מערכת תומכת קבלת החלטות חקלאיות על בסיס מיפוי מרחבי מולטי-ספקטראלי.

ד"ר אגוסטין פימשטין

Sensilize™

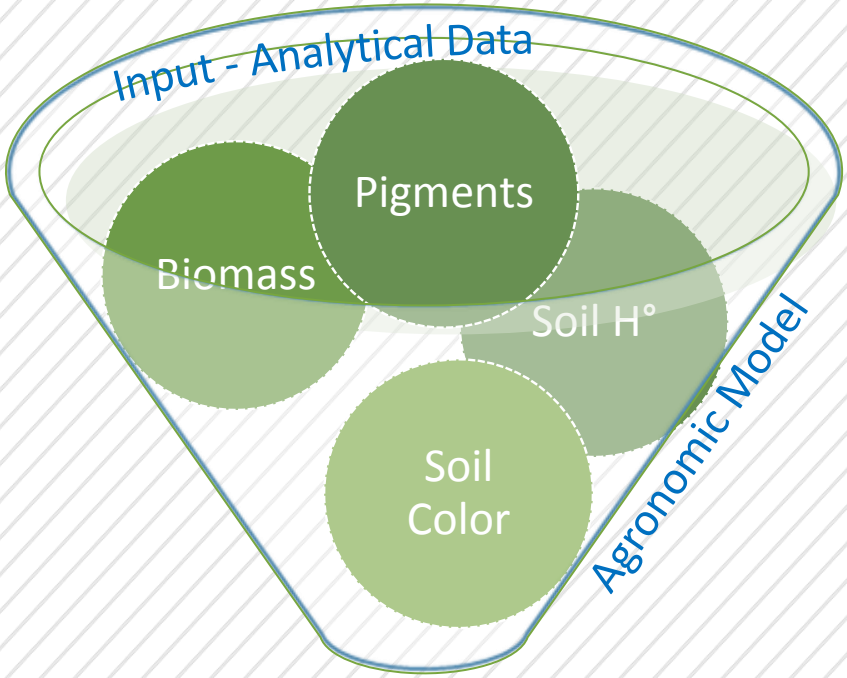
sense.analyze.realize

יום עיון - חקלאות מדייקת - יום שני, כ"ה באדר ב' תשע"ו - 04.04.2016
אולם כהן, מכון וולקני - בית דגן

Precision Agriculture Goal

- Precise agricultural recommendation / action plan
- What is precise?
  - Accurate location
  - Timely application
  - Correct dosage
- Outcome
  - Increase yield and/or quality
  - Reduce costs
  - Therefore – Higher profit

Hypothesis



Agronomic Insight
(Actionable Information)

