

Development of on-the-go soil organic matter sensor

Abstract

Soil organic matter (OM) greatly influences soil quality and productivity. Conventional soil OM analysis is expensive, time consuming and laborious. To practice precision farming, one important step is to describe the variability of a farm and the conventional analysis is always delayed. Quick ground sensor or on-the-go sensor can help to achieve this need. With the development of a new technology, the soil OM information can be gathered in a real time basis by using Soil Organic Matter Sense (SOMSENSE) with the integration of software developed using MATLAB. A model of soil OM estimation based on Red, Green, and Blue (RGB) scales showed significant findings when plotting on 1:1 line. This technique will help farmers or farm managers to determine their field variability quickly to practice precision farming based on OM variability map.

Keyword: Ground sensor; Organic matter; Precision farming; SOMSENSE; Variability map