

BUSINESS PLAN

1. EXECUTIVE SUMMARY

A. Ag Above the Line is looking to partner with Ference Agronomy LLC to expand the use of drones in Nebraska. Ference Agronomy has an established presence with local producers, having treated over 3,500 acres of crop land with applications of fertilizer, pesticides, and cover crops. We also are looking at using drones to treat cedar trees and invasive species on pasture. Brad at Ag Above the Line aims to support the advancement and adoption of regenerative practices in central Nebraska. Rooted on a strong foundation of soil health principles, we are open-minded, committed to learning, and proactively seek new solutions for our growers to work with the power of nature. Our mission at Ag Above is to help farmers and land owners create long-term stable returns by effectively using technology to minimize input costs, and to be stewards of the natural resources entrusted to us by leaning on 5 principles of soil health: minimize soil disturbance, maximize soil cover, increase diversity, living roots as long as as possible, and livestock integration. For Brad, the passion of agriculture runs deep, as he got started on the farm at the age of 14 helping a neighbor. He's been hooked since and dreamed of farming his own land. He realized that, while he could have an impact on those acres, his impact could be greatly expanded by raising awareness and helping other growers. Brad is a Pioneer Seed associate with 15 years of on farm and agriculture experience. He has used drones for mapping and stand count assessments and is excited for the opportunities that large drones have in applying products and seeding. Drones can place inputs more precisely, especially in complex, odd-shaped fields with obstacles that are difficult or dangerous to maneuver in manned aircraft with no negative compaction to the soil. Comparisons have shown that the downward prop-wash from drones also helps products and seeds penetrate crop canopy more effectively, increasing product efficiency and reducing possible off target application. Drones allow for an opportunity to show trials of biological and foliar products in smaller test areas to find viable alternatives to chemical inputs. This partnership allows Ag Above to lean on the established experience of Ference Agronomy to ensure a quickly profitable offering in central Nebraska.

2. PROJECT PROPOSAL

A. Description: The plan is to expand the offering of drone application services, primarily into Phelps, Kearney, and Buffalo counties. The main flagship we are

looking to acquire would be an Agras T40. The plan is to start with one and would possibly expand to a second. Brad has a pickup and trailer already, but will need a setup with tanks, generators and equipment to support the drone/s. This project will provide new employment opportunities as we will look to hire 1 to 2 part-time employees to help support the operation to be efficient and effective. Brad is in the process of studying for a 107 pilot license and then would work towards a part 137, however there is an option to fly under Ferece Agronomy part 137 in the interim. We would look to hire someone that currently has a license or would be willing to help provide the training to them to have a secondary pilot.

- B. Explanation: An Agras T40 drone has the rated ability to cover upwards of 50 acres per hour while spraying. Experience and many conversations with current users T40 users have given us reasonable expectations for average productivity while flying. On a typical 2 gal/acre rate with a good system people have reported 25-35+ acres/hour actual productivity. A two drone system can achieve 50-65+ acres/hour. Reasonable expectations for an ideal application window based on timing and weather conditions would be 6-8 hours/day and 5-6 days/week. A single drone could easily cover 150-250+ acres a day and two drones could be upwards of 300-500+ acres a day. The window for applying a fungicide would be roughly a three week period in July-August. This sets a target acreage of 2,000-4,000 per drone in that time. This would not be an attempt to replace airplanes but offer better coverage on those hard to spray acres and increase efficacy on fields that growers want to get maximized yields. Becks has done practical farm research studies comparing ground, plane and drones and in many cases the drone applications provided the greatest yield response. Extending before and after peak fungicide season we would look to spraying other products and offer cover crop seeding into standing crops starting in August throughout harvest. They are rated to carry over 110 lbs and apply upwards of 3,000 lbs / flight hour. In field averages are difficult to project based on many factors but I have found you can reasonably seed 100-200 acres in a day. Having the ability to offer seeding would, especially in smaller/ trial situations, helps growers branch into new practices without committing to an entire change in equipment to see what could work in their operation. Having soil covered and a living roots are critical components of soil health and water quality. Helping them realize these benefits on their own field tests will be critical to gain more widespread adoption of regenerative practices.

