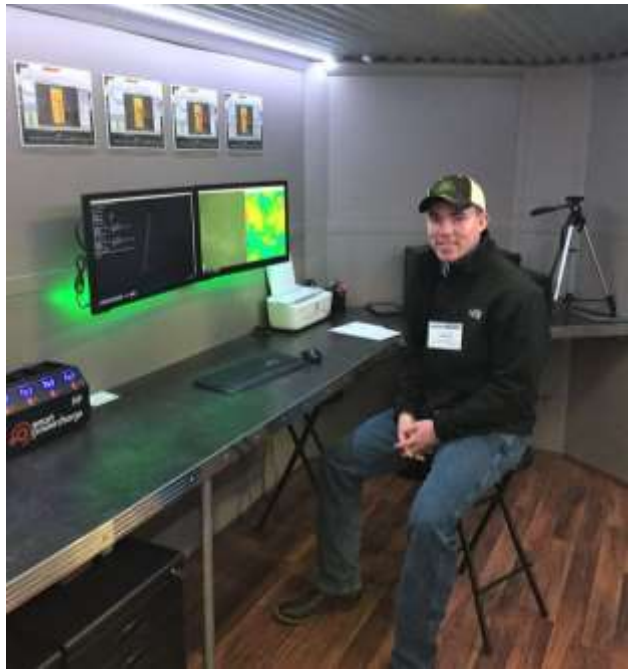
Redefining Actionable UAV Imagery

Utilizing Imagery for ROI

Austin Rice & Andrew Hellmann - Yield Tech Aerial Services, LLC


CHS
GMC


Command
Center




NEVER BEFORE SEEN DATA
HARVEST YIELDS
RETURN ON INVESTMENT
RAPID RESULTS
ADDITIONAL SERVICES

Agenda

- Business model
- Services
- Providing value to growers while remaining profitable
- The future of drone tech

UAV Hardware

- Carbon fiber quadcopter
- Multiple batteries - 35 minutes of flight time
- SlantRange payload

Services

- Population Counts
- VRT/Precision Ag Data
- Advanced Crop Stress Scouting
- Specialized Capabilities

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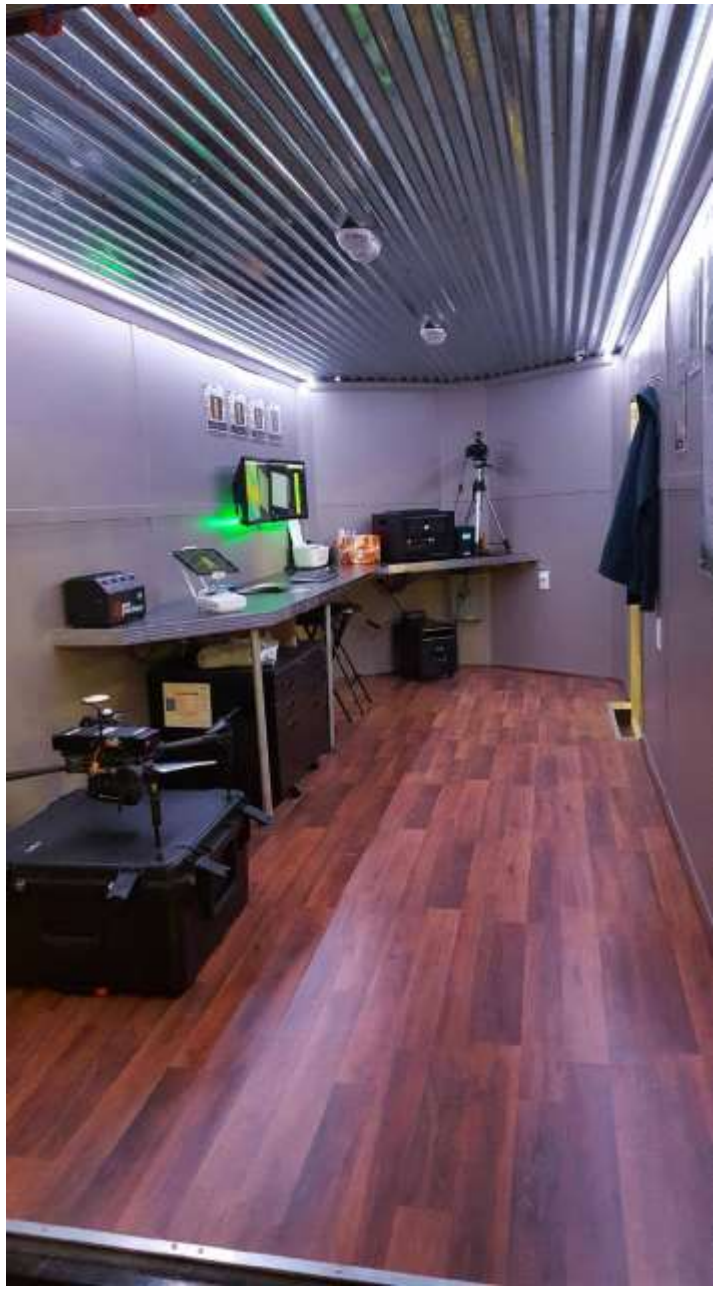



