FAA Part 107
Robert Blair — Farmer/VP Agriculture Measure
Drone as a Service®

DRONES
PAYLOADS: CAMERAS AND SENSORS

OPERATORS

DATA & ANALYTICS

REGULATORY APPROVALS

FLEXIBLE PAYMENT TERMS

BENEFITS
CUSTOMERS CARE ABOUT DATA, NOT DRONES

KEEP CAPEX DOWN

ALWAYS FLY THE LATEST TECHNOLOGY

SAFE, LEGAL, AND INSURED
Robert Blair — Kendrick, ID

- Farm Started in 1903
- 1,300 Acres (607 ha)
- Non Irrigated
- Steep Slopes
- Wheat, barley, peas, lentils, garbanzo beans, alfalfa, & cow/calf
Kendrick, Idaho – 369 Population
Self Leveling Combine
Five Generations of Tech Evolution
Ag Technology – Information Revolution
Closing the yield gaps

- Estimated yield gaps range from 15% to 30%.
- Approximately 50% of gap is due to weather.
  - Remainder due to sub-optimal management and information.

Based on research and interviews, drones are estimated to reduce management yield gap by 25%.
Traditional Scouting Doesn’t Show
“THE WHOLE PICTURE!”
Flight to Field in 48 Hours

4 CHANNEL NIR UAS IMAGE  NITROGEN PRESCRIPTION MAP
Winter Wheat Population Density
Problem Areas from 2014 Harvest
Show up in the Spring of 2015
UAS Rules Since 2008
June 18, 2014 the FAA stopped all flights over agriculture land
### Interpretation of Special Rule for Model Aircraft

<table>
<thead>
<tr>
<th>Hobby or Recreation</th>
<th>Not Hobby or Recreation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flying a model aircraft at the local model aircraft club.</td>
<td>Receiving money for demonstrating aerobatics with a model aircraft.</td>
</tr>
<tr>
<td>Taking photographs with a model aircraft for personal use.</td>
<td>A realtor using a model aircraft to photograph a property that he is trying to sell and using the photos in the property’s real estate listing.</td>
</tr>
<tr>
<td></td>
<td>A person photographing a property or event and selling the photos to someone else.</td>
</tr>
<tr>
<td>Using a model aircraft to move a box from point to point without any kind of compensation.</td>
<td>Delivering packages to people for a fee.</td>
</tr>
<tr>
<td>Viewing a field to determine whether crops need water when they are grown for personal enjoyment.</td>
<td>Determining whether crops need to be watered that are grown as part of commercial farming operation.</td>
</tr>
</tbody>
</table>
Original Operating Areas
Blair Farms COA
455 COA Applications in 2015
Idaho Falls Airport
June 21, 2016 Part 107 – 624 Pages

http://www.faa.gov/uas/media/Part_107_Summary.pdf
Part 107 Summary

- Operator must be 16 years of age
- Pass an aeronautical knowledge test
- Obtain an FAA UAS operator certificate
- Recertify every 24 months
- UAS under 55 pounds
- 400 ft AGL altitude
- Daylight hours only
- Visual line of sight
- No faster than 100 mph
- No flights over people
- Must vacate airspace when other aircraft come into area
Part 107 Continued

- Operation in Class G Airspace without ATC permission
- Class B, C, D, and E allowed with ATC permission
- No operations from moving aircraft or vehicles
- No carriage of hazardous materials
- Minimum 3 mile visibility from station
- TSA check for new pilots
- Keep records
- File report of crash within 10 days
- Know state and local regulations
Agriculture Gains from Part 107

- Can work with local airport authority for operation in controlled airspace
- No longer need full pilot license
- Visual Observer not required
- Air Worthiness Certificate no longer needed
- No NOTAM filing
- No monthly COA reporting
The Next Step – Part 135 Aerial Application
Can You Swarm?
When Will Larger UAS Be Allowed?
What About Aerial Applicators?
“We’ve Always Done it This Way!”

*How.. to work your horses more profitably...*
Challenges
Questions?
rblair@measure.aero