

C20 & SOIL ORGANIC MATTER

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How does C20 impact soil organic matter content?

As with most of these type of questions, it is more complex than solely a difference in organic matter content between C20 treated and untreated soils. However, there is a 31% increase in organic matter content with the addition of a 10 lb. rate of C20 Soil Builder after a period of 5 weeks in clay soils (0.8% organic matter and pH.8.4).

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Peat soils, for example, can range from 50% to 80% organic matter and higher. However, less than 1% of that 50-80% organic matter can be utilized as a food source for soil microbes. Why? It is all recalcitrant. Soil amendments with recalcitrant components, like biochar or humus, increase soil OM% but are not readily consumable by soil microbes. Alternately, dumping a can of 7-UP® on the soil will feed soil microbes with labile sugars. However, most of it is consumed rapidly, so it won't provide a difference to the soil OM% profile. Both are forms of organic matter in the soil; some is rapidly consumed, some is not.

C20 is 50% labile organic matter and 50% recalcitrant organic matter. Figure 1 illustrates the recalcitrant organic matter that remains after 5 weeks of C20 consumption by soil microbes.

The labile component of C20 is at least 157X more biologically active than the same amount of compost. This is illustrated in Figure 2 as an assessment of soil microbial respiration. As this labile organic matter component of C20 is consumed by microbes, it becomes a lesser factor in the total % of organic matter.

Figure 1. Percent organic matter five weeks post application

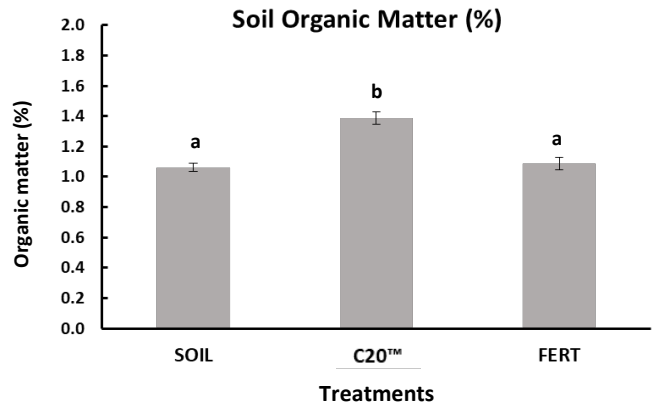
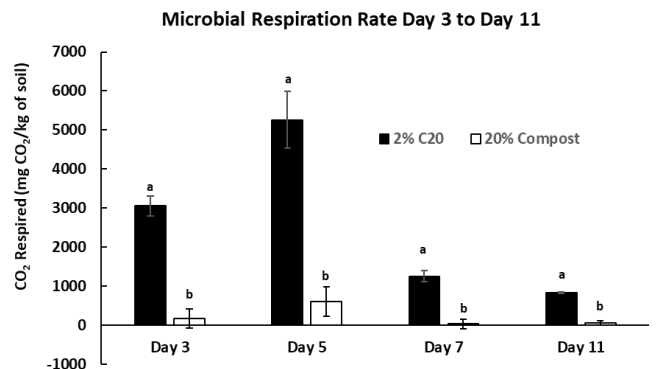


Figure 2. Microbial respiration post C20 and compost application



The organic matter that can be consumed by soil microbes is the organic matter that is important.

