

2018 ASABE Annual International Meeting
Detroit, Michigan

Development of an On-Line Sensor System for Mapping Soil Properties at Planting

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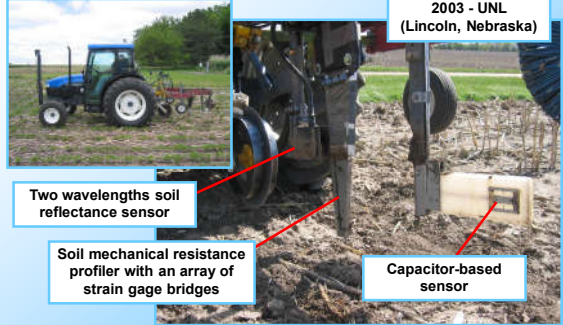
Chuck Hempleman
Retrokool, Inc.
(Berkeley, California) July 30, 2018



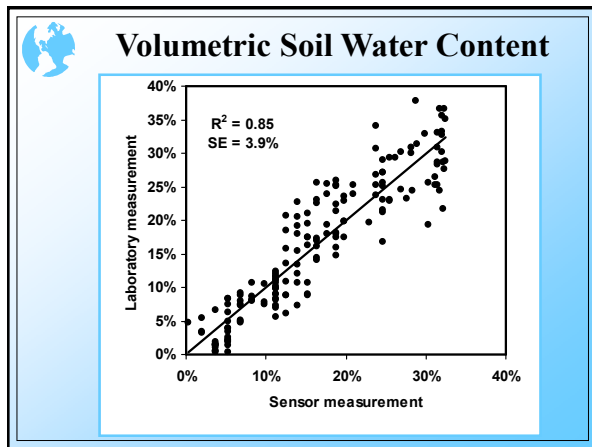
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Integrated Soil Physical Properties Mapping System

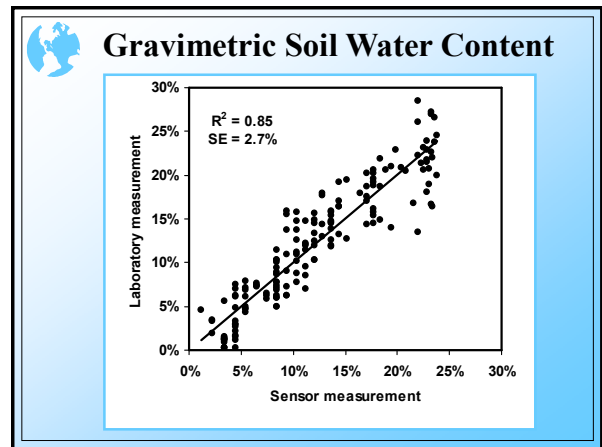
2003 - UNL
(Lincoln, Nebraska)



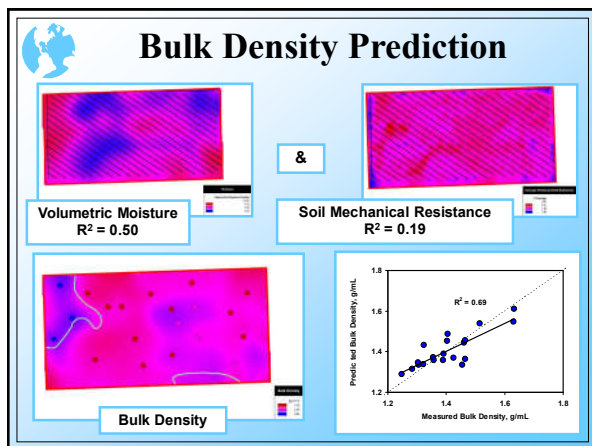
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3

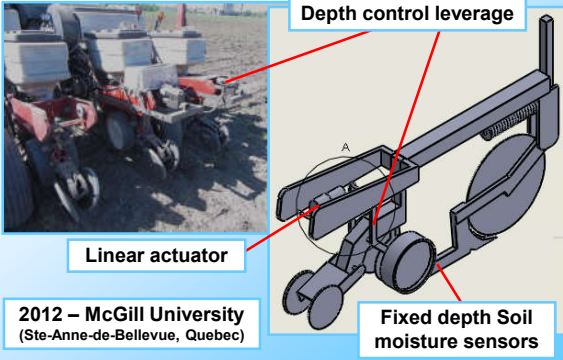


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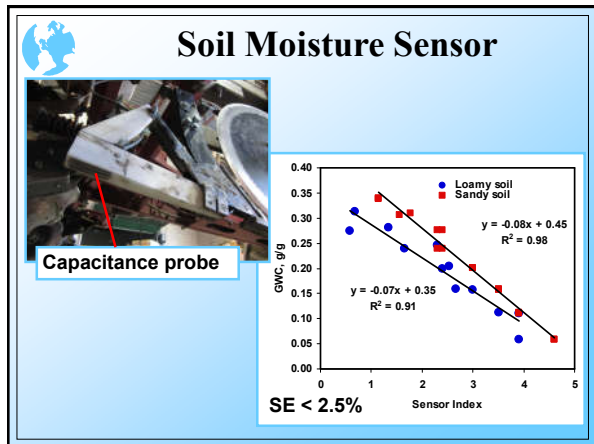
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Variable-Depth Planting

