Spatial Variability of Herbicide Sorption in a Loessial Soil Under Cotton-Corn Rotation. (A05-ampim065254-Poster)

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Abstract:

Sequestration of soil organic carbon is critical to crop production systems and the environment. High crop yields can be achieved through the use of increasing amounts of costly inputs, especially herbicides. Application of herbicides, over the years, has lead to contamination of ground and surface waters. To quantify soil organic carbon influence on field-scale herbicide retention, an experiment measuring spatial variability of relative elevation, soil organic carbon, clay content and partition coefficient of metolachlor was conducted on a 4-ha field. The soil was Memphis silt loam (Typic Hapludalf) and was planted in corn. Soil samples were taken at 272 nodes from the field. In our presentation, relationships between relative elevation, clay content, soil organic carbon and matolachlor partition coefficient will be discussed. Further, spatial variability of these parameters will be addressed.

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Spatial variability, remote sensing, herbicide sorption, kriging