Surgical Agriculture: Going Beyond Precision

Robert Blair
robert@threecanyonfarms.com
Blair Farms

- Farm Started in 1903
- 1,300 Acres (607 ha)
- Non Irrigated
- Steep Slopes
- Wheat, barley, peas, lentils, garbanzo beans, alfalfa, & cow/calf
Combine Evolution in My Lifetime
Ag Technology = Information
Unmanned Aerial Vehicle (UAV) or Drone Platforms
Sensors & Software
Traditional Scouting Doesn’t Show “THE WHOLE PICTURE!”
Flight to Field in 48 Hours

4 CHANNEL NIR UAS IMAGE

NI TROGEN PRESCRIPTION MAP
Agriculture Needs RS Standards
Next Evolution in Ag – Part 137 Aerial Application
Weed Management
Can You Fly Multiple Platforms?
Can You Fly at Night?
Will Larger Drones be Allowed?
Need BVLOS to Scale for Agriculture (+/- 9 Sq Miles)
Challenges

1. Technology 100% of the time
   - Sensors, Software, Batteries
2. Infinite number of spectral signals
   - Crops, Disease, Insects
3. Large tracts of land – Need BVLOS to scale
4. Size and amount of data
5. Machinery size
6. Lack of local expertise
7. Chem labels for aerial drone application
8. Regulations
   - Not only FAA
   - USDA, FDA, EPA, State
Talks Have Started
Takeaways

1. Ag needs tech due to our challenges
2. Become the expert & catalyst
3. Is it the drone? Sensor? Software?
4. Need Remote Sensing Standards
5. Be proactive on developing regulations
   - USDA, EPA, FAA, State
Precision Ag is a Whole Package
QUESTIONS?

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