



Growing Maples in North Texas

By Keith Johansson

We do love our maples here in North Texas in all the four seasons, which are: early summer, mid summer, late summer, and next summer. That sums up the climate pretty well, but the growing season also means early and late freezes, strong hot winds, destructive violent storms with occasional long periods of flooding rains. So mostly it's long periods of cloudless summer droughts with low humidity and the highest night time temperatures on the continent. Most soils are black alkaline clay or white caliche¹, but I did my research and located in an area of slightly acidic sandy loam. The native trees are primarily several kinds of oak, hackberry, cottonwood, pecan, and a couple of elms, and you won't find many more of them west of here until you get to California. The only native maples in these conditions are *Acer negundo* and an isolated sugar maple, *Acer saccharum* ssp. *grandidentatum*. The good news is that many maples can be successfully grown if sited properly and irrigated. It is a challenge growing maples in North Texas but that is part of the fun.

The first step is to choose your site and then select a tree that is hardy and grows well in that site. In my climate I would add about 10 degrees Fahrenheit to the tree's hardiness rating to allow for those sudden early, or late freezes. There are some maples from high altitudes that go into permanent dormancy in my summer and also some maples from mild summers that do not like it here, but there are probably more than fifty maple species that could be grown. You can see many mature species at the Stephen F. Austin University in Nacogdoches, Texas. If you learn the conditions where your maple is native, you can then try to recreate those conditions as closely as possible. For most maple species that is usually shade to simulate clouds and reduce summer heat loads, and irrigation to simulate rain. Overstory trees also help in dealing with sudden temperature changes, slowing down the hot winds, and softening the blow of hail stones that can be as big as oranges. The drawbacks are limbs that can come crashing down, and some root competition.

While shade helps us in growing a lot of maples, if shade is defined as cooler, then in Texas there is no such thing as shade. It is common to have 30 days, or more, of 100 degree Fahrenheit highs (37.8°C) in summer with night time temperatures only cooling to 80°F (26.7°C) for a short time at sunrise before it starts heading up again. In our record hot summer of 2011, I had 75 days over 100 degrees and the average high was 103.7°F (39.8°C). The record high has been 113°F (45°C).

¹ Caliche is a sedimentary rock, a hardened natural cement of calcium carbonate that binds other materials—such as gravel, sand, clay, and silt. Source: Wikipedia.



Small Japanese maples in production under oaks and maples on
7 December 2015 at Metro Maples, Fort Worth, Texas, U.S.A.
(Photo: Keith Johansson)

To grow a nice specimen don't crowd them, make sure there is even light on all sides of your tree to prevent lop-sided growth, and plant them where they have plenty of soil for root growth. Maples requiring shade do like morning sun up to eleven o'clock, or up to two hours of full afternoon sun. They won't grow any faster with more sun unless special growing techniques are used. It's best to avoid areas with additional reflected heat. The best maples for shade are the Japanese maples and for full sun exposure are the Chinese Shantung, Trident, Amur maple, the native sugar maple, Drummond red maple, and the red and silver hybrids like 'Autumn Blaze'. The paperbark maples are very nice and easy to grow in part shade, requiring very little water. I have not tried all the snake bark maples, but the only survivor in mostly dry conditions has been *Acer capillipes*.

The Japanese maples are very adaptable in many ways, except their leaves never stop losing moisture so will never adapt to a Texas summer without irrigation, so your site should have a sprinkler system and should be checked often in summer. During the hottest part of summer they do best with irrigation twice a week. Most variegated varieties and strap leaves will revert back to the species over time, however 'Butterfly' and 'Koto no Ito' are some of the exceptions. There is no substitute for experience in selecting and siting many of the Japanese maples to optimize their best colors and performance, as some will require more light and others less. The Shantung maples, *Acer truncatum*, on the other hand, and the others

mentioned for full sun, are able to stop transpiration losses by closing their stomata and will survive even the longest drought in full sun.

The next step is soil preparation. My favorite way to plant Japanese maples in the usual poor draining, sticky clay soils, is in raised beds with plenty of organic matter with an annual mulch on top. This lowers the pH and provides for good drainage with oxygen to the roots for those periods in spring or fall when the rain won't stop. They tolerate the high pH in the ground but grow better in raised beds. It's too hot for a lot of leaf fungus problems in the dry climate, but root rot and other soil born fungus do kill some maples, and the raised beds will help reduce the problem. Spraying for insects is also risky in summer as it is just plain too hot, even in the morning, and many sprays can kill when combined with the heat. The Shantung maple needs no soil amendments and only requires good drainage. They seem to prefer to just be left alone but generally will grow healthier and faster with a weekly or even bi-weekly deep watering during droughts.

A single early spring application of a balanced acid forming fertilizer is helpful to the young maples, but faster growth is achieved with controlled release fertilizer or monthly applications March through June. Timing is important when fertilizing and allow 10 to 14 days for the nutrients to be absorbed and processed before they start working. Summer fertilizer, once it's hot, rarely does them any good, but I do like to use a low nitrogen, high phosphorus fertilizer in the fall. To encourage summer shoot growth, I usually remove some terminal leaves in late spring, choosing the direction of growth by which bud I wish to come out. On the vigorous varieties I might also select some interior leaves to remove if a new branch

would be useful there. I also sometimes pinch out the new growth to encourage back budding or to get two shoots to replace the one that I pinched.

Slow, steady growth is ideal and makes for a strong, balanced, healthy plant, but you can get fast top growth if you want to. For fast growth, use a fifty percent shade cloth for the Japanese maples, lots of controlled release fertilizer, and water daily when it's hot to achieve spectacular top growth. However, you can't sell the plant when it's growing like this unless the customer wants to keep up with the daily watering over a long hot summer. This fast growth will also result in a need for extra pruning and staking, and it will also produce a smaller root system. No shade is needed for the Shantung maples but for consistent results every year an overhead watering system may be needed to cool the leaves a couple of times a day to keep the stomata open. A slow, steady method for small maples in containers does produce smaller plants but gives better results when later planted into the ground in the fall or spring. Very vigorously growing maples are also more prone to burn from rapid spikes in the heat.

My record Shantung maple growth was hit hard by hail the following year and it was easy to see that the record growth was softer and thus more damaged. Moderately growing Shantung maples also don't need much staking and that builds even stronger, thicker trunks when they're allowed to sway in the wind.

Keith Johansson is a past president of TMSNAB and retired owner of Metro Maples, a six acre maple farm in Fort Worth, Texas, propagating and container growing Japanese maples and Chinese Shantung maples. He has developed 3 patented cultivars. 🍁