Why Humic Acid is Beneficial for Plant Growth

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Takeaway: *Just what exactly is that black powdery stuff growers are often asked to put in their soil, and how does it work? Here is master gardener Russell Landry with an explanation on humic acid.*

Humic acid is often referred to as a natural plant-growth stimulator that increases plant metabolism and nutrient intake and improves plant development. These are pretty tall claims for any natural supplement; however, humic acid is one of the major components of organic matter found within nature's most fertile soils.

Where can humic acid be found?
There are many types of natural humic acid amendment products used today, like this one from Monterey. They are often found in granular or liquid form and are dark brown. Humic acid and its cousins, fulvic acid and humus, can be found in most soils, marsh water courses, and boggy peat moss areas.

These organic compounds can also be found overlying the earth's coal deposits (leonardite) in various forms and compositions. They are the end result of years of decaying plant organic matter that has been continually broken down by microbes from its prior humus forms.

What is humic acid?

Humic acid is one of the best natural chelating products Mother Nature offers. It not only raises cation exchange capacity (CEC) or nutrient-holding capacity of soil, it also holds calcium and other micronutrients in forms that are easy for plants to uptake.

Humic acid contains numerous negatively charged anions that attract or hold onto positively charged cations in the soil. The cations growers are concerned with include a host of micro elements good for growing plants, with calcium, ammonium, magnesium, and iron among the most important.

This chelation of cations is probably the most important role of humic acid with respect to boosting plant production and fruit and vegetable yields. The CEC of the most popular brands of humic acid is in the range of 500 to 600 milliequivalents per 100 grams.

This is about five times greater than the CEC of high-quality peat moss and twice as high as the CEC of soil humus. Best results are obtained using natural ancient deposits of humus materials that are rich in both humic and fulvic acids.

What does humic acid do?

Humic acid also prevents calcium and other positively charged micro cations leaching from the soil by binding them to the soil's molecules. It allows mycorrhizal fungi to flourish and easily colonize plant roots by providing nutrients in an easy-to-open storage bin.

The fungi easily garner and exchange other elements and thus share their required nutrients by transporting them directly into the root zone.

In the case of boosting yields, the increased uptake of nutrients is perhaps the greatest benefit of humic acid. In a sense, mycorrhizal fungi is the factory that processes the elements that are mined from the humic acid then shipped on the way to the roots assembly factory.

Although plant roots perform a similar job, fungi can tap into a wider reaching distribution network. Enhancing the products in the plant's root system and network often results in increased yields.

Humic acid is ultimately a worthwhile investment when considering adding enhancements to your soil. It is one of the best natural sources of organic matter a grower could want.

Fulvic acid, humic acid's cousin, is a more concentrated, smaller-particle form of the acid blends usually found in liquid form. It is referred to as a plant growth booster that increases plant metabolism and improves root development by also increasing nutrient intake.

It is naturally produced in soil by composting or after years of organic matter decay. Fulvic acid can rejuvenate soil and is an excellent supplement to fertilizers. It is also used to improve nutrient absorption and also to raise the CEC of soil.

Does adding humic or fulvic acid to your soil work? Drive by a nearby marsh or wetland and find out for yourself. Mucky soils found in marshy and low wetlands are often used to grow vegetables.

Marshy and swampy drained soils are rich in both acids and are some of the most productive areas on the planet. Thanks largely to the accumulation of the humic and fulvic built up in the soil over millennia, growers are able to easily boost their yields.