Data to Decision and Application

Application Controls and Input Management

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DATA AND IMAGERY

KEYS TO SUCCESSFUL DATA CAPTURE

• A Quality Sensor and Filter
• Automated Sensor Management
• Automated Image Processing
• Data Portability
FLIGHT

• Fly in Wind
• 3 Methods of Control
• Long Flight Time

340 Acres

Phantom 3
50 acres

Melior Turkey Farms
RX60 UAV
MAKE IT PRACTICAL

Battery Life  Light Weight  Tough  Simple
THE LAUNCH
Consistency and Safety
• Launching shouldn’t be an adventure.
• Safe launches save time and money
THE LAUNCH

Consistency and Safety

• Launching shouldn’t be an adventure.

• Safe launches save time and money
MISSION CONTROL

Airspace and Aircraft Awareness

Mission Planning
MISSION CONTROL

Drone Control

Data Processing
The Botlink App

Automated drone control
Airspace alerts, traffic advisories and weather overlays
Safety and regulation compliance

Integrations

Botlink allows users to feed data directly into their existing farm software
Real-time access to aerial data from ANY location
  - In the field
  - At home
  - At your agronomist’s office
FAA PART 107 RULES RELEASED

• Day flights only, with civil twilight provisions if lighting is adequate
• Operate within visual line of sight only
• Airworthiness certificates will not be required
• People with a pilot certificate and current flight review will only need to do an online test and will receive a temporary "UAS rating" immediately after passing.
• People without a pilot certificate will need to pass a knowledge test at an approved test center and will need to be reviewed every 2 years
Tom Wolf
@nozzle_guy

Classic herbicide residue damage from booms that were probably not primed or flushed, near Carbon, AB. #spray16
DATA AND IMAGERY

- Modified GoPro HERO4
- NIR Filter developed with Kansas State University
- Collects the blue and green bands of light
- Blocks the red band.
- Captures the near infrared band of light.
FOCUSED ON STREAMLINING OPERATOR EFFICIENCY
agX RECS
PRODUCT VIEW AFTER ALL PRODUCTS ASSIGNED
VARIABLE RATE TECHNOLOGY
ROS / VIPER 4+

- The New Viper 4+
- Subtle ROS UI changes
- Data Management/Integration
  - agX Recs
  - FMIS/ISO XML
- On/Off Look Aheads
- Maps View
- Product Profile Enhancements
- Diagnostics/OTA
- Status update on next efforts
Sometimes, even if you spray the leaf, it may not reach the surface. Droplet evaporation. sprayers101.com/droplet-behavi...

Paul Van den Borre
@Paulvdb2016

So I see this when I am in my travels - 2 things wrong here. 1) some wrong product in boom mostly boom 1 and 7
WEED RESISTANCE

 Glyphosate resistant and susceptible Palmer amaranth plants 4 days after treatment.

6/15/16, 4:43 PM

26 RETWEETS 8 LIKES

Reply to Dallas Peterson, Bob Wolf
Field Computers and Information Management

Application Controls and Input Management

Guidance and Steering

Data Management

Machine Controls

Unrestricted
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HAWKEYE®

The latest advancement in precision input management
HAWKEYE
PRESSURE BASED NOZZLE CONTROL SYSTEM

- Application Problems
  - Inconsistent spray pattern
  - Limited speed range to maintain pressure
  - Inaccurate application during turns
  - Nozzle changes

- Solution
  - Nozzle level control system
  - Consistent spray pattern and droplet size
  - Increased speed ranges
  - Turn compensation
  - Individual on/off control
PWM SPRAYING

Consistent Coverage

Inconsistent Coverage
TURN COMPENSATION

Without Hawkeye  
With Hawkeye
Classic herbicide residue damage from booms that were probably not primed or flushed, near Carbon, AB. #spray16

So I see this when I am in my travels - 2 things wrong here. 1) some wrong product in boom mostly boom 1 and 7
Sidekick pro direction injection

- **Problems**
  - Left over tank mix – wasted chemicals
  - Time consuming tank cleaning
  - Right chemicals - flexibility

- **Solution – Direct Chemical Injection**
  - Specific product where needed
  - Reduced tank cleaning
  - Store and reuse leftover chemicals
RAVEN RATE CONTROL