HELENA DEEP ROOT TREE & SHRUB REFERENCE GUIDE

Healthy tree growth requires balanced nutrition and uniform feeding. Over utilization of nutrients can damage roots and result in unhealthy, rapid tree growth. Instead, Helena's Deep Root Fertilization Program allows trees to utilize nutrients only when they are needed to produce sugar and recover from winter and fall dormancy. Deep root feeding helps trees convert sugars into stored starches during fall applications. It allows nutrients to be placed below competing grass plants and breaks up compacted soil around the roots caused by foot traffic or equipment. With the correct fertility ratios, Deep Root Tree Fertilization can be the difference between proper nutrition, under feeding or over feeding.

To calculate the amount of mixed solution to be used per tree or planting bed, one of the following methods should be used.

(1) Diameter Breast High (DBH):

Measure the trunk at 4 ½ ft from above grade. Generally for optimum growth, apply ¼ lb of actual N per DBH to trees under 6 inches in diameter. The rate can be increased to ½ lb N per DBH for most trees over 6 inches in diameter. The DBH is then multiplied by the rate of N, which will give you the amount of N needed for that tree.

(2) Square Foot Method:

Measure the sq ft of the planting bed (in thousands) and multiply the rate of N you wish to apply, based on the type of tree or shrub being fertilized (1.5 - 3.0 lbs N/1000 sq ft). This will give you the total amount of N that needs to be applied to that area.

Mixing Procedures

Product: CoRoN®
  14-2-14, 60% CRN (w/ micronutrients)

Mixing Rate: 5 gals per 100 gals solution
  This will give you 7.80 lbs of N per 100 gals, which is equal to **0.08 lbs of N per gal of mixed product**.

  Take the total pounds of N needed (from either DBH or Square Foot Method) and divide by 0.08 for the total number of gallons needed per tree or per planting bed to be fed.

Examples:

(1) Trees DBH 8 in rate of N = ½ lb N 8.50 = 4 lbs of N needed Divide 4 lbs N by .08 for 50 gal of mixed product needed to feed this tree. At ½ gal per injection site, 100 holes are needed.

(2) Bed area 750 sq ft Conifer @ 1.5 lbs N divided by 1000 sq ft 0.75 X 1.5 lbsN = 1.13lbs N. 1.13 lbs N divided by .08 = 14 gal of mixed product.
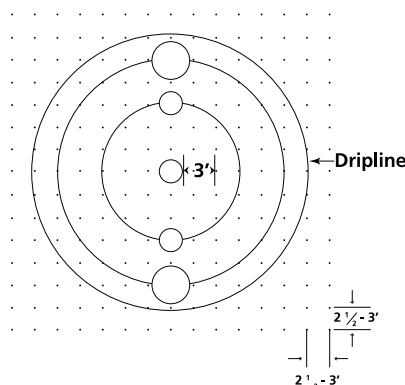
Depth of Injections

Injecting trees or large shrubs require a minimum depth of 6″ with 12″ as the maximum.

Smaller plants should be injected 4 to 6 inches deep at the edge of the drip line. The drip line is at the outer edge of the foliage.

Injection Pattern

Use a grid pattern from 2 ½ - 3 ft apart, beginning under the branches and extending well beyond the drip line. It is very important to avoid large roots near the trunk. Injections should start at least three ft from the trunk of large trees.

Determination of surface area to fertilize and distribution of holes for fertilizer incorporation. Fertilize to the dripline or farther.

Number of Injections Per Site

To calculate the number of injections that will have to be made per tree or planting bed, the following procedure should be used:

Take the total amount of mixed product that is going to be used, as calculated in the previous example and divide by the amount that is going to be injected into each hole. This will give you the total number of injections that will have to be made.

Example:

(From previous example)
50 gal of mixed product needed.
Divide 50 by .50 (amount of liquid per hole) = 100
100 holes are needed.

Each injection will be placing ½ gal of mixed product into each hole. Calibrate injection equipment to provide the necessary amount for each hole.

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