Nutrient Requirements

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In my opinion, frequent low doses of fertilizer yield better results than larger doses applied less often. The negative aspect of this strategy, of course, is more work. Finding the right balance between maintaining a plant's health and the time spent doing it is the real trick. I'll assume plant health to be the main concern and the strategy for maintaining it can be adjusted to be economically feasible.

Before discussing more specific strategies, we can establish some general rules of thumb for maintaining a plant's nutrient level. One thing to remember is that the results of any strategy are going to take some time to realize in the plant, especially with plants in an interiorscape where the environment is usually not very conducive to growth. Be patient and plan to evaluate the effectiveness of a strategy over the course of several months. It is easier to maintain a healthy plant than to fix a plant's nutrient status once a problem is visible. Another general rule of thumb is to keep it simple. The more variables applied to a plant the tougher it is to determine which one is working or which one is causing a problem. Using many different fertilizers in a maintenance program will almost certainly extend the time it takes to find the perfect solution for your plants. Many of the plants we grow at Farm Life can be treated the same as far as fertilizers are concerned. Some of the plants will look their best with increased levels of one or two of the nutrients plants require. Some research into the plant or class of plant you are treating is a must. There are a few good books available for this information and I will try to provide information on our website for the plants that we grow. Feel free to call the nursery if the information you need can not be found. The last suggestion that is a must for a successful program is to write it down. Do the research, read the suggestions then design a program that works in your situation. Once you have a recorded plan and begin to execute it watch for indications that it is working or that something needs to change. A recorded plan is a must for eventually ariving at a strategy that is successful and can be repeated.

Most tropical foliage plants do well with a fertilizer having an N-P-K ratio of 2-1-2 or 3-1-2. There are many fertilizers to choose from and one of these should be the basis of a nutrient program. Decide next on the dosage to use and the frequency of the applications. This should vary based on the fertilizer chosen. Fertilizers may be water soluble, applied as a liquid, or dry, applied as a top dress. If a feasible work schedule can be found I would prefer a water soluble fertilizer that I applied periodically in the normal watering schedule. This would yield a more controllable result than applying a top dress but would most likely result in more frequent applications than a dry top dress application. Start with a low dose of fertilizer and plan to observe the plant for reactions to the treatments. A fast reaction to the program,(visible changes inside of a month or possibly two months), either in a positive direction or a negative direction would worry me. If you are using a water soluble fertilizer stop and apply clear water to the soil to flush through any active fertilizer then begin investigating the possible causes. At least if the fertilizer program is the problem you can “reset” the soil conditions quickly while looking into the cause. Ideally, the plant should just maintain the same look it had when you received it. Most macro-nutrients will be contained in the base fertilizer and some micro-nutrients, but possibly not all. It is important to read the label of the fertilizer chosen and compare the nutrients contained with the list of macro and micro nutrients that plants require. Determine which ones, if any, are missing from your

fertilizer and then modify the program to provide the total package of nutrients to the plant. This could mean a change in the base fertilizer, or a less frequent application of an additional fertilizer to make up for the missing elements. All of the macro and micro nutrients are important for proper growth but the micro nutrients are required in much lower concentrations. There are many complex interactions between nutrients and many factors that effect the availability of nutrients to plants. There is also a wealth of information on this subject. While becoming familiar with the interactions of nutrients in the soil and the other factors that effect availability of nutrients to plants is important, a fertilizer program that delivers the macro nutrients on regular intervals and the missing micro nutrients on less frequent intervals should maintain the good health of a plant and at the very least slow the decline of a plant, due to some nutrient related problem, to the point that you can diagnose and correct the program.

When problems occur, the only real way to determine what action to take is by sending samples to a lab for nutrient analysis. It is possible to make good diagnoses of a problem based on the visual symptoms of a problem plant, but the symptoms do not always indicate the underlying cause of the problem. Some nutrients are antagonistic to others so that an imbalance in the proper ratio of two nutrients may make one of the nutrients less available to the plant. In this case, the symptoms may suggest too little of one nutrient when the problem is caused by too much of a different nutrient. In the case of Iron, there are a number of different factors that effect the availability of iron in the growing media. These factors range from pH to concentrations of other nutrients to water conditions in the soil. As I said it is complex, but we chose to grow and maintain plants so a solution must be found. In my opinion, the best way to make an accurate diagnosis is to send a soil and leaf sample to a lab for nutrient analysis. The lab can also report the pH of the soil which can be critical information. With these two results you can compare the amount of nutrients in the soil with the amounts in the plant to determine if there is a lack of a specific nutrient or if a possible antagonistic interaction is the cause. Also with a knowledge of the fertilizers being applied you will be able to deduce any other changes to the program that would make it more perfect. Any treatment without the numbers is just a guess which could turn out to be correct or incorrect. The problem with guessing is that you will either see a slow improvement in the plant, or a slow decline. Of course the slow decline being the worst scenario. The point is it will be slow and you will be inclined to think that maybe the treatment just needs some more time to work all the time losing confidence in what you did and possibly trying another treatment that may or may not make the problem even worse.....see the point. Experience, familiarity with the feritlizers being applied and a documented schedule of fertilizer applications greatly increases the chance that guessing turns out in your favor, but for me nothing beats the numbers.

