

# National Agrability Training Workshop

Lincoln, Nebraska  
March 27, 2019





# Mission of AgrAbility Project

## **Mission**

The vision of AgrAbility is to enhance quality of life for farmers, ranchers, and other agricultural workers with disabilities, so that they, their families, and their communities continue to succeed in rural America. For this target audience, "success" may be defined by many parameters, including: gainful employment in production agriculture or a related occupation; access to appropriate assistive technology needed for work and daily living activities; evidence-based information related to the treatment and rehabilitation of disabling conditions; and targeted support for family caregivers of AgrAbility customers.





# Assisting the Mission

- **Gainful Employment in Production Ag or Related Occupation**
  - **Decision Making Based upon Timely and Accurate Data**
  - **Efficiency Increases by reducing time to complete Dull, Dirty or Dangerous Tasks**
  - **Increase Return on Investment via Technology**



Barger Drone  
Tools. Not Toys.



# Barger Drone Current Products & Services

DJI Drone Packages for Ranchers

Automated Drone Flight Software – Checks Tanks

Rugged Cellular Cameras – Checks Tanks



# Gainful Employment in Production Ag or Related Occupation



- UAV (Drone)  
Can Help:
- See Problems with Livestock or Crops
  - Low Entry Cost
  - With Experience, Herd Livestock



# Current Drone Technology

- **DJI Phantom 4 Quadcopter**
  - **Range: Up to Two Miles**
  - **20 MP Camera and 4K Video**
  - **30 Minute Battery**
  - **Speed: Up to 40 mph**
- **Daylight Readable, Rugged Tablets**
- **Rescue Tracker (if unplanned landing or crash)**





## Advantage of Drones for livestock producers

- Technology Substitutes for Labor
- Faster Data and Additional Insights

### Return on Investment

- 2 Cows or 3 Calves Saved = System paid off
- Time Saved Checking Animals and Water





# Future Drone Technology

- **Senseology Livestock Companion**
  - **Range: Up to Five Miles**
  - **40 Minute Battery**
  - **Semi-Automated: Pictures, Video and Cattle Counts done automatically**
- **Report and Video appears on Cell Phone**
- **Testing in Spring 2019**



# Coming Soon – Swiss Engineered Automated Drones



**Barger Drone and Senseology:  
Drone Packages for Livestock Producers  
Designed by Livestock Producers**

## **Autonomous Drone Platform**



- Automated Flights - Instant Data on your herd
- Reports on your cell phone showing:
  - Sick or Calving Animals
  - Cattle Counts
  - Strays
  - Empty Water Tanks
  - Broken Fences and More
- Photos and Videos from each flight accessible from the internet
- Reduce Labor and Equipment Costs with Automation



**Have an FAA Part 107 Licence?**

**Contact us about Beta Testing!**

**Barger Drone, 2117 Blake St., McCook, NE 69001**

**For more information on these prototypes, go to [bargerdrone.com](http://bargerdrone.com), or send us an email at [info@bargerdrone.com](mailto:info@bargerdrone.com)**





