UAV’s in Precision Agriculture

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www.fieldimagery.com
www.gpsoilsampling.com
Image Differences

Video

Pictures
2014 Easy Results
- Aerial Pictures
- Farmsteads
- Equipment

- Equipment Issues
- Crop Scouting
• How can I use this tool?

• How do I make $?

• So what’s so hard?
**VIS** = spectral reflectance measurements acquired in the visible

**NIR** = spectral reflectance measurements acquired in the near-infrared regions

**Benefits:**
- Size and Location of Stressed Area
- Identify Zones
- Create Custom Treatments
- Track Progress of Health

**NDVI** = \( \frac{(\text{NIR} - \text{VIS})}{(\text{NIR} + \text{VIS})} \)
Image Acquired: July 15, 2014
Source: eBee Flight
Resolution: 3.5 cm/px
Crop/Stage: Corn/V8

Yield Data Acquired: Nov. 2014
Source: Yield Monitor
Crop: Corn

Benefits:
- High Resolution Yield Map
- Make Marketing Decisions
- Plan Harvest Logistics
- Anticipate Insurance Claims
• Plant Identification
• Population
• Vegetation Health
• Beyond the Visible
  • Near-Infrared
  • Thermal-Infrared
• Single Band Analysis
• Multiple Band Analysis
• Per Plant measurements
• Real Follow-thru on data observations
Thermal Imagery

http://airscout.com/demo/maps/
Brian Sutton/Air Scout
Method of Calculation:
- Corn spaced in 30" rows
- 17.4' represents 1/1000 acre
- 32 plants counted in 17.4'
- Population in area is 32,000 seeds/acre
Image Differences

Video

Pictures

Geo Rectified
3D Data
Previous Points in 3D  Measurements  Planning
Final Thoughts

• Very fun and interesting
• Toy vs Tool
• K.I.S.S.
• Will increase field scouting
• Regulations
• HUGE future potential
LABRE Crop Consulting

Sampling  Data  Equipment

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