider:

Soil

There are many types of soils in southern Alberta from very rich to very poor. Each soil type can be a friend or foe to trees. There are four major types of soils:

- **Clay soil** - is very hard to for trees to grow in clay as dense soil particles do not allow roots to go through and do not provide enough access to oxygen or moisture for roots. Trees that are adaptable to heavy clay soil are cottonwoods, some hybrid poplars, and some ash species
- **Sandy soil** - is very porous, not nutrient rich, and does not hold water at all. Some trees such as pines and juniper love sandy soils and even thrive.
- **Saline soils** - are very hard on any tree and shrub species, but there are some shrubs such as silver buffaloberry that can handle a level of salinities.
- **Compacted soil** - many town or urban areas have a huge problem with soil compaction due to roads or house building requirements. Compaction is even worse for trees than heavy clay soil as there are no pores for air or water pockets and roots simply can't go through. The depth of compacted soil is very important - if soil is just compacted on the surface some tilling and other soil amendments can be used to break down the compaction. If soils are very deeply compacted and there are some 4-6 inches of top soil you may plant shrubs and some tree species that can live on top soil that was put over compacted area.

Wind

Relentless wind is characteristic in the prairies. Wind takes all the moisture from the air and that's why we have prairies with no trees. Choosing trees that can withstand strong wind is not easy but some trees can manage the forces of wind better than others.



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Elevation

Elevation in southern Alberta ranges from just below 700 meters near the Saskatchewan border to 1100 meters in parts of Calgary and rising up further west. This elevation difference impacts how some trees grow, as higher elevations are colder and could be limit the growth of many trees, especially hardwood species. Check out this web site for elevation near you <https://en-ca.topographic-map.com/maps/qus/Alberta/>

Water

Water is scarce in the prairies and many trees may not develop deep roots to access water that is further from surface. Test your water prior to watering your trees. If it contains high levels of sodium it will kill your trees fast and not provide chances for them to survive. Some trees can handle drought better than others-eg pine are more drought tolerant than poplars, elm and many others.

Establishment

For the prairie region one of the most common mistakes is planting trees in open areas with no protection from wind and heat, no site preparation and with little watering. Once you know your soil you must do tilling or some soil preparation prior to planting trees. The next thing which is extremely important is that you may need to plant some shrub species and let them **grow for 2-4 years prior you plant ANY tree species**. These shrub rows will protect young trees from the relentless wind that takes the moisture from the air and will keep moisture/snow on ground and around roots of newly planted trees longer. Using plastic or any other type of mulch is also a must in southern Alberta.

Care and maintenance

Watering and looking out for insects, weeds and diseases is crucial once you plant trees. Without proper weed control chances of their survival is very limited. Water when you must and do not over water as it will weaken your trees in the long run

For your local conditions there are several things to consider as there are big differences between the areas around Hanna and around Airdrie or Pincher Creek:

- Visit already established shelterbelts, windbreaks, parks or neighbours to see what trees/shrubs grow there, how they are established and what the good, bad or ugly things about them are.
- Local exposure - northern slopes are colder with more moisture, southern slopes get more light but are drier
- Differences in prevailing winds and local infrastructure
- Amount of snow accumulation during winter and rain during growing season is vastly different - choose trees/shrubs that fit your local moisture availability

It is crucial to understand site conditions prior to choosing any species to plant. Growing conditions inside a city are entirely different than just 10 miles away from a city setting. The same principle

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applies to small towns and farms. Local site conditions are so variable that you have pay attention in detail to fully understand what grows best on your property.

The following table is based research papers and publications done by various organizations and institutions as well as through my personal communication with city, town and county staff and visits to many farms. It does not cover every aspect of tree characteristics but is a starting point for you to consider when planting trees or shrubs on your property.

Table 1. Tree species for Southern Alberta

Tree species	Latin name	Hardines Zone	Moisture	Site tolerance
Fat Albert Spruce	<i>Picea pungens 'Fat Albert'</i>	2b	Dry	Salt/Drought
Colorado spruce	<i>Picea pungens</i>	2b	Dry	Salt/Drought
Colorado Blue spruce	<i>Picea pungens "Glauca"</i>	2b	Dry	Drought
White spruce	<i>Picea glauca</i>	2b	Adaptable	Adaptable
Black hill spruce	<i>Picea glauca var. densata</i>	2b	Dry	Salt/Drought
Lodgepole pine	<i>Pinus contorta var. latifolia</i>	2a	Dry	Drought/Cold
Scotch pine	<i>Pinus sylvestris</i>	2a	Dry	Salt
Ponderosa pine	<i>Pinus ponderosa</i>	3a	Dry	Drought/Wind
Jack pine	<i>Pinus banksiana</i>	1a	Dry	Drought/Wind
Austrian pine	<i>Pinus nigra</i>	4a	Dry	Clay/Salt
Swiss Stone pine	<i>Pinus cembra</i>	3a	Wet	Adaptable
Mugo pine	<i>Pinus mugo</i>	2b	Dry	Drought
Limber pine	<i>Pinus flexilis</i>	3a	Dry	Drought/Wind
Siberian Larch	<i>Larix sibirica</i>	2b	Dry	High Acidic soil
Douglas Fir	<i>Pseudotsuga menziesii</i>	4a	Adaptable	Rocky soils/fire
Subalpine Fir	<i>Abies lasiocarpa</i>	2a	Dry	High elevation
Rocky Mountain Juniper	<i>Juniperus scopulorum</i>	3a	Dry	High pH/salt
Brendon Cedar	<i>Thuja occidentalis 'Brandon'</i>	2b	Dry	Cold

