

Fertilizing Landscape Plants

Mary Ann Rose



Fertilization is a very important component of plant health care in the landscape and is necessary to supplement naturally occurring plant nutrients.

Essential Elements

Nine essential elements required in relatively large amounts for plant growth are called macronutrients or major elements. Included are nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, carbon, hydrogen, and oxygen. The last three are readily available in air and water. Seven other essential elements required in small amounts by plants are called micronutrients or minor elements and include iron, manganese, zinc, boron, molybdenum, copper, and chlorine.

Timing Fertilizer Treatments

In the landscape, fertilizing once a year is preferable to less frequent applications, especially with newly planted materials. The best time to fertilize in the northern United States is autumn, generally after the first hard freeze in October and before the soil freezes in December.

The next best time to fertilize landscape plants would be prior to growth in early spring, between February and early April again in the northern United States

Fertilizer applied after this midsummer date is not recommended, as it could delay acclimation to winter weather conditions.

Methods of Application

Fertilizer can be applied in the landscape via 1) liquid soil injection, 2) drill or punch bar holes in the soil, 3) surface application, 4) fertilizer stakes or spikes, 5) foliar sprays, and 6) tree trunk injection or implantation. Each serves a specific role depending on the site and plant health. Regardless of the method selected, the soil should be moist at the time of fertilizing to prevent fertilizer injury.

Liquid Injection into Soil

Liquid injection of soluble fertilizer into the soil is rapidly absorbed by the roots, and is an excellent method of correcting deficiencies quickly. Injection sites should be 2 to 3 feet apart, depending on pressure, and 6 to 9 inches deep. Fertilizing deeper than nine inches may place the fertilizer below the feeder roots. The addition of water to dry soil is desirable in summer or during periods of drought.

Surface Application

Fertilizing via the surface of the ground is as effective as most other methods. However, this method should not be used in good quality turf, as injury could occur, particularly if more than two pounds of actual nitrogen per 1,000 square feet is applied at any one time. In turf areas, apply fertilizer with either liquid injection or drill hole techniques.

Fertilizer Stakes or Spikes

Fertilizer stakes or spikes that are driven into the soil contain satisfactory fertilizer materials. Unfortunately, the spacing of spikes is such that very little fertilizer comes in contact with the root system. One or two stakes per inch of trunk diameter does not represent adequate fertilizer distribution because lateral fertilizer movement is limited in soil.

Tree Trunk Injection or Implants

The infusion of liquid or implants of fertilizer is often the most satisfactory method of correcting iron or manganese problems. In areas of adverse soil pH, high moisture relationships, or locations where other means of application are not practical, this method is often the most satisfactory in obtaining desired results. Holes must be placed in the trunk root flare which causes a wound that will close within a growing season.