**Distinguishing Differences of Soil Physical Properties**

**in Irrigated and Non- Irrigated Corn-soybean Rotation and Pasture Fields**

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**Abstract**

Land management practices such as irrigation, crop rotation and crop type affect soil properties. The objective of this study is to determine the effect of common land management practices in western Kentucky including non-irrigated, irrigated, and pasture ground on selected soil properties. Undisturbed and disturbed soil samples were collected from two fields in each of the three locations, from the depth of 1-3 inches and 3-6 inches. The fields in Princeton, KY were double crop soybeans in a no-till operation. In Simpson County, the fields were planted in corn, on a no-till operation and the field in Ohio County, KY was a non-irrigated pasture for grazing purposes. Soil samples in Princeton, KY were taken on September 8th and in Simpson County, KY, samples were collected on September 16th, 2017 due to flooding issues. In addition, soil samples in Ohio County, KY were taken on September 9th, 2017. All samples were analyzed for soil water holding capacity, soil water at field capacity, soil organic matter, bulk density, porosity and soil acidity level. Data from this study will be described in detail on the poster. The results will show if irrigation practices can improve soil conditions in a corn-soybean crop rotation.

**Keywords: Crop rotation, Irrigated soil, Pasture, Soil physical properties, Western Kentucky**