

Nutrients and additives

There are almost countless ways to provide nutrients to your crops. Whether you are using hydroponics or soil based cultivation, the nutrients will vary. If you are growing in the soil, many people choose between salt based fertilizers, organic-based fertilizers, or a hybrid system of both. This is usually dictated by style of gardening and the grower's preference. We sell a variety of nutrients on both ends of the spectrum. Some people find growing with salt based nutrients when they start out provide very excellent results and gives them a chance to witness the physiology of whatever they are growing very easily. Organics require several different approaches and techniques to achieve results, but usually will provide more flavorful crops with less yield, but a cleaner product. Either way, there are certain nutrient requirements throughout various stages of growth and certain elements are required during these different stages. Let's take a look at which elements the plants use the most.

First of all, we need to make the distinction that there are macronutrients and micronutrients that the plants will use. Macro nutrients are what the plants consume in large quantities, and micro nutrients are what they consume in smaller quantities.

Macro nutrients are usually referred to as N-P-K. This indicates nitrogen, phosphorus, and potassium, respectfully. You will see these ratios on the front of almost any fertilizer.

For example, a bottle that reads 20-6-15 has a higher ratio of nitrogen to the others. Likewise, a label that says 0-50-30 is a higher amount of phosphorus in it. The plants also use an incredible amount of calcium and magnesium as well. Micro nutrients will include silica, zinc, iron, manganese, boron, copper, molybdenum, chlorine, cobalt, nickel, vanadium, sulfur, and sodium.

So what do all of these do? Nitrogen is responsible for leaf, stem, and vertical growth. Phosphorus fuels photosynthesis and flowering. Potassium helps produce and combine sugars, starches, and carbohydrates. This promotes cell division. Calcium contributes to strong cell walls, root walls, and root growth. Magnesium is the central atom in the chlorophyll molecule. Plants use a lot! Magnesium also aids in nutrient use

and transport as well. Sulfur is the building blocks of proteins and hormones. Other elements are used for enzyme and protein synthesis, nitrogen fixation and transport, as well as photosynthesis.

Organic sources for these elements include, but are not limited to, cow and chicken manure, bat and seabird guano, worm castings, molasses, seaweed and kelp, and Azomite, which is a great source of trace minerals.

Salt based fertilizers are available in complete sets consisting of seven or eight main components. This will usually include a base nutrient system providing the NPKs and trace elements for the plants.

There's also potassium silicate which is a supplement used to strengthen the cell walls in the stem of the plant allowing it to provide more support for fruits and flowers as well as build the outer layer of the stem helping with resistance to pests and diseases.

A Calcium magnesium supplement is used to aid in the development of strong cell walls and root growth.

A bloom booster is another essential part of the nutrients such as this provides an extra boost of mono potassium phosphate, a main source of phosphorus, to assist with flower and fruit development.

Sweeteners are usually another part of your nutrient arsenal as well. This provides sugars and carbohydrates which feed microbes within the root zone (rhizosphere) as well as giving the plant necessary sugars, starches, and carbohydrates to aid in photosynthesis.

Plant tonics are another beneficial additive growers will use to accelerate plant growth and well-being by feeding the plants humic acids that assist with nutrient uptake. They can usually include extra goodies such as vitamin B1 and other natural compounds. Humic acid's act as a natural chelater to help with uptake of micronutrients more efficiently.