EVALUATING SPATIAL INTERPOLATION TECHNIQUES FOR

PRECISION AGRICULTURE USING SOYBEAN YIELD DATA

An Abstract of

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by

ABSTRACT

Agricultural practices are the lifeblood of most societies. This being the case, advancements in agriculture are important. Precision Agriculture is the latest form of agricultural advancement. The purpose of this thesis is to examine how to best interpolate soybean yield as well as investigate if there are any environmental variables which influence yield.

The study area for this thesis was a 180 acre field in western Illinois. Dense yield data were randomly sub-sampled to lower densities to determine which sampling density was optimal (balancing accuracy and number of points) for yield interpolation. The optimal sampling density was then used to determine which interpolation algorithm