

What Kind of Tree Should I Choose?

Article #1 in the Series “So, You Want to Plant a Tree!”

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You can make the decision about what kind of tree to plant really simple (for example, just take anything you can get and stick it in the ground), or you can ask yourself a series of questions that should help narrow down the choices so the new tree will satisfy your wants and needs and provide you with great joy through the years and decades with the least hassle. Let's take the second approach for this discussion.

First, though, let's examine what it means to ask about the kind of tree. Like most other kinds of organisms, trees have common names and scientific names. The common name for a great Canadian tree is "sugar maple". The scientific name for sugar maple is *Acer saccharum* Marsh. "Acer" is the name of the genus to which sugar maple belongs, "saccharum" is the species name, and "Marsh." is the authority who gave that kind of tree its name. Sugar maple has other common names as well, such as rock maple and hard maple (these names connect to the hardness and density of the wood). Because common names are not rigorously applied to tree types, and sometimes the same common name is used for more than one species, knowing the scientific name is important – that name is used worldwide by everybody and removes any ambiguity about what kind of tree a specimen is. Sometimes the

scientific name is called the Latin name – it's one of those applications of the Latin language that endures to this day. When we write the Latin name, we underline or italicize the two words.

By the way, there are four species of the maple genus (which, worldwide, includes over a hundred species) that are native to Nova Scotia: sugar maple, red maple (*Acer rubrum* L.), mountain maple (*Acer spicatum* Lamb.), and striped maple (*Acer pensylvanicum* L.). Mountain and striped maples rarely grow large at maturity and are considered to be understory trees. Another maple species, silver maple (*Acer saccharinum* L.), grows naturally in the Saint John River valley in New Brunswick, so we consider it to be a near-native species in Nova Scotia.

There are two more considerations when we think of kinds of trees. Some species actually interbreed in nature to form hybrids. Since we are talking about maples here, a common one that's important to us is called Freeman maple (*Acer x freemanii*, or *Acer rubrum x saccharinum* – no authority indicated). It is called Freeman maple because Oliver Freeman of the US National Arboretum cultured this cross in the 1930s. This cross is both natural and cultured. I have seen Freeman maples in the wild in the Saint John River valley. The reason Freeman maple is important to us in Halifax is that it is frequently planted by HRM Urban Forestry as a street and park tree. Freeman maple is considered to have the strength of red maple and the rapid growth rate of silver maple.

The second consideration is the phenomenon of cultivars (or varieties). In animals we call these breeds. The dog has the Latin name *Canis familiaris* (or *Canis lupus familiaris* – things can get complicated, unfortunately, with Latin names too!), and there are hundreds of breeds of dogs, all considered to be members of the same species. So it goes with tree species too. Take American elm for example – *Ulmus americana* L. Tree breeders across North America have produced dozens of cultivars – some of these were developed for aesthetic purposes but many for potential resistance to Dutch elm disease (DED). Nova Scotians have witnessed a great loss of urban and rural elm trees to DED. For some unknown reason we have very little DED in Halifax, and HRM Urban Forestry continues to plant abundant DED-resistant elm cultivars along the city's streets. Elms have great survivorship in the tough streetside environment and grow to become our most majestic urban tree.

So, it is important when choosing a tree from a commercial supplier to consider the cultivar, especially if the cultivars have special features that you may be looking for such as a specific colour of flower. If you are just plucking a tree seedling out of the woods (legally, of course!) and bringing it to your urban property, cultivar is probably not on your radar in making a tree selection.

Let us now take a tour through the kinds of considerations you may want to make in selecting a tree species and cultivar.

Will the Tree Grow in Halifax's Climate? – If the tree is sold in Nova Scotia for planting in Nova Scotia, doubtless the grower/seller will only offer trees of sufficient hardiness to be able to survive here. If you pick a small tree out of the woods on your friend's farm, that's also a sign that the tree will grow – hopefully well – in Nova Scotia. Don't try species from, say, Jamaica here.

