Correlation of Spectral Reflectance to Soil Chemical and Physical Properties. (A08-cox075942-Poster)

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Abstract:

The remote sensing of soil properties has a large likelyhood to aid in identifying potential soil management zones. The objective of this study was to correlate hyperspectral soil reflectance to soil chemical properties to determine wavelengths or wavebands of interest. Soil samples collected 5 cm deep from a 10m grid laid across a sloping pasture were air-dried and ground to pass a 2mm sieve. Soil mineralogy including 2:1 clays, 1:1 clays, mica, quartz, iron oxides, and organic C were determined. Hyperspectral reflectance was collected from 350nm to 2500nm using a handheld spectral radiometer. Different wavelengths and wavebands were highly correlated with each of the soil properties. The differences in correlated wavelengths and wavebands indicate that hyperspectral reflectance patterns can be useful in identifying soil properties.

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