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Fertilizer

Fertilizers for growing plants is a very complex subject, and the following information barely scratches the surface, but seeing as most plant growers either feed too often or like myself almost never, the subject should be discussed even if just briefly. So, with the risk of offending every amateur chemist out there here goes.

Bonsai need to be fertilized regularly because they are planted in small pots that hold relatively small quantities of soil, that in turn hold even smaller quantities of plant food and nutrients.

Despite the marketing blurb you may read on the labels of various bottles of so-called ? bonsai fertilizer? on the shelves at your local nursery, trees are trees no matter their size, and there is no such thing as a specialized bonsai fertilizer. However there are certainly different fertilizers for different times of the year, and different fertilizers for specific species like Azaleas that prefer a more acidic soil.

The key to feeding plants correctly is understanding the NPK value which is, or should be printed clearly on any good fertilizer label. This is the code that looks something like 15.10.5, and refers to the proportion of Nitrogen, Phosphorus and Potassium that the fertilizer contains.

Nitrogen: In its pure state this element is a gas, but don't worry about that too much, what you can worry about is that this is the component of fertilizer that makes it explode, so don't use matches in a fertilizer shed. Most importantly for growing plants though, is that it is nitrogen that makes plants grow furiously. It makes the leaves grow large, and the new shoots will have long internodal spaces. Plants will take up as much nitrogen as is available in the soil and too much nitrogen can harm a plant. Nitrogen rich fertilizers should be applied in spring and the beginning of summer.

Phosphorus (phosphate): This is a solid element and in its common state is a white waxy substance. It is also highly combustible in certain forms making fertilizer even more dangerous and flammable. It is found in the urine of animals and humans. It is the element that promotes budding and flowering in plants, and also root development. A plant will only take up as much phosphorus as it needs. A lack of phosphorus is indicated by a reddish tinge to the leaves. Phosphate rich fertilizer applied at the beginning of summer will enhance flowering bonsai.

Potassium (potash): This element is actually a metal, is the seventh most abundant metal and constitutes 1.5% of the weight of the earth's crust. What amazing things we can learn via the internet! It is the least dense of all metals, can be cut with a knife, and most importantly for us, easily decomposes in water. Potassium contributes to the overall robustness of your tree, and aids the roots to absorb nutrients. It also helps to mature the wood, making your tree look older and more established. This is the right sort of fertilizer to feed your plant in autumn, as it will help it absorb and store nutrients for winter. This will also assist in thickening up the trunk and main branches that act as the main reservoirs for the plant food.

So, at the start of summer use a fertilizer with a high Nitrogen content, something like 15.10.5 for the young fast-growing trees, but for established trees reduce the N value to something like 5.10.5 as you would not want the leaves to grow too large, or the shoots too long.

Toward the end of summer and into autumn one would not want to promote budding or flowering so cut back on the Phosphorus (P) and enrich the Potassium (K) content of the soil with something like 5.5.20.

Liquid versus Solid fertilizers. There is no doubt that solid fertilizers are a more efficient method of feeding. This is simply because liquid fertilizers drain through the soil the moment the plant is watered. Solid fertilizer is normally in pellet form and should be spread around the perimeter of the pot to encourage the roots to grow wide and toward the edges of the pot and not downward. Manufacturers suggest applying plant food every two weeks, but I think that should vary according to what type of fertilizer is being used, and to how old and established the tree is.

Finally, even with a good feeding program the soil in your container will eventually become depleted of certain key or trace elements. One can buy trace element fertilizers from nurseries and garden supply shops. These need only be applied two or three times a year, and my advice is to use half the strength indicated on the label.

Always apply fertilizer to wet soil, and always either in the morning or afternoon, never in the midday sun.