Special Issue

The Importance of Soil Spatial Variability in Precision Agriculture

Message from the Guest Editor

According to the International Society for Precision Agriculture, precision agriculture emphasizes the importance of analyzing spatial variation to support/inform agricultural management decisions. Early definitions of precision agriculture emphasized spatial variations in crops and agronomically important variables within fields given the standard management unit for agriculture. Variations in topography, micro-climate, plant growth, parent materials, and management practices within fields influence the spatial patterns of variation in soil types, soil texture, drainage, and nutrients. Spatial variation in soil, as the medium in which plants grow, can influence various phenomena at different scales such as:

- Crop/grain/fruit/vegetable quality and yield;
- Crop water requirements/water availability;
- Trafficability of fields;
- Need for aeration;
- Fertilizer requirements;
- Planting density;
- Weed proliferation/herbicide rates;
- Proliferation of pests/diseases/pesticide rates;
- Profitability.

This Special Issue solicits cutting edge research papers which emphasize the importance of soil spatial variation to one of these or another relevant topic in precision agriculture.

Guest Editor

Dr. Ruth Kerry
Department of Geography, Brigham Young University, Provo, UT 84602, USA

Deadline for manuscript submissions

closed (31 January 2024)

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Agronomy
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
agronomy@mdpi.com

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Editor-in-Chief

Prof. Dr. Leslie A. Weston
Gulbali Centre for Agriculture, Water and Environment Research, Charles Sturt University, Wagga Wagga, NSW 2678, Australia

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