Food-producing Trees – Perhaps you would like to eat the fruit produced by your tree. You have many choices here – soft fruits such as apple, pear, plum, cherry, peach (yes, peach trees can grow in Halifax) and hard fruits (i.e. nuts) such as black walnut, butternut, sweet chestnut (I'll use only English common names from here on).

Visual Appeal – If you want a spectacular spring show of flowers, perhaps a cherry species would be best. If you want brilliant fall colour, a Freeman maple or sugar maple would be a good choice. If you want foliage year-round, an evergreen tree (for example, a pine or spruce) would be appropriate. If you prefer the look of a smooth bark, you might choose a beech; on the other hand, if you like the look of a really rough or shaggy bark, you might choose a shagbark hickory. If you like papery bark, you would choose a birch.

Fragrance – You might wonder where I'm going here. Many residents of the HRM urban core (say, the Halifax Peninsula plus downtown Dartmouth) probably experience the wonderful fragrance of the linden flowers during July. Not many tree species have such strong and pleasant smells as do the linden species. On the other hand, you might want to avoid awful smells and not plant a female Ginkgo tree – it is said that the fruits smell like vomit!

Sound – Did you ever wonder why trembling aspen is called that? The petioles of that species (petioles are the little stems of the leaves) are flat in cross-section, not round like most species, and the slightest breeze can set the leaves to trembling. You will hear the millions of collisions of leaf against leaf in a far lighter wind with trembling aspen than other broadleaf species.

Maintenance – Doubtless people would prefer a tree that is relatively low maintenance. Some find it annoying that trees are always dropping stuff from their crowns – leaves, twigs, flowers, fruits, insect parts, sap. At our urban properties, we are usually motivated to clean that stuff up. Before you choose a tree species, inquire about its messiness. Willows and poplars have fairly weak wood and drop a lot of twigs during wind events. If you don't intend to pick the fruit from an apple tree, you might want to avoid planting one – rotting apples on the ground are rather messy.

By the way, don't think that just because you are planting an evergreen, there will be no annual leaf drop. All trees lose leaves. Some lose them all each year – we call these deciduous – and some lose only some of them each year – we call these evergreens. White pines in Halifax keep their needles for just two growing seasons – the interior, second-year needles turn yellow in autumn and drop. In summer, the white pine sports two years' worth of needles, but in winter only one.

Shade – Do you want heavy shade or light shade? Each tree species has a signature density of foliage. Some are light – e.g., trembling aspen – and some are heavy – e.g., sugar maple. Also, if you are OK with shade throughout the year, an evergreen tree is fine, but if you want sun during the winter, choose a species that loses all its leaves in autumn.

Biodiversity – It turns out that some tree species support a richer array and abundance of insects than others. One major driver of this is whether the tree species is native to our ecosystems. For example, the sugar maple is native but the Norway maple is not. So sugar maple has a richer insect community than

Norway maple. More insects means more birds. If you want to encourage bird populations in the city, plant native tree species. And then, which native species are best? According to Douglas Tallamy in his recent book entitled “The Nature of Oaks”, oak trees support a richer diversity and abundance of native insects than any other tree genus.

Another key biodiversity consideration is the degree to which a non-native tree species can naturalize, meaning its ability to reproduce unintentionally. By my estimation, in many HRM residential neighbourhoods, roughly half the tree population is “volunteer” – the trees have grown from seeds that drop near the fence line, escape the lawnmower or whipper snipper, and become mature trees. If these trees are of non-native species, undesirable consequences may ensue. One tree species we used to plant in abundance in the streetscapes of HRM is Norway maple – we now consider it invasive (the extreme form of naturalization) and no longer plant it streetside. Unfortunately, it is still sold in some garden centres and homeowners who are unaware of the downsides of Norway maple can end up planting it on their properties. Other non-native, naturally reproducing tree species in Halifax include sycamore maple, black locust, and Callery pear. If your research reveals that a tree species is considered invasive in Nova Scotia, best not to plant it.

