

THE DIFFERENCE BETWEEN C20 & HUMATES, BIOCHARS & COMPOSTS

C20 Soil Builder is not mined, burned or composted. C20 is manufactured from the by-products of harvested agricultural commodities. The formulation is an ideal food source for soil microorganisms.

When C20 Soil Builder is introduced to wholesale customers, it is compared to humates, biochar, and composts. These traditional soil amendments, in different variations and combinations, have been in the green industry marketplace for decades. C20 Soil Builder has a mode of action that is distinctly different than any other soil amendment on the market. It directly feeds microorganisms that are already living in the soil.

Humates are fossilized organic matter. Fossilized means that the organic matter has been converted into mineral rock over millions of years. As with other minerals, it is extracted by mining. Humates are not consumable by soil microorganisms. There are many benefits ascribed to adding humates to soils, but feeding existing soil microorganisms is not one of them.

Biochar has become a pre-eminent product in the industry due to the marketing of its carbon sequestration value as well as its ability to create pore space in soil. The pyrolysis process that creates biochar burns off any organic matter that can be easily consumed by soil microbes. Existing soil microbes will feed on biochar, but the half-life of microbial degradation ranges from decades to centuries.

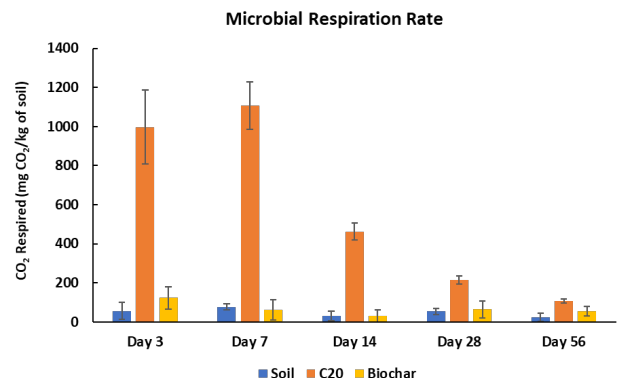
Composts are created through the microbial degradation of fresh organic matter. The composting process is a microbial feeding frenzy. As compost is turned, air is added into the composting pile which stimulates aerobic microbial consumption of easily digestible carbon components of the organic matter. As the composting process continues to maturity, the organic matter becomes a stable product. When mature compost is added to the soil it feeds existing soil microbes, but at a low rate due to most of the digestible carbon being consumed during the composting process.

C20 Soil Builder is not mined, burned or composted. It is manufactured from the by-products of harvested agricultural commodities. The formulation is an ideal food source for soil microorganisms. Our research has illustrated the multiplicative differences in microbial activity that result from feeding C20 compared to biochar (Figure 1).

C20 Soil Builder contains a 50/50 mix of labile and recalcitrant consumable carbon. Soil microbe populations increase dramatically while feeding on the labile carbon in the first two weeks and are sustained for months feeding on the recalcitrant components (Figure 1). The burst of microbial activity restructures the physical soil environment, which enhances root proliferation. During and after the burst, microbes convert existing non-accessible soil nutrients into forms that are available for plant uptake.

C20 Soil Builder is unique in the industry. It has a direct impact on existing soil microorganisms that in turn provide multiple benefits to the plants grown in C20 treated soils.

Figure 1. Soil microbial responses to C20 Soil builder and biochar.



John E. Lloyd, PhD
Chief Science Officer
Precision Organics, LLC
research@precisionorganics.com