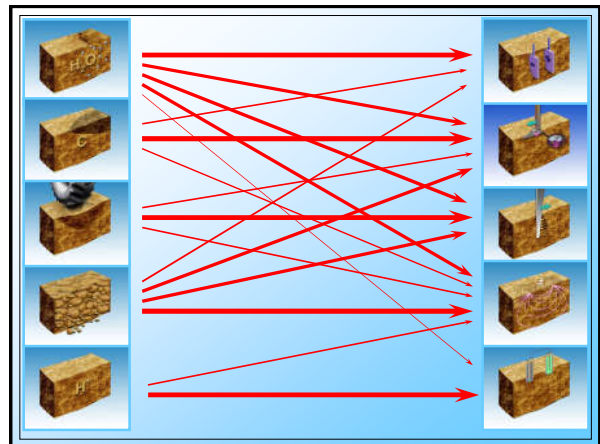


2012 - McGill University
(Ste-Anne-de-Bellevue, Quebec)

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Sensor Fusion

Soil pH

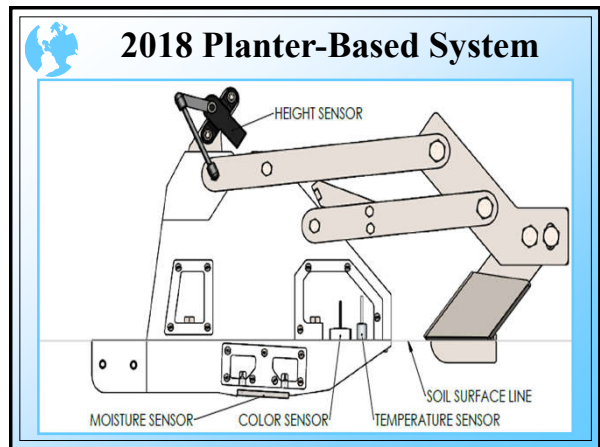
Soil Reflectance

Soil EC_v

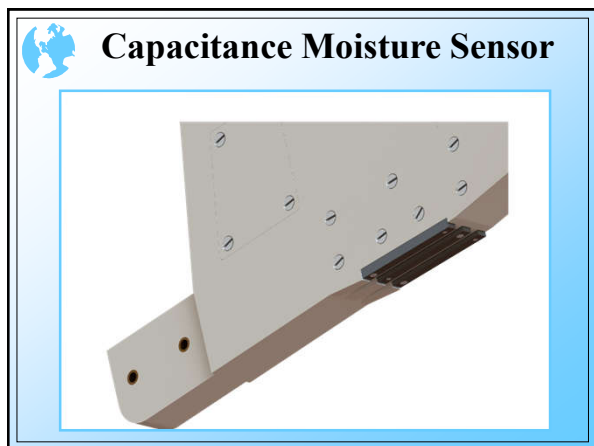
Topography

Lab data

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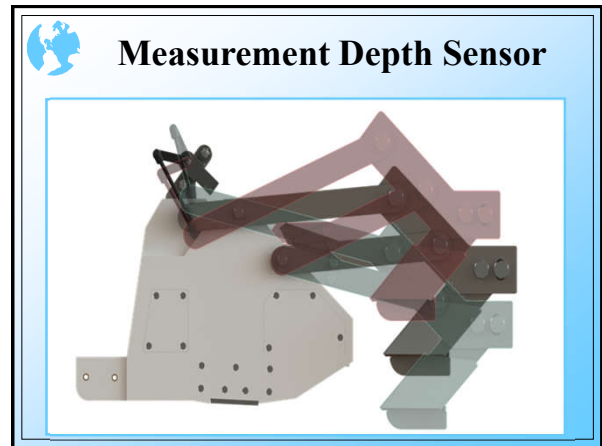
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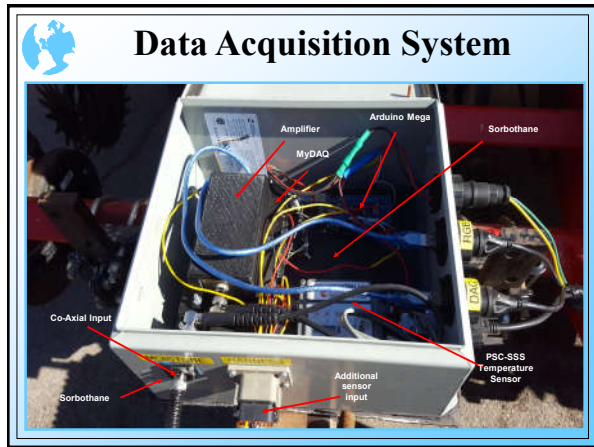
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13



