

Relationships Between Different Management Practices and Selected Soil Health Indicators

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Abstract

Soil health is essential for growing crops productively. Healthy soils help to reduce erosion, improve nutrient cycling, and lower input cost. Understanding how crop rotations and tillage systems affect soil is key to preserving soil while also improving agricultural income and efficiency. This study was conducted in Calloway County, Kentucky to observe the effects of different management practices over nine sites of management on the West Farm. At each management site, undisturbed and disturbed soil samples were collected. Soil compaction was measured at both depths of three and nine inches using a penetrometer. Other soil characteristics measured in this study that indicate soil health include soil organic matter (SOM), soil water holding capacity (SWHC), and soil water field capacity (SWFC). This study illustrates that different management practices changed these properties at various magnitudes. The highest change was found in soil organic matter and the lowest change was found in SWHC. The detailed results of this study will be discussed in the presentation.

Keywords: Compaction, Loss on ignition, Organic matter, Soil water field capacity