**Any Cows Isolated?**

**Any Cows Having Trouble Calving?**



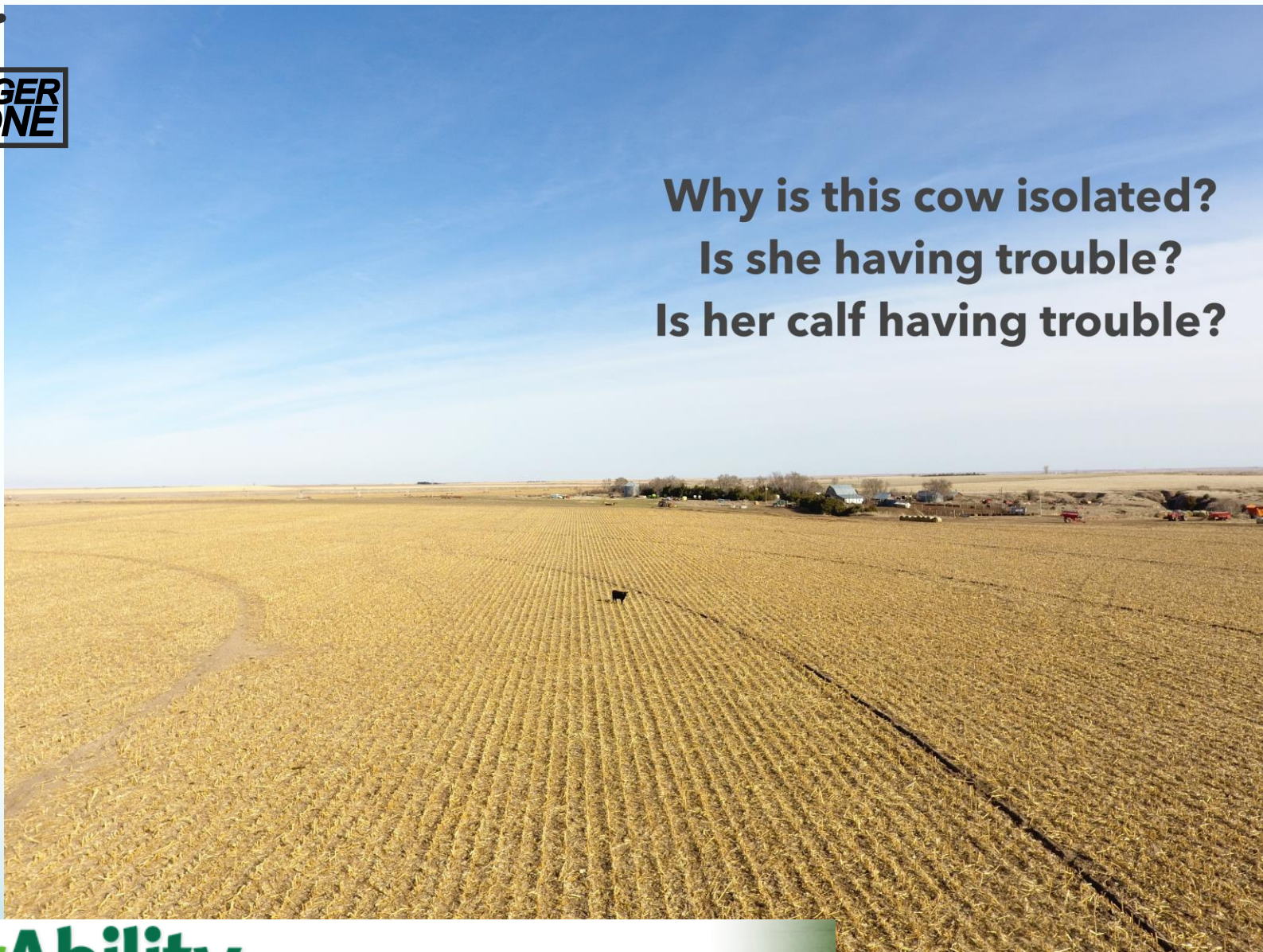


Examples of Drone Pictures –  
Checking Bunks





**Why is this cow isolated?  
Is she having trouble?  
Is her calf having trouble?**





**Can you check  
80 acres in  
4 minutes?**





Drones Can Be Operated by  
Producers with Varying Abilities











dji

In-Flight (GPS)



HD



53%



AUTO ISO 100 Shutter 1/320 EV +1.0 WB Custom 5000K CAPACITY 4K/30fps 00:09:49



mapbox

D 2207 ft H 141 ft  
H.S 41.1 mph V.S 0.0 mph



223 DU SCREEN RECORDER





Crop  
Condition  
Review  
using  
Analysis  
Software





**DroneDeploy**



**PRECISIONHAWK**

## Mapping and Crop Analysis Vendors





**Google  
Pixel 2**

**Think Bright  
Sunlight is  
not a  
problem  
when  
flying?  
Think  
Again.**

**DJI  
Crystal  
Sky**

**Daylight Viewable Tablets  
Critical Component for Drone Flying**



**T71 Rugged  
Tablet**

**Samsung Tab  
Active Tablet**

**Daylight Readable  
Tablets offered by  
Barger Drone**





Flying is Fun.







**SAVE TIME**

**Technology To  
Help Livestock  
Producers**

**GAIN ACTIONABLE DATA**

**INCREASE RETURN ON  
INVESTMENT**

**REDUCE LABOR EXPENSE**



# **Solutions for Livestock Producers' Dull, Dirty and Dangerous Tasks**

**DRONES**

**CELLULAR -BASED  
CAMERAS**

**3D VISION WEIGHT  
MEASUREMENT SYSTEM**



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