

PLANTS THAT PRODUCE The Scoop on Fertilizers

By Richard Frost

A fertilizer is any substance applied to the plant or soil to increase productivity. Most of our local soils are rich in mineral nutrients tied up in clays. If these nutrients are released by application of humic acids or other soil conditioners, non-native plants will flourish for up to seven years and then decline as the nutrients are diminished. On the other hand, natives to the area like the San Diego Sage (*Salvia munzii*), are happy with the status quo and hate most fertilizers.

A medium size European or sub-tropical fruit tree needs about one pound of accessible nitrogen (among other things) per year to remain productive. As an example, Gro-Power Citrus and Avocado Food has an N-P-K (nitrogen, phosphorus, potassium) rating of 8-6-8. This means it has 8% accessible nitrogen, 6% accessible phosphorus, and 8% accessible potassium by weight. If you were to use this product to meet the entire nitrogen requirement of a subtropical tree, you would apply 12.5 pounds (one pound divided by 8%) per year. This granular food weighs ½ pound per cup, so that's 25 cups per tree per year. Since a tree planted in the ground will obtain nitrogen from other sources too, about half of that is sufficient.

As a general rule, subtropicals thrive on a relatively lower phosphorus profile. That is, a lower amount of P in comparison to N and K. Conversely: pit fruits, apples & pears, and bush-size non-tropical vines & vegetables produce better with larger helpings of potassium. For these, one cup per month (six pounds per year) of a 15-5-25 granular is usually sufficient. Day-neutral strawberries such as 'Sequoia' will produce year-round in the sun if fed a tablespoon or so of 3-12-12 granular each month. For leafy vegetables that you don't want to flower, apply a few tablespoons of 5-1-1 or similar per month.

In addition to N-P-K there are another 17 minerals needed by plants: so called secondary and trace-elements. Plants also need biological agents such as mycorrhizal fungi. Nearly every "complete" fertilizer product on the market contains all of these things. Some notable exceptions are highly distilled products such as "Triple 15." This contains only N, P, K and breaks down into unwanted salts after use. Still, it can be cost effective. A summer foliar spray of kelp extract is an optional way to add micronutrients.

Composted manures are an excellent alternative method for feeding your plants. Composted horse or steer (not cow) manure has a lower-phosphorus N-P-K profile of around 0.7-0.3-0.5 and works well with subtropicals. Use about 3.5 cubic feet per tree per year. You can supplement this with an even mixture of composted sea-bird manure and wood ash on those plants that benefit from extra amounts of P and K. Use 1.5 cups per month on tree and bush-size fruits & vegetables. For day-neutral strawberries use ½ cup per month (only). Composted rabbit manure is a good source of nitrogen. Use it on your leafy vegetables, about ½ cup per month.

Finally, some gardeners have converted to in-line liquid "fertigation" systems to save time, energy, and often money. Typically, you activate your system once per month for a full cycle of watering, with the mixture rate set to 1:100. Look for an N-P-K rating of about 28-8-18 for your subtropicals and 20-5-30 for your pit and pome fruits.

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