

What's Up (or down) with the Root Flare?

As growers and installers of plants, by the millions, we often take for granted that all we must do is provide a reasonably good new home (nursery or landscape) for a plant and move on to the next plant or project. Most of the time it all works well. Plants have concerns of their own and assume we will nurture them to a thriving long-term future.

Many things must go right to ensure that a rooted cutting or graft grows into a robust future plant. Was it pruned correctly, planted in and backfilled with quality soil/amendments, did it receive just the right amount of irrigation, timely inspection for and treatment of pest problems, proper planting depth, removal of plastic/sisal used to tie up the root ball, etc.?

If all those concerns are satisfied, planting depth at the nursery and in the landscape will make or break the hoped for long and happy future.

I often marvel at the resilience of plants. We have all seen the multi-stem river birch splayed to the ground by ice. Not so slowly, it returns to its upright position with the ice melt. We have seen hollies flocked with scale insects that come back strong with proper care. Forest trees achieve expected maturity with six inches of soil on top of rock and share nutrients and water through the mycorrhizal web. However, planting a tree too deep is not something most trees can overcome themselves.

One of the most discouraging things we see in the landscape is a buried tree trunk; and we see it often. The root flare is part of the trunk, not the root system. The trunk bark is not waterproof or resistant and will decline if constantly covered. Alternatively, roots are capable of being in a constantly moist environment.

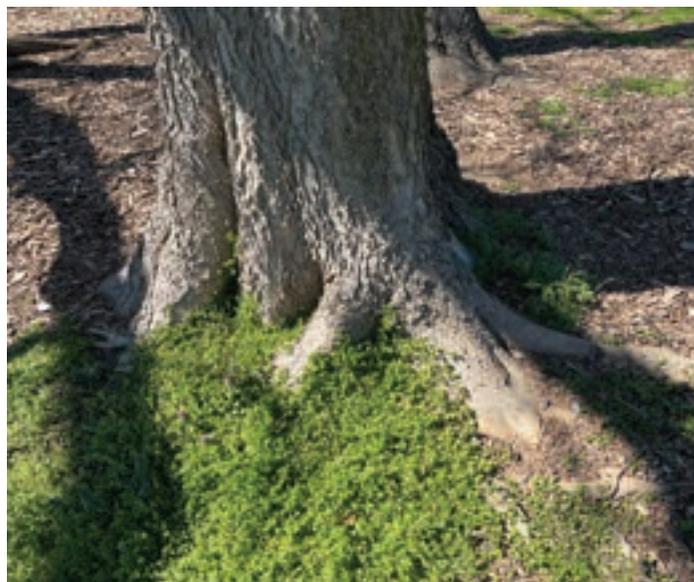
Both field production and container growing operations are often blamed for buried flare roots. Even field operations of merit can have problems with exposing the flare due to soil movement from wind and water erosion. Container plants are more subject to circling roots that can be near the surface and may interfere with the root flare development. Like B&B plants, this should be investigated and corrected at the time of planting.

We make it a standard policy at planting to get the depth perfect. That is easier said than done for a couple of reasons. We often plant trees that have no developed root flares to act as a guide. In such a case, we make the best estimate of where the root flare will develop.

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Typical mulch volcano covering root flare



Old volunteer tree here at the farm — good flare



Grafted liners ready to transplant

IT'S TIME FOR SHARING (Continued)

We would like to make the case that proper planting depth is a shared responsibility at transplant and that landscape maintenance contractors are ultimately responsible for the long-term management of the root flare.

Initial transplant. A grower's goal is to deliver a rootball with the root flare exposed. It's not always going to happen but if the initial field planting was close to the target, any discrepancy can be easily corrected at the time of transplanting. The burlap should be removed from the top of the rootball. If the root flare is not present, soil should be pulled back from the trunk. The rootball should then be placed at a depth where the top of the rootball is 1½ to 2 inches above the existing grade. The transplant hole should be substantially larger than the rootball and should be backfilled with good soil mixed about 50/50 with compost. The bottom of the hole should be native or compacted soil, so the ball does not settle over time. The rootball should not be covered with any soil after the root flare is exposed. Mulch should cover the rootball but not touch the root flare and trunk.

The photo, bottom page 57, is of grafted liners ready to transplant into the field or container. The graft union is



Excavated trunk with flare buried — site unknown

obvious. The root flare will develop where the grafted understock meets the soil line. Some tree liners are grown from seed (*Styrax japonica*, *Acer griseum*) or as a rooted cutting (*Salix*) which do not show the graft union. If such a liner is field grown by a liner grower, we can usually see the soil line which gives us a guide to planting depth.

Landscape Maintenance Responsibility. This is usually where things can go terribly wrong. I can't remember when I have seen a mulched tree with mulch not touching the tree trunk and root flare. Even worse is when subsequent mulching just piles on top of the old mulch. When mulch touches the tree trunk and is not allowed to dry, rot and insect/disease infection can occur. (It is my understanding the only tree without a root flare is a palm).

Many years ago, a picture was sent to me showing declining trees. When the trees were excavated to search for a problem, the root flare was found 1 foot below grade.

In another situation I was asked to determine why an *Acer rubrum* cultivar was failing. I dug down a few inches below grade to find plastic twine strangling the trunk; the tree died. If the flare had been exposed, the plastic twine would have been visible.

In summary, plants cannot go it alone. Just like our children, they need our care, nurturing and support at an early age to fulfill a robust and happy life. ✦



30 some year-old *Fagus sylvatica* 'Riversii' here at the farm — decent flare, not perfect



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One of the most discouraging things we see in the landscape is a buried tree trunk; and we see it often. The root flare is part of the trunk, not the root system.



30 some year-old *Fagus sylvatica* 'Zalattia' here at the farm — decent flare.



Pinus nigra cultivar unknown here at the farm — often seen graft union concern. This tree was planted in 1997 here at the Farm and is now dead as of March 2022.