

Planting Caliper Trees

By Toso Bozic

Spring is a good time to plant larger caliper trees in your property. The “caliper tree” is an older tree with at least 4 cm in diameter in stem/ trunk measured 15 cm above ground level. Large caliper trees are 10 cm in stem diameter and are measured 30 cm above ground level. Generally, in Alberta in an early spring, the soil is dry and there is little humidity in the air. During the spring when rain and higher moisture is more available and it gives the root system a better chance to get established and get growing during growing season. Caliper trees are prone to transplanting shocks and it requires proper planting techniques.

There are several steps to consider before planting caliper trees in your property.

- **Tree species selection** - Tree species diversity is crucial for the health and wellbeing of your property. A variety of trees and shrubs species can be found in Alberta that theoretically should not be grown here due to our harsh climate condition. Many introduced ornamental trees and shrubs are doing just fine in our cities and towns. Introduced ornamental tree and shrubs provide a great beauty and diversity alongside our native tree and shrubs species. There are several tools available online where you can set certain requirements to choose appropriate trees and shrubs for your property. Try to be creative but also visit your city/town parks, an arboretum or tree nurseries to see what tree and shrubs are growing in your near surroundings.
You would be surprised to see that variety of oaks, maples, ashes, lindens, pines, spruce Douglas and balsam fir, or Ohio buckeye is growing in your city/town. The variety of very hardy flowering trees and shrubs is an even bigger choice. Check out with local parks manager, horticulturists or arborists if they have known about trees of your choice in the area.
- **Planting site** - this is a very important step for a successful and long-lasting tree in your property. Use “**the right tree on the right spot**” thinking. This is where you need to know what trees or shrubs are required to grow in the best possible site. You must pay attention to soil, moisture, slope, exposure and physical barriers like a house, fence, or power line to avoid potential future problems that trees can cause in your yard, home and buildings. Before you choose the planting site, visit places where trees are mature to get a sense of how much space a tree requires when they are mature.
- **Planting stock** - keep in mind that these trees and shrubs are much bigger than small seedlings(plugs and bareroot stock). Caliper trees come in containers or baskets and burlaps.
 - **Container stock** -typical black container stock that comes in various sizes through inspection is necessary before buying them. Pay attention to any broken branches, weak branch crotches, signs of insect or disease and irregular shapes. The most important check is for signs of a **bound root system**. If you see the roots already coming out of the container, most likely the root system is bound and can create

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problems in the future health of your trees. If you see the roots are excessively bound or the trees are damaged - simply don't buy it.



Picture 1. Variety of sizes for potted trees and shrubs

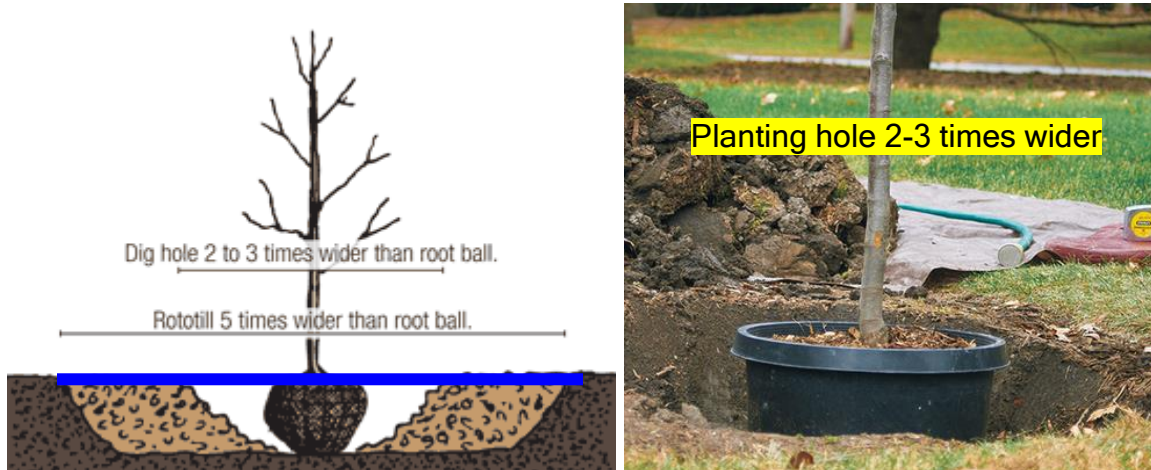
- **Balled and Burlap trees** - usually larger caliper (diameter) trees that are dug up balled in a wire basket and wrapped in jute burlap. Inspect the overall health of the tree before buying it.



Picture 2. Burlap and Basket (B&B) tree requires additional equipment and care for transportation or planting.

- **Planting** - This is where most people kill your trees before giving them chance to grow. Proper planting is the most crucial part of your process. If you bought a plastic container stock, very carefully remove the soil by either shaking, soaking or washing it with a hose to reveal the root system. By doing this you will be able to see potential circling, hooking or girdling problems with roots. You may need to do proper pruning or remove the roots that girdle the trees. [The Arbor Day Foundation](#) provides educational videos and guide how to plant caliper trees and shrubs. *Please click on [link](#)*

- **Tree planting hole size** - Dig a hole that is as deep as the roots, but 2 to 3 times wider than root ball. The wide hole will make it easier for the new lateral roots to grow into the surrounding soil. For a basket and burlap tree, properly fit it into the hole, then remove the burlap and cut the wire on top before filling the hole with soil



Picture 3: Planting hole and planting depth (blue line)

Photos Source: Arbor Day Foundation (L) and Garden Magazine (R) .

- **Tree planting depth** - plant so that roots are just below the surface with root collar of planted tree must be slightly above ground level.



Picture 4: Root collar and planting depth

- **Backfilling** - do not add soil amendments to the planting hole. In very poor soils you may add less than 10 % of the good soil and has to be mixed with native soil. After you set tree straight firmly pack the soil to avoid air pockets
- **Watering** - After tree planting, please make sure that you provide enough water after planting. The amount of water depends on the soil and the tree species' requirement

for water. Water right after planting, three days after that. Don't let your tree get dry. If you can, easily push a 6-inch screwdriver into the soil, there is enough water. Drip irrigation is a long-term solution for watering your trees; turf irrigation may not be optimal.

- **Staking** -small and in a protected area trees don't require staking. In an area exposed to high wind and trees that are tall and leggy will require staking. Don't forget that after a few years you will need to remove stakes.
- **Mulching**- mulching provides a few key functions prevents weeds, protects roots from extreme heat and keeps moisture around trees. Create a donut-shaped wood chip cover around your tree to keep water inside. Putting wood chips next to the trunk attracts rodents, insects and potential diseases. Mulch also protects tree roots from winter freezing and reduce the possibility of root damage and tree mortality. *Please [click on link for blog on mulching](#)*



Picture 5. Create donut not volcano shape around trees with mulch. The arrow shows proper tree planting depth. Every tree has point where the trunk and roots join - it is called root collar. This root collar has to be visible after tree planting.

- **Fertilization** during fall planting is not recommended or necessary unless if there is nutrient deficiency in heavy clay soils. Don't fertilize trees and shrubs after July 15.