YIELDTECH
217-808-1616
Remote Sensing Services To Improve
Farm Management Decisions

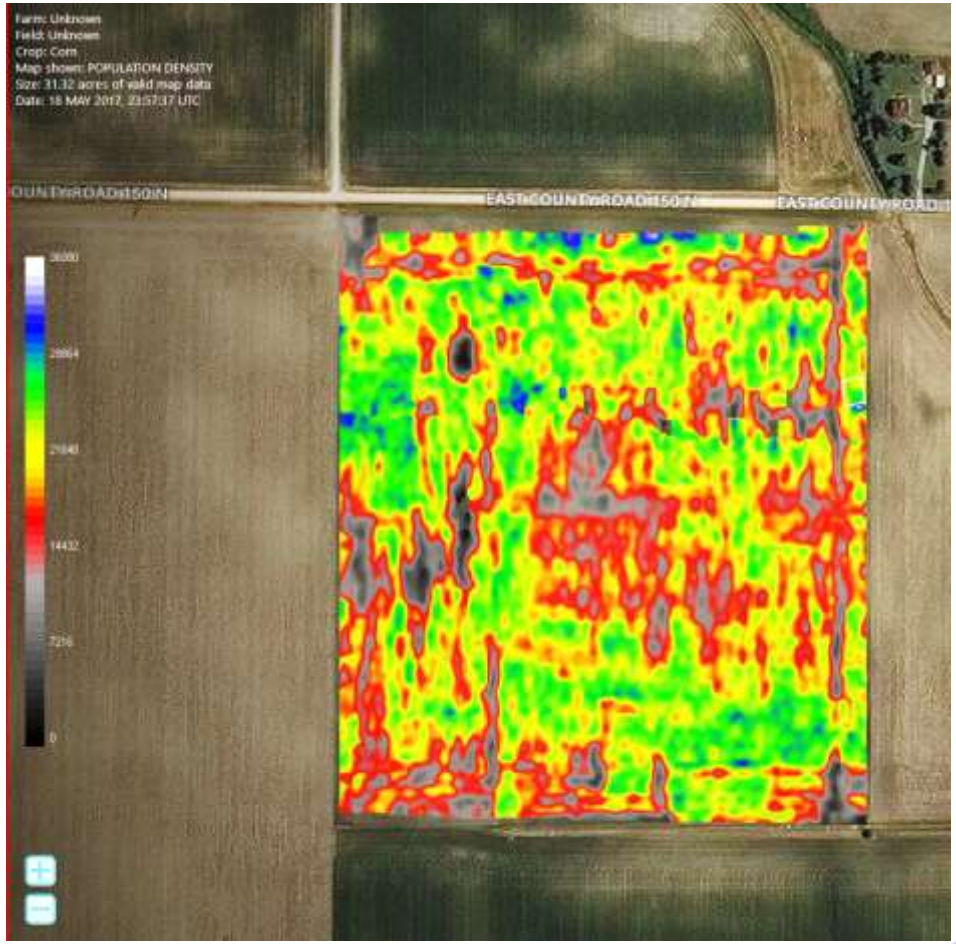
Customer Acquisition

1. Test flight & sample data
2. Determine the grower's problem
3. Offer a solution
4. Contract

- Average six-fold increase in original contracted acre amount after delivering first round of data

Population Counts

- Blue: 32,000
- Green: 27,000
- Yellow: 22,000
- Red: 17,000



Population Counts

- 65 to 75 feet AGL
- 2 pixels per width of corn leaf
- 60 to 70 seconds per acre flight time
- Fly dusk to dawn
- V2-V4 growth stages