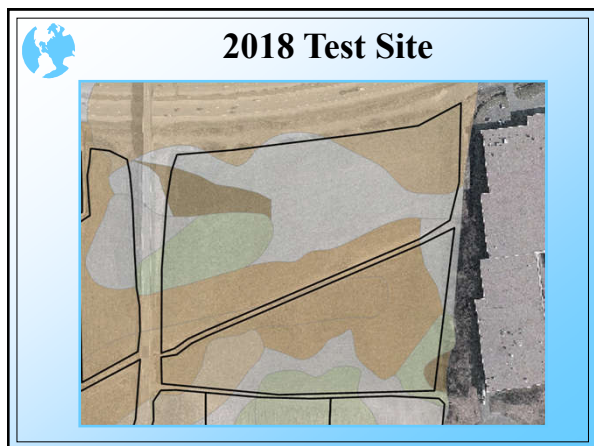
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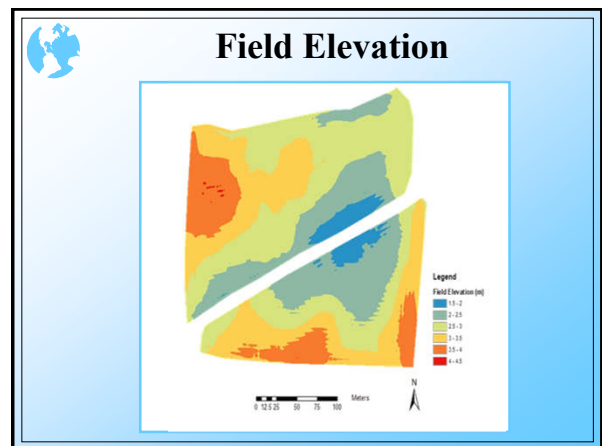
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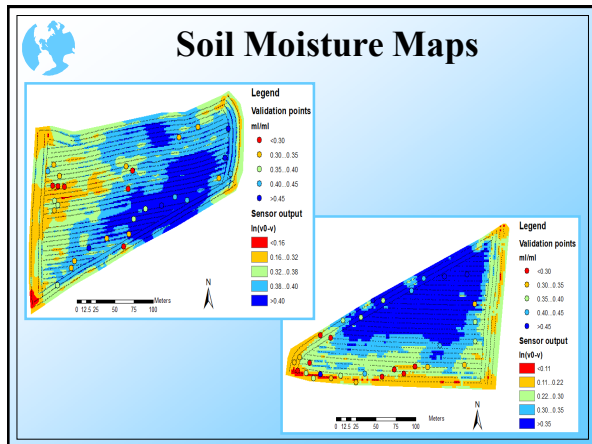
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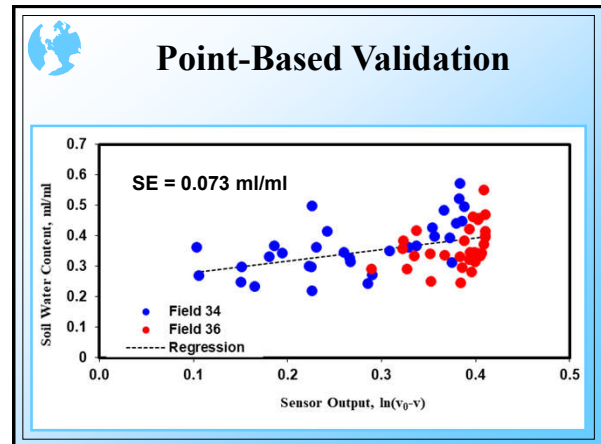
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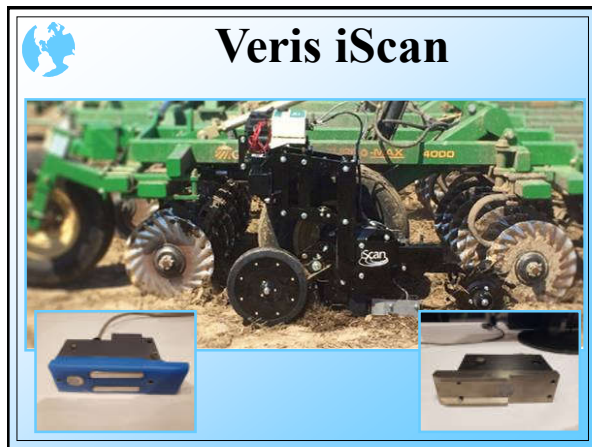
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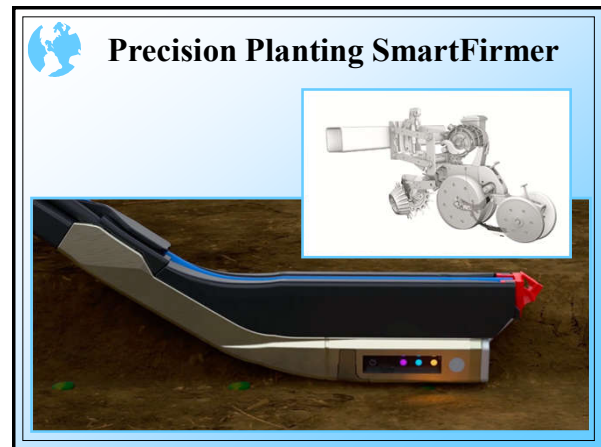
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Future Work

- Relieve side pressure on the sensor
- Incorporate vis/NIR spectrometer
- Modular design approach

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