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Land Management Effects on Selected Properties of Silt Loam Soil in Tennessee, USA

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Land management practices greatly influence soil properties. However, the effects are different among soil properties. This study was conducted to determine the impact of various common land management systems on selected soil properties, include organic matter content, the level of acidity, soil color and macro-aggregate content. During fall of 2015, soil samples were collected from topsoil and subsoil of silt loam at Stewart County, TN. Soil samples were taken from six different land management systems, such as 30 years of tobacco field, 30 years of hardwood forest, 20 years of vegetable garden, 20 years of pasture, 35 years of lawn, and 6 years of corn and soybean rotation. In the topsoil, the highest and the lowest organic matter content was found in woods (6.6%) and tobacco (3.5%), respectively. The highest organic matter in subsoil was observed in pasture (6.4%). The range of soil pH was 5.8 to 7.5. The cultivated field under corn and soybean rotation has soil pH of 6.5. The changes in soil color is not significant, since the soil has color range from light olive brown in the topsoil to light yellowish brown in subsoil. Results for macro-aggregate will be presented in the poster. The finding of this study would help to understand the soil processes that are supporting the land use management in TN.

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