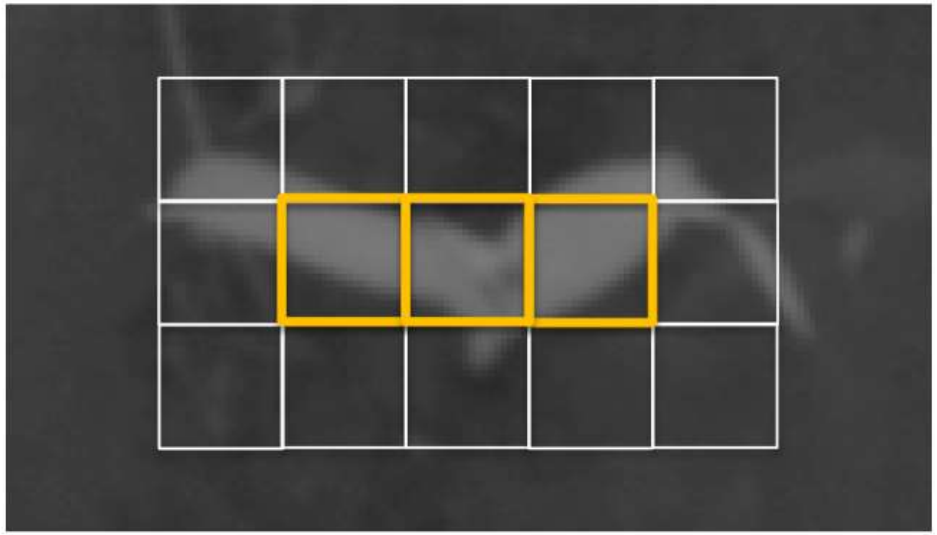
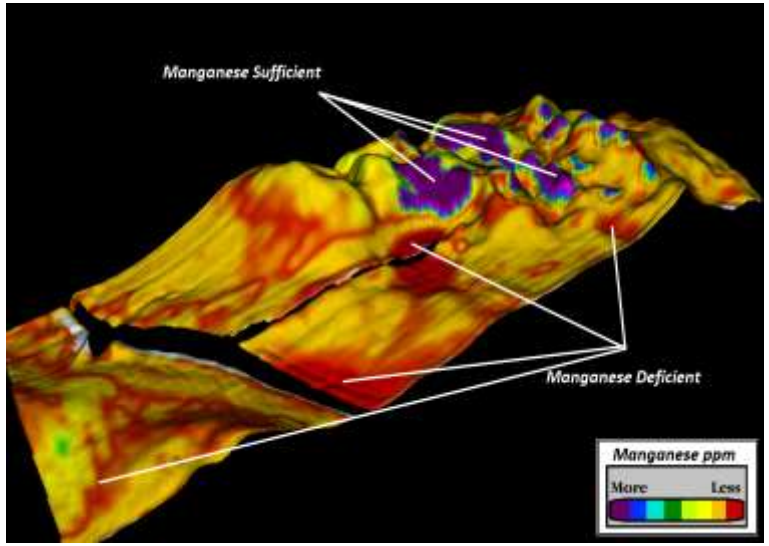


