

Fertilizing Shade and Ornamental Trees

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Why fertilize?

Fertilization of ornamental trees should help them keep healthy, make a moderate growth, and put on a beautiful foliage each year. Some of the indications on the tree needing fertility are: lack of new growth; yellow or brown leaves; dead buds, dead branch tips, and whole dead branches in the top of the tree; thin or sparse foliage; and a short annual growth.

When to fertilize

Do not fertilize the first year after you plant a tree. Many trees come with roots balled in a good soil and others have a strong system of bare roots. If the tree must reach out for food during the first year, it will establish a better set of roots than if food always is immediately available.

Beginning with the second year, trees should receive *regular* feeding—every year, every two, or every three years. Watch the tree's growth to decide how often this feeding should be done. A moderate, healthy growth is best. Very rapid growth is weak and often is damaged by wind or disease.

Fertilize in the early spring, about February or March. This provides food for the tree as soon as it should be starting to grow.

Late fall or early winter feeding would do no harm in most years, but there are occasional years when a sudden burst of warm weather is followed by frosty, cold weather. If a tree has an abundance of food present under such conditions, it may force out tender buds that could be injured severely by the sudden cold.

What to use as a fertilizer

While trees respond mainly to nitrogen, other elements found in a complete fertilizer affect the tree's health and its productiveness of fruits, flowers, and foliage. A fertilizer with 10 to 14% nitrogen, balanced with 16 to 20% phosphate and 5 to 10% potash, should be satisfactory for use in feeding trees.

How much fertilizer to use

Large broadleaf trees (with a trunk diameter of 6 inches or more at the 30-inch level): Apply 2 pounds of fertilizer for each inch of trunk diameter.

Small broadleaf trees and evergreens: One pound of fertilizer for each inch of trunk diameter at the 30-inch level.

When the root area is covered by street or sidewalk pavement, reduce the amount of fertilizer according to the area covered. For example, a large broadleaf tree with half of its root area covered by street and sidewalk should receive one pound of fertilizer for each inch of trunk diameter at the 30-inch level.

Shrubs: Use one pound of fertilizer for each inch of trunk diameter at the base of the plant.

How to fertilize

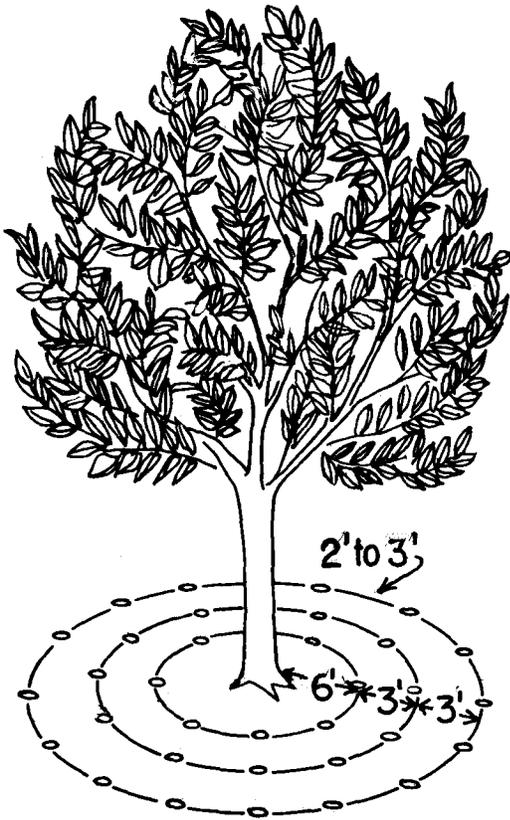
Placing fertilizer down 12 to 18 inches is most effective for the tree. If fertilizer is placed on the surface under a tree, much of it will be used by the lawn or other vegetation growing there. The amount of fertilizer used might be injurious to a lawn or ground cover. Fertilizer placed on top of the soil tends to bring the tree roots to the surface. If the area surrounding the tree is in lawn, the tree roots would be damaging to the grass. Surface roots are injured by high and low temperatures, drought, and mechanical damage. Disease often gets started through such injury.

The main feeder roots of a tree normally are found in a broad band extending about a foot beyond the drip-line of the tree and about halfway back to the trunk of the tree. The fertilizer should be distributed evenly over this area. To do this, first mark off a circle about one foot beyond the drip-line of the tree. For small trees, mark another circle halfway to the trunk of the tree. For large trees, an additional circle midway between the other two would give a better distribution of fertilizer. Make holes from 1½ to 2½ inches in diameter along these circles, every 2½ to 3 feet. These can be made with an auger or with an iron rod or pipe. The holes should extend



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12 to 18 inches deep or more. The deeper they are, the deeper the rooting of the tree will be and the better the anchorage.



Place holes around the tree in this pattern. Extend holes to the outer edge of the branches or a foot beyond. Make the holes 12 to 18 inches deep.

When the fertilizer is weighed out, count the number of holes made for each tree and divide the fertilizer between them. A small tin can will come in handy as a measure and for pouring the fertilizer into each hole. When this part of the job is finished, the holes can be filled with coarse gravel or crushed rock. Then they can be found easily for future use and will serve to conduct water to the root area during the irrigation period.

Water the tree thoroughly after fertilizing and repeat the watering as needed, every 10 to 14 days during dry months.

Walnut trees need special attention

Borax is included in the fertilizer program for walnut trees every 2 or 3 years. Use 2 pounds for trees under 10 inches in trunk diameter and 4 pounds for larger trees. Household or agricultural grade borax can be used.

Watering trees and shrubs

There is a strong tendency to neglect proper watering of trees and shrubs. They require more than the light watering often given to lawns. If the water does not reach the 12 to 18 inch level, it is not adequate. Shallow watering tends to draw the roots to the surface, where they compete with lawn or ground cover for food and water and are easily damaged by extremes of heat and cold or mechanical injury. This, in turn, makes an easy entrance for disease organisms that can destroy the tree or shrub.

Water thoroughly every week or two, making sure that the entire root area is getting moisture. Digging into the area with a shovel or trowel will indicate how well the job has been done.