

Does It Help To Fertilize Trees And Shrubs

Phil Blevins

Extension Agent, Agriculture

Washington County, Virginia

As with any plant, trees and shrubs have nutrient requirements that must be met if you are to get maximum performance, whether that be beauty, shade, health of the plant, etc. Tree and shrub fertilization is especially important in urban and suburban areas of Virginia where soils have been altered due to construction. These urban soils tend to be heavily compacted, poorly aerated, poorly drained, and low in organic matter.

Visual inspection of trees and shrubs is often the best overall factor to use in making fertilization decisions. Look for poor or chlorotic leaf color (pale green to yellow), reduced leaf size and retention, premature fall coloration and leaf drop, reduced twig and branch growth and retention, and/or overall reduced plant growth and vigor. In addition to observing signs of possible nutrient deficiencies on plants, soil and foliar analysis can be used to help determine or confirm whether supplemental fertilization is needed. Fertilizer should not be concentrated around the stem or trunk of a tree or shrub, but should be applied over as much of the plant's root zone as possible. For trees and shrubs, fertilizer should be applied over an area twice as large as the crown spread or dripline.

Fertilizer use rates should be based on plant type, with younger trees and shrubs generally receiving higher rates of nitrogen (N) than mature plants. Fertilizer rates for trees are no longer based on trunk size or caliper, but on root system spread, calculated by doubling the area of crown coverage (crown coverage = $3.14 \times \text{radius}^2$). In general, use one to six pounds of actual N/1000ft² of root zone. Evergreen shrubs and trees need less (1 to 3 lbs) while deciduous trees and shrubs commonly need more (3 to 6 lbs). Reduce the rate when plants are growing in restricted areas (sidewalk cuts, parking lot islands) or where roots of multiple plants overlap. If applied fertilizer will go over a turf area, do not exceed 1 1/2# N/1000ft² for any one application to avoid overstimulating or burning the grass. Use split applications a few months apart if higher rates are needed. If a soil test shows that phosphate (P) or potash (K) is needed, apply at the rate of 1 to 2 lbs and 1 1/2 lbs N/1000ft², respectively. If a complete fertilizer is used, the ratio of N-P-K should be 3-1-2 or 3-1-1.