

## PROSCAPE

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**Q:** What is the best all-around fertilizer, and what is the best method of application for small trees about 2-3 inches in diameter.

**A:** The question of the best fertilizer is at best rhetorical. For even as you scan the advertisements in this magazine you will see little agreement about the best fertilizer analysis for trees. However there is some consensus that the fertilizer ratio should be a 3-2-1 or a 3-1-1. These ratios are similar enough to those recommended for turfgrass that it may be simplest to fertilize your young trees with a turf fertilizer. The first word of caution is be certain that the fertilizer is not mixed with any herbicide especially Dicamba. Then if you accept that your turf fertilizer is adequate for your trees, the next question is what is the best method of application?

When fertilizer is applied to your turf area much of it may not reach the roots of the intended plant. Part of the applied fertilizer is lost to leaching and volatilization. Some may be chemically tied up in the soil. Some is used by soil

organisms. Much of it is utilized by the turf or weed species growing there, and only a fraction of it may be available for the tree roots. Therefore, it is recommended that you simply apply more fertilizer inside the drip-line of the trees by making an extra pass with your fertilizer spreader at normal rate. Some horticulturists recommend applying the fertilizer in the spring on frozen ground so that the chemicals become dissolved in the melt water, enter the soil, and pass by the inactive turf roots to the tree root depth. As trees get larger, you may wish to investigate the more sophisticated means of tree fertilization.

**Q:** When we receive a soil sample report, everything is given in "parts per million" (PPM). Is there a chart showing all the major elements and giving the best PPM for maximum grass growth?

**A:** "Parts per million" (PPM) is a scientific measure that allows testing of small samples with

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the possibility of extrapolating the results to a larger volume. To convert PPM to a usable and meaningful expression requires only a simple calculation to obtain a pounds per acre measurement. This calculation is based upon a term called acre furrow slice (AFS), which represents the oven dry weight of the top six inches of an acre plot. It is a constant at 2,000,000 pounds. So, if your test result shows that the sample tested had 20 PPM of phosphorus, you can calculate the pounds of phosphorus per acre by multiplying the PPM by 2. (20 ppm x 2 = 40 lbs./acre). Or, for you math majors:

$$\frac{\text{ppm}}{1,000,000} = \frac{\text{pounds per acre}}{\text{lbs./acre furrow slice}}$$

$$\frac{20}{1,000,000} = \frac{X}{2,000,000 \text{ lbs.}}$$

$$20 \times 2,000,000 \text{ lbs.} = 1,000,000X$$

$$\frac{20 \times 2,000,000 \text{ lbs.}}{1,000,000} = X$$

$$X = 40 \text{ lbs./acre}$$

Either method gets the correct answer.

Most soil test laboratories give results in pounds per acre, but as you can see the conversion

is simple (the first way). From there you just go by the recommended pounds per acre for elements for vegetation in your area.

**Q:** Why aren't grasses tested on different soils under conditions found in different areas of the states; within 10 miles of Lake Erie the soil conditions change 3 times?

**A:** Tersely, the answer is time, money, personnel, and a lack of a need. However, your question is a good one.

But you, as a manager of plant growth, need not be without specific information on growing a particular plant, species, or cultivar in any given area, condition, or region. This specific information is a product of Experience Sharing with other professionals in your locale. Probably the most usable information you will ever get will come from your fellow practitioners who have joined together to form and support a local chapter of some professional organization. Continue to do your own trial and error research as most others are doing and then support a forum to exchange such experiences.



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