e.g. Fertilization recommendation

e.g. Disease outbreak

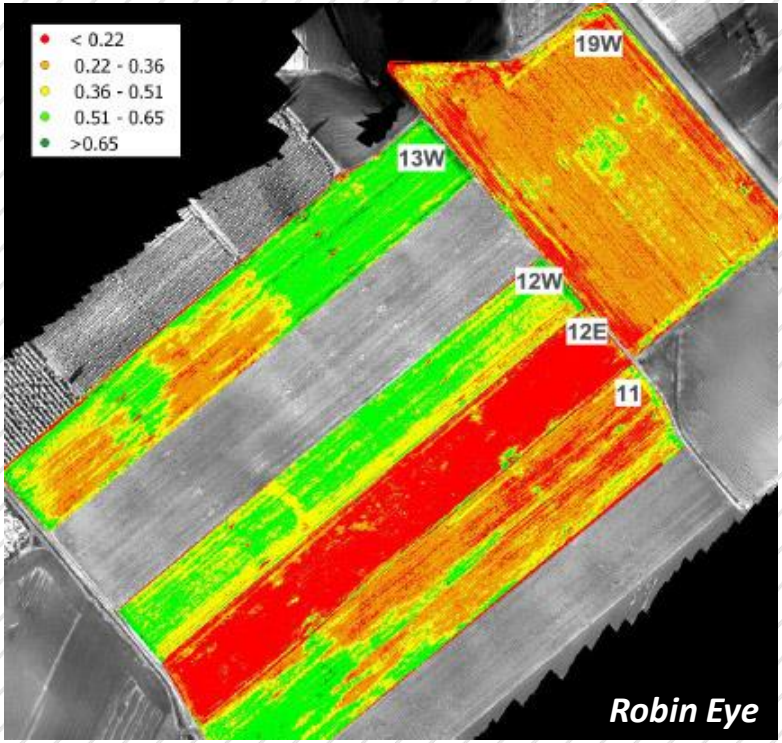
e.g. Irrigation management

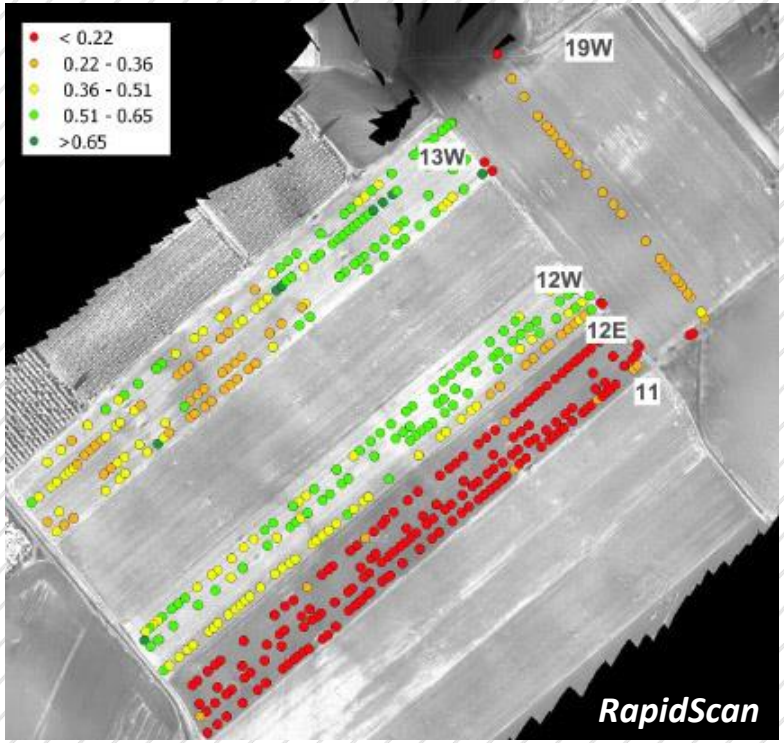
Our Solution

The Robin, a highly advanced & integrated system, Robin Eye & Robin Mind, enables highly flexible and sensitive mapping of vegetation bio-physical parameters.

Wheat (Israel)