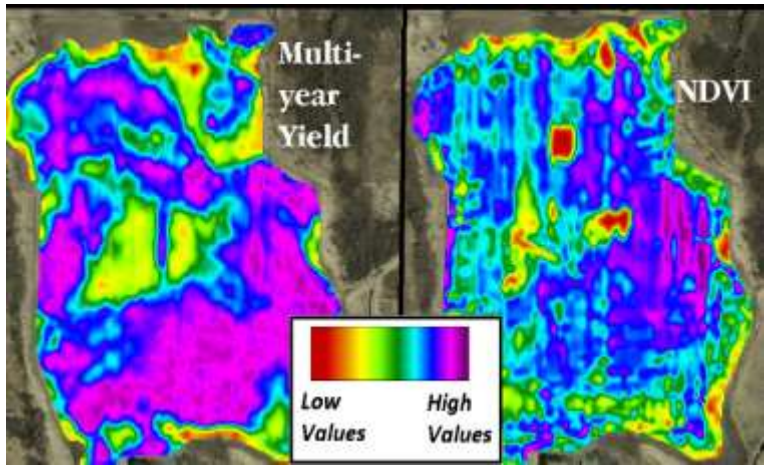
Photo courtesy of SlantRange

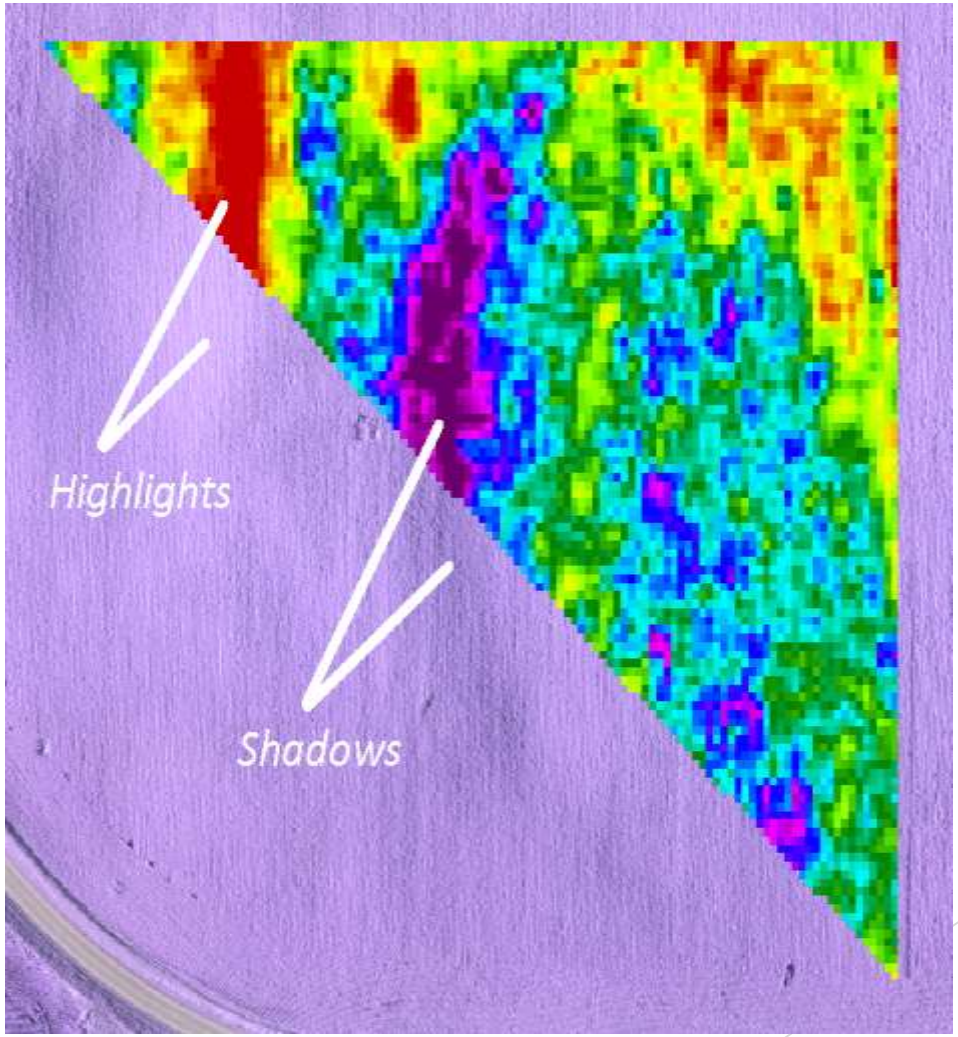
VRT/Precision Ag Data

1. Collect imagery
2. Create temporary management zones
3. Pull samples and ground truth zones
4. Analyze data and create prescription

VRT/Precision Ag Data







Photos courtesy of Michael Dunn, CCA, SSp from Anez Consulting

VRT/Precision Ag Data

- 150 to 300 feet AGL
- 2 pixels per width of corn leaf
- 20 to 30 seconds per acre flight time
- 10AM to 2PM depending on topology

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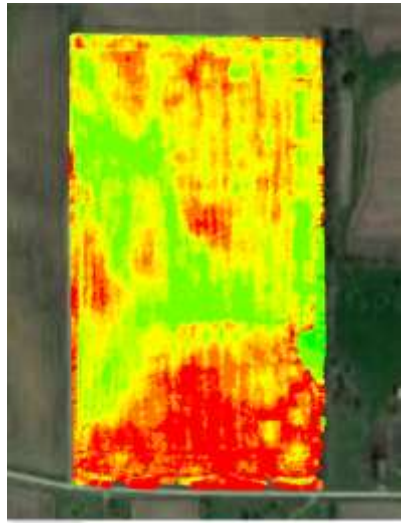
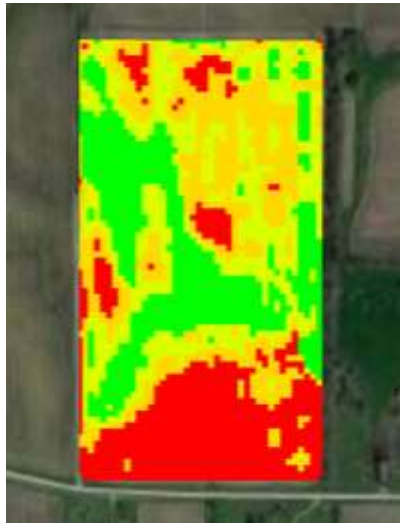
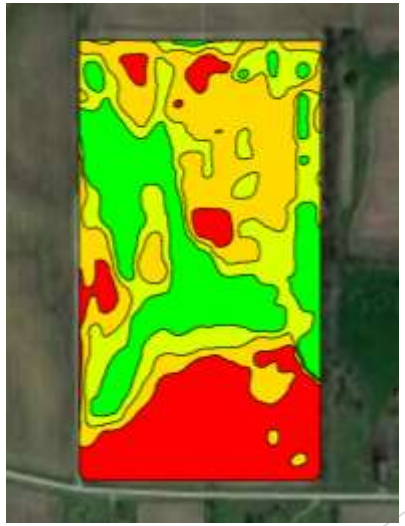
Hi-Resolution NDVI



