

Should We Fertilize in the Fall?

By Charlie Mosse, November 2023

Welcome from Virginia as I sit down to write. Fall is finally in the air here with daytime temps in the 50's and 60's and lows in the 40's and 30's but is struggling in SoCal. The shorter days and cooler temperatures signal plants to slow or stop growing and, in the case of deciduous trees, to start the change from green to the beautiful fall colors we love to see. Hormones start a process called abscission at the point where leaves attach to the stem. A few layers of cells slowly start to give way, slowing and eventually stopping the flow of nutrients to the leaves. At some point with gravity or wind, the leaf falls.

Photosynthesis slows down but does not totally stop. Trees still need nutrients but in lesser amounts and includes all of the macro and micro-nutrients needed for storing energy for spring growth. The hint here is that a complete fertilizer is best, just in lesser amounts than one might apply in the spring and summer. The concern of encouraging soft, late fall growth is a bit of a myth. Late pruning in the summer can spur late, soft growth in some plants. In a cold climate this can be a problem. In our temperate climate we are at much less risk for late fall freeze damage due to mild temps. Also, we get less rain than NorCal or Oregon and so we are watering regularly even during the cooler months. This primarily leaches out nitrogen because the forms of nitrogen, such as nitrate and ammonium that are ready for uptake by the root hairs, are very soluble. Potassium is the next in solubility followed by phosphorus.

Should I fertilize in the fall with a no nitrogen fertilizer, 0-10-10, (which is a popular practice) vs a fertilizer with nitrogen is an age old question long discussed by many, including bonsai practitioners. 0-10-10 was extremely popular and taught as the better option vs a nitrogen fertilizer. It is still widely used even though, in this case, fertilizing information and how plants utilize nutrients has significantly changed with time. Science and anecdotal use have shown that a complete fertilizer is better in the fall than a 0-10-10 but people still swear by it. Soil chemistry is extremely complex to say the least. Mind boggling is applicable. The formulations of 0-10-10 fertilizers and also high phosphorous and high potassium fertilizers with nitrogen varies. Much of the success people realize from these fertilizers is due to the fact that these fertilizers have an acid reaction in the soil and so improve the environment by improving nutrient availability in general. In fact, it has been shown that low nitrogen in the soil can inhibit the uptake of other nutrients.

So, the answer is yes! Fertilize with a complete fertilizer, just dial it back to a 1/2 or 1/3 dose and/or use a low value NPK fertilizer. This is important in Southern California and other mild winter areas where many junipers and broadleaf evergreens do not completely quit growing and we are also watering regularly.

Side bar: Many people ask, "What is up with my Chinese Elms? They do not defoliate like my other deciduous trees and when I fertilize then in the spring, they grow too fast!" Two things....

There is an intermediate category of broadleaf trees called semi-deciduous or semi-evergreen if you like. Chinese Elms fall into this category. We are in a temperate climate where fall and winter temps are mild and Chinese Elms have adapted in their own way. They will only defoliate 25% to 75% during mild years or will defoliate 75% to 100% when temps are much cooler. Most years they must be defoliated manually to get to 100%. At that time, they are easy to trim and prune for

spring growth. Then they can be truly dormant on their own for only a month or so, maybe 2 months.

Chinese Elms are very vigorous growers. They need no extra encouragement to grow unless they are in development like running out branches for thickening. Fertilizing in the fall sets them up for plenty of growth in the spring. Fertilizing a Chinese Elm in the spring will cause larger leaves, longer internodes and lots of extra trimming. I learned this the hard way when I first started in bonsai. This applies to other deciduous trees and broadleaf evergreens as well.

Bottom line, complete fertilizers are overall better since nitrogen needs to be replenished regularly, unlike phosphorous and potassium and other nutrients. Fertilize at reduced rates mid-October through November. You may want to spot tea bags of fertilizer, BioGold, rapeseed cakes in minimal quantities or apply liquids like fish/kelp emulsion through the winter on your conifers. It is best to stop applying fertilizer to deciduous. Fall/winter fertilizing of broadleaf evergreens is not needed if they are healthy with good color. If off color, fertilize like the junipers. There is no cut n' dry rule because it all depends on your tree (stage of development, soil type and age) and micro-climate.

If you have any questions, please ask at meetings, on the SDSBC website email or on the SDBC Facebook page. You can also bring in your tree(s) to a club meeting, post photos with your question/comments on the SDBC Facebook page. There is always someone to help you.