High Accuracy – Robin Eye vs. RapidScan handheld sensor



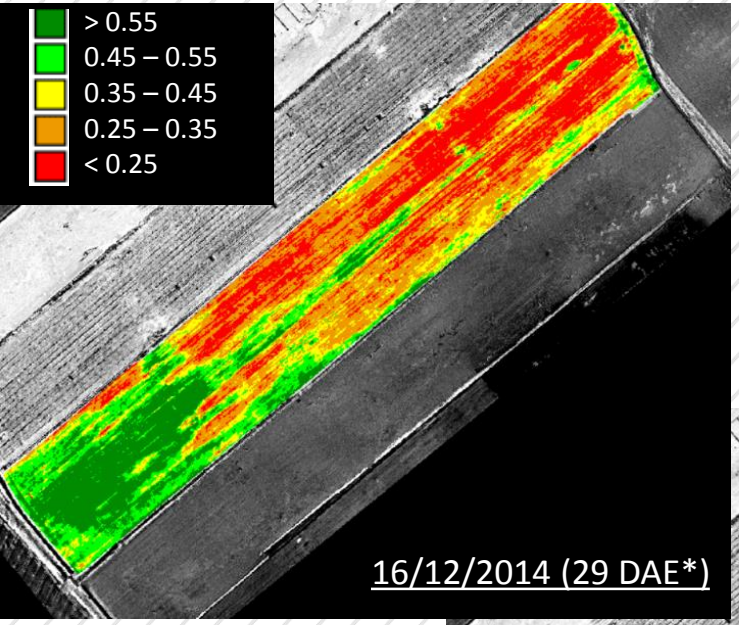


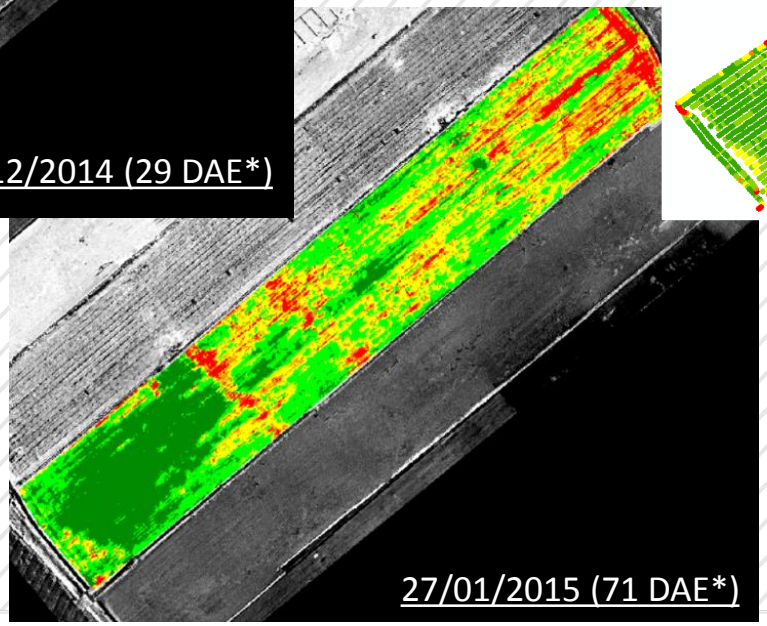
**RapidScan data was provided by Dr. David J. Bonfil , Israeli ARO*

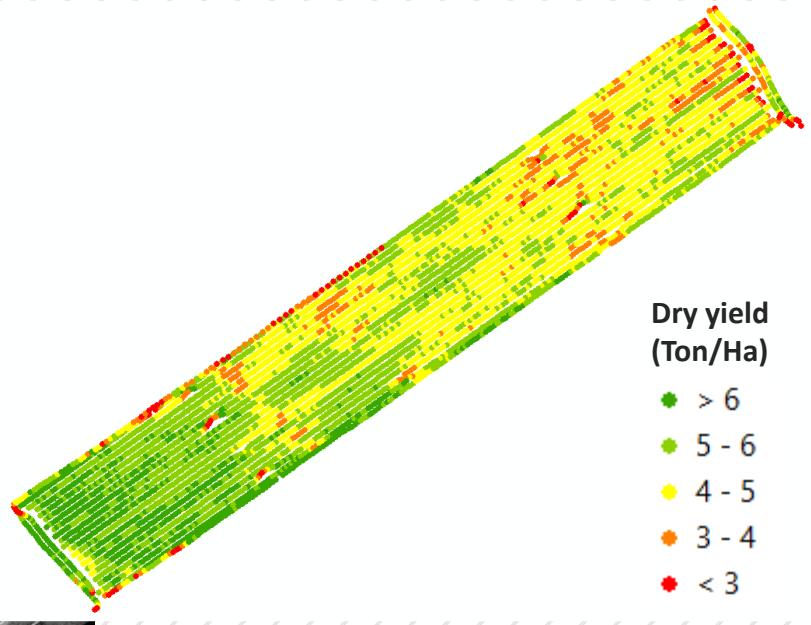
- Acquisition date: 16/12/2014 (3 – 29 DAE)
- Flying height: 100 m
- Spatial resolution: 10 cm

Wheat (Israel)

Disease control – Timely detection of early disease enable change in management and consequent impact in yield







