

MONTHLY TIPS

(Ed's. Note: The following article is reprinted from Bonsai by Design, the newsletter of The Greater Evansville Bonsai Society and was written by Dave Bogan.)

FERTILIZATION

I preach fertilization and am an advocate of super fertilizing. But, you must always consider why you're doing it. The challenge is frequency, strength of dosage, type or % of nutrients (N-P-K) and again, why you're fertilizing in the first place. Fertilizers are chemicals given to plants with the intention of promoting growth; they are usually applied either via the soil or by foliar spraying.

Fertilizers typically provide, in varying proportions, the three major plant nutrients (nitrogen, phosphorus, and potassium), the secondary plant nutrients (calcium, sulfur, magnesium), and sometimes trace elements (or micro-nutrients) with a role in plant nutrition: boron, manganese, iron, zinc, copper and molybdenum. The three primary ingredients of fertilizers are listed on the fertilizer bags as nitrogen, phosphate and potash as three numbers, indicating the ratios in that order. Thus a 5-10-5 fertilizer would have 10 per cent phosphate in its ingredients.

To determine your fertilization needs you need to take several issues into consideration.

First, plant type, growth patterns and season. Fertilizer can have huge affects early in the season on most plants. Later, it may have little affect. In spring, if you fertilize maples or elms, they seem to come alive with huge growth spurts. The juniper or pine will have a lot less noticeable spring growth. Fertilizer nutritional value will also have different affects. High nitrogen content (first number) will of course affect upper growth while Phosphorus (2nd number) has more affect on the roots & general vitality of the plant. Potassium (last number) helps with fruit and flowering. Depending on your required growth, you may consider lower nitrogen to slow the upper growth or higher other numbers to benefit other areas of growth.

Next, we must always consider your soil type and pot. Soil composition can change the amount of moisture held in the soil. Thus, in coarse soil mixes, every time you water, you wash out fertilizer. I have fertilized and then checked for fertilizer content three days later finding very little residual nutrients. Now, I admit my test is using a simple meter, which claims to show nutrient levels so it's not real accurate. But, common sense will tell you that you are flushing out the soil every time you water. I keep in mind, all bonsai pots have drainage holes to drain off excess water. Pot size can also have an affect. Large deep pots will retain more nutrients than shallow ones.

Now, the real reason for fertilizing - We must always fertilize our plants mainly due to our soil type, which has hardly any nutrient value. But the frequency should be based on growth. In the development stages we want fast or strong growth. In the early years, I fertilize weekly with a balanced fertilizer (10-1.0-10) at full strength. With this, I obtain fast growth. Once the tree becomes developed and reaching the "finished" stage, I reduce fertilization. Reduction is based on species but generally fertilization is reduced to every 6 - 8 weeks.

A couple years ago, I fertilized (actually super fertilized) everything. I had excellent results. Then, I noticed I was doing a lot of maintenance pruning. It seemed like at least once or twice a week that I was trimming new shoots off my elms and maples. I have no problem maintaining my trees on a weekly basis but to continue trimming the same tree over and over seemed excessive. Then, I finally understood when and why to back off on fertilizer. Once a tree reaches the finished stage, all we need to do is maintain it. We no longer need excessive growth to increase ramification or foliage mass.

Another consideration on ALL types of new or finished trees; If the top is growing fast so is the root system. I keep this in mind for repotting frequency. Slow it down, a finished tree should only require repotting every 4 or more years.