

# TECHNICAL SUMMARY

## 1. EXPERIENCE

### A. Ference Agronomy

- i. Currently running a profitable drone spraying operation, with over 3,500 acres of cropland and 500 acres of pasture land covered in 2023. Able to pay employees a great wage and help them develop skills in precision agriculture.

### B. Ag Above the Line

- i. Currently working with Pioneer seed and agronomy customers in Kearney County. Have used DJI Mavic Pro 2 to perform mapping and stand count assessments for the agency. (For learning, not for hire)

## 2. DETAILS

- A. We would use the grant to purchase a DJI Agras T40 to expand aerial applications in Kearney county. The goal is to use precision drones to provide these customers that Brad is currently working with a broader offering of services. As well as to provide opportunities and a framework for other young agricultural entrepreneurs to pursue business in agriculture.

## 3. EXPECTED LIFE

- A. These drones can have a potential lifespan well over 5 years. Pilots and supporting crew will be trained to perform safety and maintenance checks daily, weekly, and monthly. Propellers will be replaced after 1,000 acres or notice of damage or wear. Drones will be cleaned daily to prevent premature damage from chemicals and fertilizer. Batteries will be charged in shade and an extra one will be added to the cycle to allow more time for proper charging and cooling to extend the life.

## 4. MAINTENANCE PLAN – A COMPREHENSIVE LIST IN THE MANUAL WILL BE USED. HERE ARE SOME TO EXTEND USEFUL LIFE

### A. Daily

- i. Body – Clean with air and water at the end of the day when cooled down
- ii. Tank and Nozzles – rinsed and cleaned at the end of the day to prevent buildup

- iii. Propellers – check and tighten all screws
- iv. Ensure all arms are stowed and locked in operating position
- v. Batteries charged in shade, keep clean to allow proper cooling
- vi. Store clean aircraft in dry place

**B. As Needed – 20 hours – monthly**

- i. Batteries- fully charged and discharged once every 3 months to maintain life and warranty
- ii. Camera and Sensors – regularly cleaned to maintain safety. Use soft dry cloth.
- iii. Keep protective cover of radar module clean. Use damp cloth and air dry before use.
- iv. 20 hours or 100 flights
  - 1. Check for and replace worn propellers
  - 2. Check for loose propellers
  - 3. Check for aging plastic or rubber parts
  - 4. Check for poor atomization of the sprinklers. Clean centrifugal disks thoroughly. Replace if necessary
  - 5. Replace spray tank strainer

**C. Damage or Crashed**

- i. After any incident the aircraft will be thoroughly inspected and repaired with DJI parts.