DECEMBER NEWSLETTER!!

Let's Talk Carbon!!

BUT FIRST!!

DON'T FORGET THE 5% DISCOUNT FOR ALL ORDERS PLACED AND PAID FOR BY THE END OF THE YEAR!!!!!

NOW, BACK TO THE NEWSLETTER…

Consistent Use of the Products EarthGen215 Carries Improves the Soil's Ability to Cycle Nutrients and Water!!

Carbon is an essential component in plants' structure, and for their energy to grow, mature, and produce. Most plants need approximately 10 pounds of carbon for every one-pound nitrogen assimilated in their growth cycles. Plants in the grass family need closer to 14 pounds of carbon for each pound of nitrogen. Most of the carbon assimilated by growing plants is captured from the carbon dioxide in the atmosphere through photosynthesis processes. Without the miraculous photosynthesis process, there would be no life on earth. Captured carbon dioxide is transformed into a sugary liquid (photosynthate) in the photosynthesis process. Photosynthate is circulated throughout the growing plant, and any that is not used by plants in their growth cycles is translocated through plants' roots into the soil. As compared to weaker soil, healthy, humus-dense soil holds more carbon and all other nutrients necessary for seeds' germination, plants' development, and crop production. This type of healthy soil also holds more moisture than barren soil, in ways readily available for plants' uptake and assimilation.

Generally, the more beneficial microorganisms there are in soil, the more earthworms will thrive in that soil. Earthworms' castings and their bodies contain carbon, as well as nitrogen, phosphorus, potassium, calcium, magnesium, iron, zinc, copper, boron, and cobalt. The proportions of these nutrients in earthworms' castings are ideal for crop production. These nutrients can be immediately absorbed by plants' roots when and as needed. The picture above shows impressive results of robust earthworm activities. Tomatoes pictured below are

examples of bountiful, healthy production using the products EarthGen215 distributes (PEGDs) continuously for several years. Better quality production and competitive yields are observed by PEGDs and its customers year after year. These observations have been corroborated by fairly recent University studies. Researchers from Kansas State University published an article in June of 2024 that concludes in part, that results from their field trials and analyses provide direct evidence that organic amendments stabilize carbon in soil microaggregates. (Rice, Charles W. et al; "Direct Evidence on the Impact of Organic Amendments on Carbon Stabilization in Soil Microaggregates;" Soil Sci. Soc. Am. J. 2024; 88:1529- 1544). The researchers also concluded that "continuous addition of organic amendments enhances organic carbon stabilization in soil microaggregates." These conclusions support applying PEGDs as recommended, because PEGDs are the type of organic amendments referenced in this research.

Also applying aged or composted manure for building healthy soil structure and crop production are recommended by these researchers. For many years, EarthGen215 has recommended applying aged or composted manure for such purposes. While EarthGen215's Newsletters, informational materials, and presentations have not yet used the term "soil microaggregates," those EarthGen215's publications do refer to the importance of building healthy soil structure, which includes promoting humus production by activities of beneficial soil organisms. Soil microaggregates are part of humus, which is fully decomposed dead matter transformed into nutrient-dense, stable topsoil.

Soil microaggregates are clumps of soil particles that are usually smaller than a grain of sand. Microaggregates form through different ways. One of the ways is by sticky substances exuded by beneficial microorganisms holding the particles together. PEGDs stimulates the reproduction of beneficial microorganisms, resulting in more of their sticky substances being available to form more microaggregates. Another means for microaggregates forming is by plant roots delivering photosynthate into soil. These root exudates also glue soil particles together, loosely, into aggregates. PEGDs promote more vigorous root growth, and these healthier, more plentiful root masses produce more root exudates, which foster development of more microaggregate particles. Microaggregates improve soil stability and resilience to protect soil against erosion potentially caused by various weather events or management practices.

The microaggregate components in humus facilitate better water infiltration and movement throughout soil. They also bolster the moisture-holding capacity of humus. Microaggregates in humus also enhance the holding capacity of nutrients, creating a reservoir of nutrients for crop production, and bolstering humus' holding carbon and other nutrients essential for crop production in future years of production. Introducing manmade fertilizers and various chemicals detract from the natural functions of building microaggregates and humus. Strawberries pictured below provide another example of bountiful production from soil continuously treated with the PEGDs products for several years. Heart-felt thank you to each of you continuing to work with us and the PEGDs.

PASS THE WHIP CREAM AND WARM BISCUITS!!

DON’T FORGET THE 5% DISCOUNT FOR ALL ORDERS PLACED AND PAID FOR BY THE END OF THE YEAR!!!!!

PLEASE CALL ME AT 719-465-6234 (CELL) TO ORDER!!!

Talk to you soon!

Tom

Tom Golden

Managing Member

EarthGen215, LLC