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American Elm	<i>Ulmus americana</i>	2a	Wet	Clay
Brandon elm	<i>Ulmus americana Brandon</i>	2b	Wet	Clay
Siberian Elm	<i>Ulmus pumila</i>	2b	Wet	Drought
Bur Oak	<i>Quercus macrocarpa</i>	2b	Adaptable	Drought
Northern Pin Oak	<i>Quercus ellipsoidalis</i>	3b	Dry	Drought
Ohio buckeye	<i>Aesculus glabra</i>	2b	Adaptable	Wet
Honey locust	<i>Gleditsia triacanthos</i>	3a	Alkaline	Drought/Salt
Hackberry	<i>Celtis occidentalis</i>	3a	Adaptable	medium drought
American Linden	<i>Tilia americana</i>	2b	Moderate	Wet/flooding
Dropmore Linden	<i>Tilia x flavescens 'Dropmore'</i>	3a	Moderate	Adaptable
True North linden	<i>Tilia americana 'Duros'</i>	2a	Moderate	Wet/flooding
Littleleaf Linden	<i>Tilia cordata</i>	3a	Moderate	Wet/flooding
Amur maple	<i>Acer ginnala</i>	2a	Moderate	Drought
Silver maple	<i>Acer saccharinum</i>	3b	Moderate	Salt
Manitoba maple	<i>Acer negundo</i>	2a	Adaptable	Salt/Drought s
Hot Wings Tatarian maple	<i>Acer tataricum 'GarAnn'</i>	3a	Alkaline	Drought
Sensation Box Elder	<i>Acer negundo 'Sensation'</i>	3a	adaptable	Drought
Paper Birch	<i>Betula papyrifera</i>	2a	Moderate	Shade
Green Ash	<i>Fraxinus pennsylvanica</i>	2a	Wet	Salt/Wet
Foothills Green Ash	<i>Fraxinus pennsylvanica 'Foothills'</i>	2b	Dry	Drought
Black Ash	<i>Fraxinus nigra</i>	2a	Wet	Wet/flooding
Patmore Green Ash	<i>Fraxinus pennsylvanica 'Patmore'</i>	2a	Adaptable	Drought
European Mountain Ash	<i>Sorbus aucuparia</i>	3a	Adaptable	Adaptable
Acute Leaf Willow	<i>Salix acutifolia</i>	2b	Wet	Flooding/clay
Golden Willow	<i>Salix alba "Vitellina"</i>	2a	Wet	Flooding/clay
Laurel Leaf Willow	<i>Salix pentandra</i>	2a	Wet	Flooding

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Byland Green Poplar	<i>Populus x 'Byland Green'</i>	3a	Moderate	Drought
Tristis Poplar	<i>Populus x 'Tristis'</i>	3a	Moderate	Drought
Prairies Sky Poplar	<i>Populus x canadensis Prairie Sky</i>	2a	Moderate	Drought
Eastern Cottonwood	<i>Populus deltoides</i>	2a	Poor soil	very adaptable
Plains Cottonwood	<i>Populus sargentii</i>	2a	adaptable	Drought
Poplar Northwest	<i>Populus x 'Northwest''</i>	2a	adaptable	Drought
Brooks Poplar	<i>Populus x 'Brooks''</i>	2a	wet	flooding/clay
Balsam poplar	<i>Populus balsamifera</i>	2a	wet	flooding/clay
Paskapoo Balsam Poplar	<i>Populus balsamifera 'Paskapoo'</i>	2a	adaptable	very adaptable

Flowering/fruit trees

Japanese tree lilac	<i>Syringa reticulata</i>	3a		
Starlight Flowering Crab	<i>Malus x 'Jeflite'</i>	2a		
Thunderchild Flowering Crab	<i>Malus x 'Thunderchled'</i>	2b		
Amur cherry	<i>Prunus maackii</i>	2a		
Ivory Silk Tree Lilac	<i>Syringa reticulata ' Ivory Silk'</i>	3a		
Evans Cherry	<i>Prunus ' Evans'</i>	2b		
Pembina plum	<i>Prunus 'Pembina'</i>	2b		
Varieties of other cherries	<i>Prunus sp</i>	3a		
Usurian pear	<i>Pyrus ussuriensis</i>	3a		
Hawthorns	<i>Crataegus spp</i>	2a		
Varieties of Crab apples	<i>Malus spp</i>	2b		
Chockcherries	<i>Prunus sp</i>	2a		

Shrubs

Caragana	<i>Caragana arborescens</i>
Silver buffaloberry	<i>Shepherdia argentea</i>
Saskatoon's	<i>Amelanchier alnifolia</i>
Lilac	<i>Syringa villosa</i>
Potentilla	<i>Potentilla fruticosa</i>
Chockecherry	<i>Prunus virginiana</i>
Nanking cherry	<i>Prunus tomentosa</i>
Cotoneaster	<i>Cotoneaster integerrimus</i>
Seabuckthorn	<i>Hippophae rhamnoides</i>
Silverberry	<i>Elaeagnus commutata</i>
Roses	<i>Rosa species</i>
Forsythia	<i>Forsythia x'Meadowlark'</i>

For more information:

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www.yardwhispers.ca or

www.attsgroup.ca