* DAE: Days After Emergence

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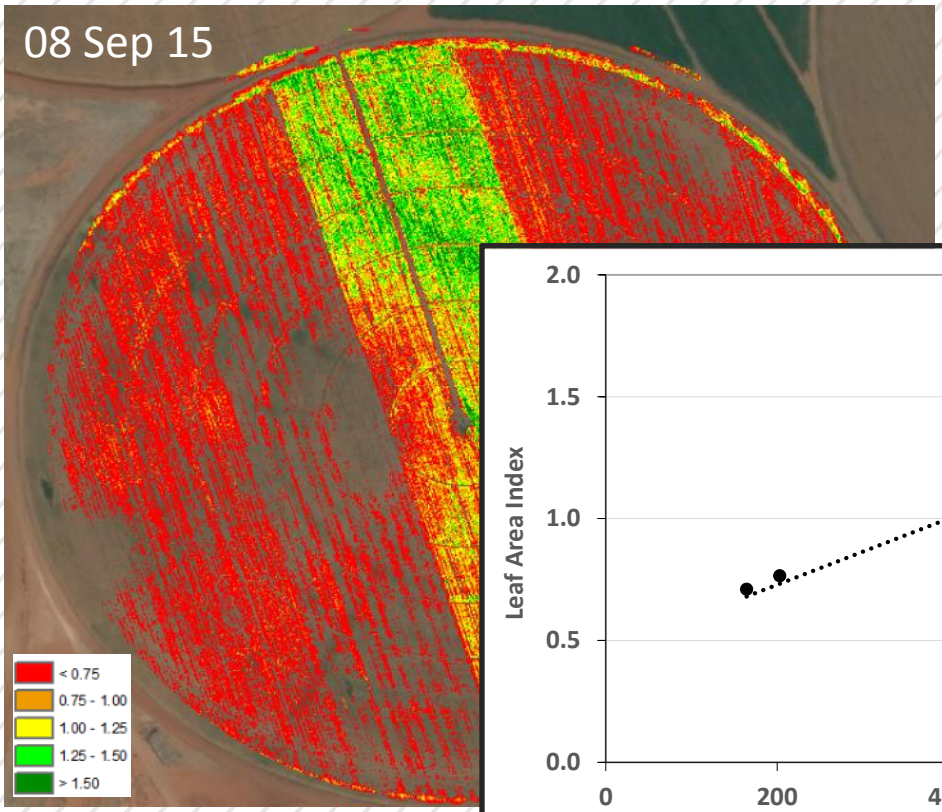
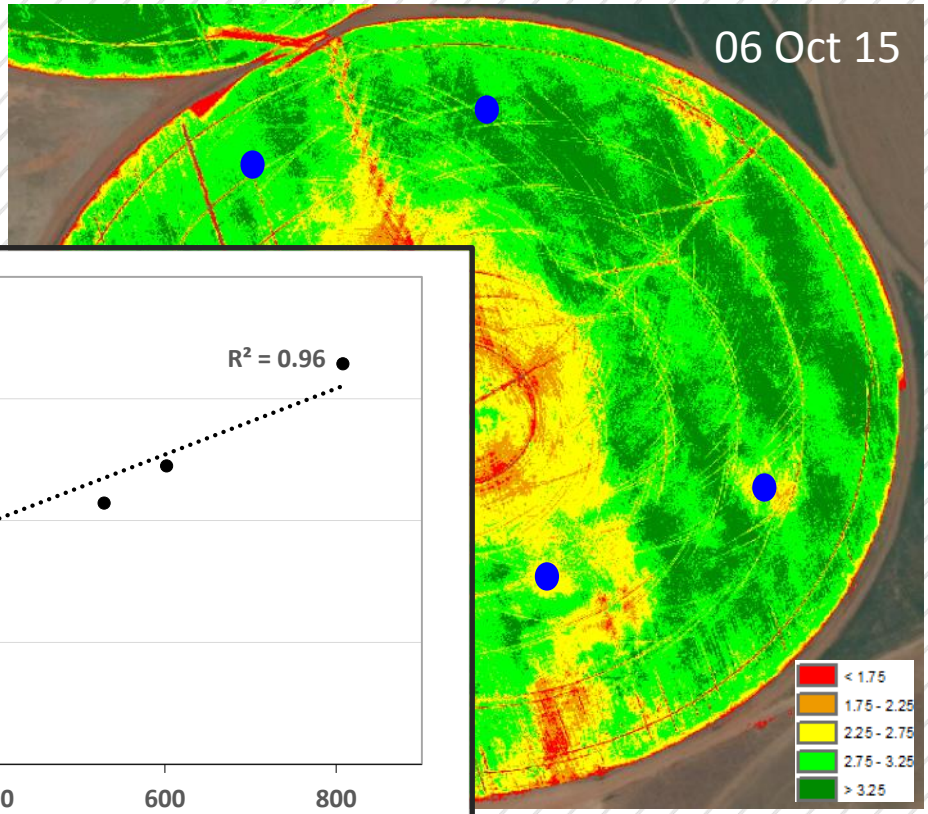
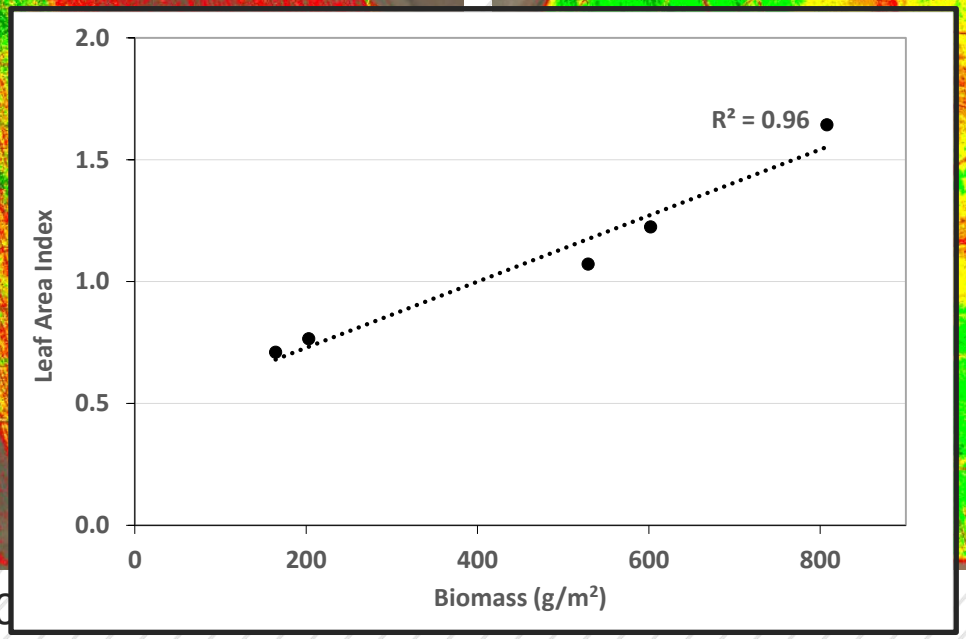
Wheat (South Africa)