Grid Map

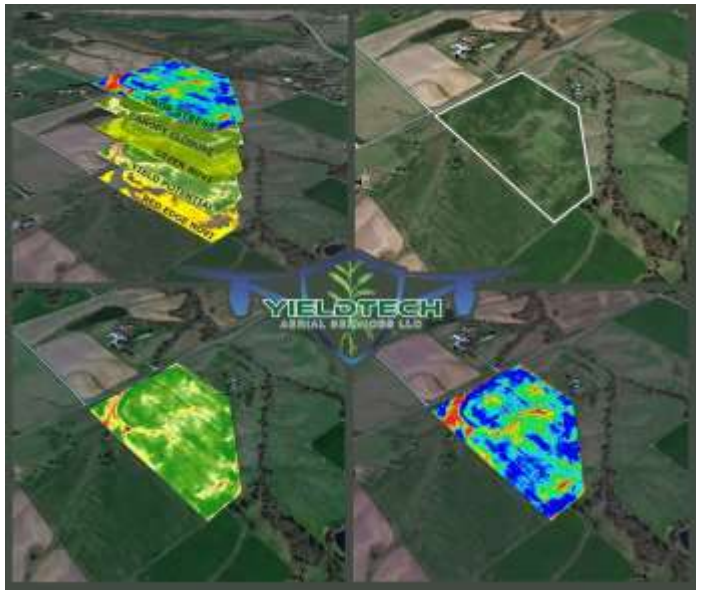


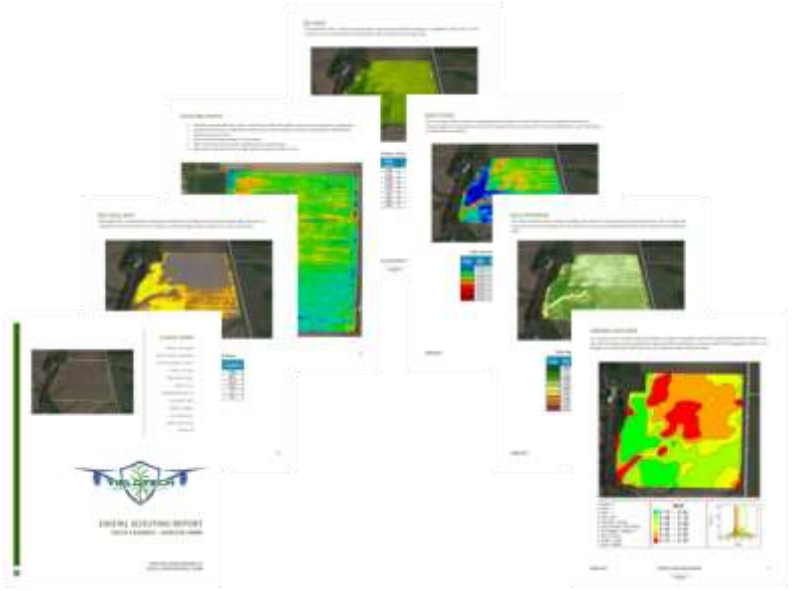
Contour Map



Advanced Crop Stress Scouting

- 300 to 400 feet AGL
- ~15 seconds per acre flight time
- Late morning to early evening





Specialized Capabilities

- Locating specific damage – severity & acreage
  - Dicamba damage
  - Wind damage
- Pre & post chemical/fertilizer comparison
- Locating specific weeds or plants

The Future of Drone Tech

- Hyper multispectral Imagery
  - Hundreds of bands, rather than just four
  - Need improved software, indices, & algorithms
- Integration with Internet-of-Things (IoT)
  - Autonomous communication & operation with other sensors & computers

Questions?

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