Insects and Diseases – It is impossible to predict what nasty insects and diseases, probably from outside Nova Scotia, may find your tree and infest/infect it. Some insects and disease organisms that are harmful to trees are native to Nova Scotia, such as the infamous spruce budworm. Generally, we just have to live with them. However, there are also alien species of insects, fungi, and microbes that show up and wreak havoc among our trees. Some of these species get here intentionally or by nature, but most are hitchhikers on plant materials increasingly moved around the globe with ongoing trade and travel. Two examples are on our minds today in Nova Scotia. The hemlock woolly adelgid is ravaging hemlock trees in the province’s western region and is slowly migrating northeast across the province. We have substantial hemlock populations in our wooded urban parks; they are now at risk and it’s probably only a matter of time before they are infected. The emerald ash borer arrived in Bedford some years ago and is spreading rapidly across the city. Infected trees usually die. These are examples of pests that make it risky to plant a hemlock or ash tree in Halifax at this time.

The Soil and Site – For me, the biggest site consideration – apart from your built infrastructure – is drainage. If the site is wet, choose species that will do well with potentially excess moisture. If the site is dry, well then, choose a species that will grow deep roots so the tree can withstand droughty conditions.

When it comes to nutrients in the soil, it is a fair bet that most of our soils in HRM are not fabulous when it comes to growing trees. We do have pockets of good soil here and there, but we also have a lot of rocky sites with shallow soils of relatively poor nutrient status. Many decades of acid rain haven’t helped either. However, when you look around at some of the naturalized woodlands we have in the city – for example, Point Pleasant Park, Shubie Park, Hemlock Ravine, Fleming Park – they are densely wooded with diverse tree species. In sum, I would say that unless you are facing a site situation that is nothing but bare bedrock or a naked boulder field, go ahead and plant a tree and let the tree sort out its nutrient supply. I’m not a fan of fertilization of trees (but more in this in a later article).

The Built Infrastructure – It is so very important to take account of the immediate environment in which your new tree will be growing. You have to think about many things here:

The area available – if you have a mere postage stamp for a garden or yard, perhaps you want a tree that remains small at maturity.

The underground stuff – it would be best not to plant a taprooted tree right over top of your water, sewer, and gas service lines.

The buildings – consider whether you can tolerate a tree over the roof of your house. I had two until recently – the streetside elm (owned by HRM and not within my purview to mess with) and a Norway maple behind the house. The Norway maple got too big for my risk tolerance so I had it removed.

Overhead power lines – if you must plant a tree under power lines, choose a tree that is short at maturity or one that is easily grown around the lines. An apically dominant tree such as a spruce would not be a good choice under a power line. Elm is a good choice.

Stock Availability – You may have chosen an ideal tree species that you'd like to plant only to discover that nobody in the province, or even region, grows and sells them. You can only grow what you can obtain when it comes to tree species. Your choices are simple: (a) go to a supplier with your list of preferred choices and hope that at least one of them is available; (b) try to order a seedling or seedlings from further afield than you would care to drive (this might not be easy); or (c) consider growing your preferred species from seed and plant it when the seedling or sapling is of sufficient size.

One thing about seedling/sapling suppliers – many of the garden centres order their stock from places like Ontario. And, in my experience, staff at garden centres are often not knowledgeable enough to give a buyer good advice about species/cultivar choices. I have even seen saplings labelled incorrectly (wrong species) at a garden centre in New Brunswick and the staff had no clue about this. When it comes to getting advice on species/cultivar selection, your best bet is to visit a commercial nursery and get advice from the grower. If you choose to buy planting material at a local garden centre in the city, make sure that you know what you want and know one tree species from another – don't rely on the staff there. Doing your homework before buying will pay great dividends.



Conclusion

There is so much to think about if you want to be systematic in choosing the right tree species for your urban property. The tragedy in making a bad choice is not so much a financial one – planting stock can be had, depending on species and size, for under a hundred to upwards of a couple of hundred dollars. The tragedy is related to time – if your species choice turns out not to be what you had hoped for in terms of performance and enjoyment, your only recourse is to start over. It may be a decade or two before you realize the mistake in species selection, and fixing that demands a lot of patience as a replacement tree develops to provide you with the joy you had planned to experience. Small trees can also give great joy, but, for most of us, even greater joy comes from watching the tree mature and deliver a host of benefits through its life.