LAI – Different scale for each date so to enhance spatial variability per date







- Acquisition date: 09/0
- Flying height: 120 m
- Spatial resolution: 12 cm

● Ground truth sampling

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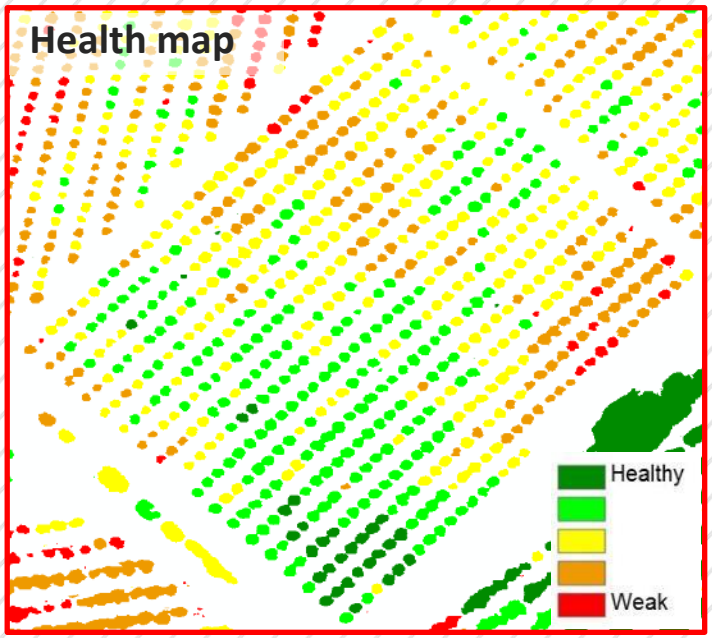
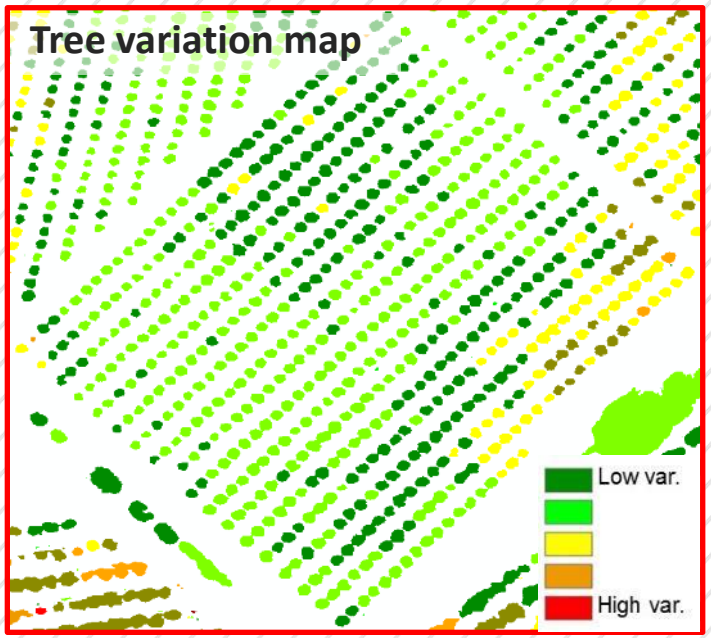
Avocado (Israel)

Tree Health – Soil masking and characterization of individual tree condition and variability





- Acquisition date: 15/05/15
- Flying height: 150 m
- Spatial resolution: 15 cm (~250 – 300 pixels / tree)

Conclusions

- Sensitive, timely and accurate information enable adjustment in management practices through local agronomic models (e.g. fertilization, crop protection, irrigation, etc.)

- Remote sensing quantitative biophysical parameters can be used as inputs for local agronomic models

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