# Soil Quality of Claypan Soils Assessed using Sensor Based Soil EC and Terrain Attribute. (A08-jung233135-Oral)

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## **Abstract:**

Soil quality is a concept of quantifying characteristics of the soil relative to various soil functions, but in practice is used very little because of time and cost constraints. Our objectives with this research were (i) to identify whether sensor-based soil EC and terrain attribute information can be used to predict soil quality on claypan soils, and (ii) to evaluate spatial characteristics of soil quality indicators for calypan soils. In June 2002, 255 soil samples were collected on a 10 to 30m grid spacing within a 5.5ha claypansoil field. Soil sample depths were 0 to 7.5cm, 7.5 to 15cm and 15 to 30cm. Samples were analyzed for physical chemical, and microbial properties as soil quality indicators. Sensor-based measurement included soil EC, elevation, slope, and aspect. Factor analysis, ANOVA, and regression analysis were used to identify soil quality indicators and sensor-based soil EC and terrain attributes. Geostatistic was used to relate spatialcharacteristics of soil quality indicators for calypan soils.

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