

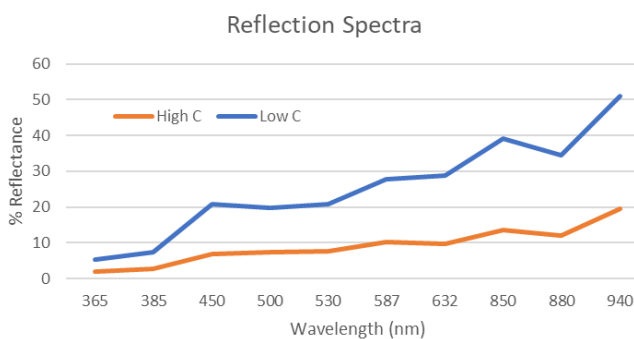
Understanding Soil Organic Carbon (SOC) dynamics under different management systems in Michigan: calibration of an in-situ reflectance method for SOC pools initialization

Ben Tirrell

Advisor: Dr. Bruno Basso

MSU Department of Plant, Soil and Microbial Sciences

- **Problem:** Current model initialization procedures for soil organic carbon (SOC) pools based on dry combustion are slow, costly and lack sensitivity to changes in some carbon pools.
- **Hypothesis:** Systems Approach to Land Use Sustainability Model (SALUS) SOC pools can be quantified using in-situ reflectance spectroscopy.
- **Experiment:** Attempt to correlate in-situ soil reflectance measurements and ancillary variables with permanganate oxidizable C, mineralizable C and loss on ignition analyses.
- **Outcome:** Improve spatial simulation of soil carbon dynamics



Yield Stability

