

## **CROPPING SEQUENCE AND BIOCOVER EFFECTS ON SOIL ORGANIC CARBON UNDER NO-TILL PRODUCTION.**

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### **ABSTRACT**

Farmland under no-till can be a sink for atmospheric carbon. However, the rate of carbon storage in any given acre is uncertain because time, climate, soil texture, fertilization, crop rotation, and winter cover can all affect carbon cycling. The goal of this research is to compare temporal changes in soil carbon among different systems of no-tillage production. To do this, combinations using different crop sequences of Roundup Ready© corn, cotton, and soybean and biocovers of wheat, vetch, poultry litter, and winter weeds were used at the Milan Experiment Station and the Middle Tennessee Experiment Station. These two sites are in different physiographic regions of Tennessee. Soil samples were taken before cropping sequence and biocover treatments began and after two years of crops and biocovers had been applied.

Preliminary results based on a subset of the data show no significant difference in the changes in soil carbon over time between the different systems. However, an initial trend of decreasing carbon levels over all the treatments was seen. Results from the analysis of the full data set will be presented.