Feed Your Plants

Plants Need To Eat Too

Just like people, plants need food to grow and thrive. That's why farmers have been adding nutrients to their soil for centuries. That's why we fertilize our gardens. And just like for people, a good diet means a healthy plant. So it pays to understand the basic principles, and make sure you are feeding your garden what it needs. To begin with, there are two general approaches to take: conventional and organic. We recommend the organic approach, but we'll explain both below and tell you why organic is preferable in nearly every situation.

Conventional Fertilizers

Conventional fertilizers are compounds manufactured by industrial chemical processes. They contain the primary nutrients plants need, though possibly not all of the secondary nutrients and trace elements, but the picture is much more complicated than that.

First of all, like any other industrial process manufacturing them is energy intensive and produces wastes of various kinds. Think big chemical plants with smoke billowing out. The process is a long way from environmentally friendly.

Second, and more directly relevant to your garden, conventional fertilizers must be water soluble for plants to absorb them. This means that the fertilizer washes out of your soil when you water your garden, thereby polluting local ponds, streams and rivers. To put enough nutrients in the soil to last at least a few days before they are washed out, conventional fertilizers must be applied in much larger amounts than plants actually need. This shocks the plants and can even damage them (fertilizer "burn"). Even if the plant survives it will shows signs of this uneven availability of nutrients, in the form of thinner cells walls and a more delicate physical structure. This in turn makes the plant more vulnerable to pests and diseases.

Not to mention that you have to apply conventional fertilizers every week, if not even more often.

All that said, there is one use for conventional fertilizers: If you want to green something up rapidly, the easiest choice may be a conventional fertilizer. It gets a lot of nutrients to the plant fast, hereas most organic fertilizers take a few weeks to really take effect. So the conventional approach can work as a short term strategy, but we don't recommend using it as a long term plan for keeping healthy plants.

Organic Fertilizers

Organic fertilizers are pretty much the opposite of conventional fertilizers in every way. They are made from natural materials, so no industrial processes are involved. Most of the raw materials are renewable resources simply harvested from the environment. Many are actually farm yard byproducts (manure, etc.) that are recycled into fertilizers instead of needing to be disposed of somewhere.

Instead of being water soluble, organic fertilizers are broken down over time by microbial activity in the soil. This means their nutrients are released slowly and steadily, at the pace plants can absorb and use, without excess washing out into waterways. Plants are less stressed, and grow stronger and more resistant to diseases and pests. But this process can take several weeks to really get rolling – so be patient.

You should mix organic fertilizers into your soil when planting, and scratch more into the soil surface every six weeks during the growing season. This is much less work than the weekly applications required by conventional fertilizers.

Plant Nutrients (i.e. Reading the Fertilizer Label)

Every bag, jar or bottle of fertilizer has three numbers listed prominently on the label, like "10-14-8". These are the percentages by weight of the three primary plant nutrients: Nitrogen, Phosphorus, and Potassium. These are also known by their elemental chemical letters, "N", "P" and "K".

Nitrogen (N) is needed by plants to produce "green growth". This is how plants get big, grow leaves, and maintain their characteristic green color.

Phosphorus (P) is needed to develop roots, flowers, seeds and fruits.

Potassium (K) promotes plant hardiness and disease resistance.

A good fertilizer will contain "secondary" nutrients as well: Calcium, Magnesium, and Sulfur. Plants need these as much as N-P-K, but they tend to be more plentiful in soil so fertilizers include less of them. Calcium and Magnesium have the secondary benefit of reducing the natural acidity of our soil in the Willamette Valley.

A fertilizer with similar N-P-K numbers, like "6-6-6", is considered "balanced", and meets the three main plant nutrient needs more or less equally. The ratios of the numbers are more important than their absolute values, for example a "6-6-6" fertilizer is considered more or less equivalent to a "10-10-10" fertilizer. With the "10-10-10" fertilizer you are adding more nutrients with the same weight of fertilizer, but in the same proportions. A fertilizer with unequal numbers is considered to favor a particular need of the plant. For example, a "12-5-6" fertilizer would be considered a good choice to promote green growth because of the relatively larger amount of nitrogen.

Don't Be Impressed By Big Conventional N-P-K Numbers

Conventional fertilizers usually have MUCH bigger N-P-K numbers than organic fertilizers. Conventional fertilizers HAVE to be this way to last more than a day or two, because most of it is quickly washed out of the soil and wasted. And plants can't absorb a huge jolt of nutrients anyway – they need their food slow and steady. So don't be seduced by those big numbers – they don't matter!