3. TIMELINE FOR PROJECT IMPLEMENTATION

- A. 2 timelines to consider are securing the necessary licensing and the steps following grant approval.
- i. Brad needs a part 107- and eventually a part 137 and an exemption for drones over 55lbs. Steps from FAA website:

1. Step 1- Obtain FAA Tracking Number - Completed
 2. Step 2- Schedule an appointment with a testing center, location: UNK Kearney – By End of February
 3. Step 3- Pass “Unmanned Aircraft General-Small (UAG)”
 4. Step 4- Complete FAA Form 8710-13 for remote pilot certificate
 5. Step 5- Confirmation email sent when TSA background complete.
 6. Step 6- Permanent remote pilot certificate sent in mail when complete.
 7. Step 7- Have remote certificate available whenever flying UAS.
- ii. I expect a 4-6 week delay from testing to approval. If approved by June 1st, that will be adequate to start test flying and establishing a system for July peak season.
 - iii. Currently I have a private pesticide applicator license set to expire April 15th. I plan to get the commercial license and add the aerial category required for applying with drones. To demonstrate confidence in my ability to pass all the testing required, I will note that I have previously held a commercial applicator license in the past, am a certified chemigation permit holder, have a CDL (which would be necessary for increasing the size of tow vehicle/trailer in the future), and I was the honor student of the agriculture program when I graduated with an associate degree in agri-business.

B. Timeline as correlated following grant approval.

- i. Day 1: Get the match funding for project.
- ii. Day 2: Order T40 Drone
- iii. Day 10: After receiving drone start registering with FAA and NDA and prepping it for application season.
- iv. Also after ordering the drone I would begin setup of the trailer and acquiring the remaining necessary equipment (generator, spare parts, pumps, tanks, etc.) If not already started
- v. I expect that within less than 60 days of grant approval I will be making an impact in the area.

C. Challenges and solutions

- i. Delays in certifications – There is variability in the processing times and could take up to 8 weeks or more instead of the expected 4 weeks. Early entry is the best action to avoid delays, which I am proactively studying and preparing for tests now.
- ii. Market adoption – Drone spraying is not unheard of here, but it is in the beginning stages of adoption. My counter here is that within the agency and area several farmers have expressed great interest in the topic around drones.
- iii. Regulations – Another variability that could limit the speed of impact in the project is changing regulations. Staying involved with active spraying friends, local spraying co-ops, and on social media pages will help alert me.

- iv. Economic Downturn affecting farming. We are already seeing low prices and tight breakeven projections for corn for 2024. Farmers will be looking to cut the frills expenses, but they will double down on the things that they know have shown returns year over year. Fungicide is one of these practices that is an investment that nearly always pays more than it cost.

4. SUSTAINABILITY

- A. Building a sustainable business in sustainable regenerative agriculture is the ultimate goal. Partnering with Ference Agronomy gives a kickstart in drone knowledge and best practices. Joined with Brad's background with on farm experience coupled with the agronomy and seed agency offer a great foundation to start from. With experience and understanding in safely handling equipment and chemicals, as well as we have a strong customer base already expressing interest in drones, we are perfectly positioned to hit the ground running in this project. Brad will maintain the legal requirements necessary for the business to operate safely and within all local, state, and federal guidelines. Workers hired will be trained and required to withhold a high standard as well. Equipment maintenance is critical to the success of any business and is no exception here. Any damages will be rectified immediately to ensure safe operation. With daily, weekly, and annual cleaning, service, and inspections with timely repairs, the drones and supporting equipment should easily last for 5+ years. The drone is also the most recent model and should remain relevant and useful for several years. The business is in an expanding phase. We expect to continue to be an established and growing partner to the area for years to come.

5. PROJECT BUDGET

- A. Start up costs
 - i. \$30,500 – DJI Agras T40 Complete package from Rantizo (includes batteries, spreader, spare parts kit, chargers, cooling stations, etc.)
 - \$2,000 – Generator
 - \$2,000 – Tank Plumbing
 - \$2,000 – Supporting equipment (storage and tool boxes, fans, shade for battery charging, folding table, etc.)
 - \$36,500- Project Total

- B. Funding
 - i. \$16,500- PRO AG Grant – 55% of the drone
 - \$20,000- Investor or Brad -with approved bank financing

\$36,500 – Total

6. FINANCIAL PROJECTION

A. Project year 1: Minimum target 2,000 acres fungicide at \$15/acre (3 weeks)

- i. \$16,500 – Grant
- \$30,000 – Revenue

\$46,500 – Total income

-\$36,500 – (Drone, generator, plumbing, equip if paid in year 1)

-\$6,000 – Legal and Accounting

-\$5,000 – Insurance

-\$6,000 – Rantizo Fly More Package (training, compliance reporting, managed Part 137 training and application, management software, insurance discount, peak season support priority, and more)

-\$4,000 – Part Time Labor

-\$1,500 – Fuel/milage

-\$1,000 – Consumable items

-\$3,000 – Bank Interest

-\$16,000 – Net cash flow (assuming start up is paid for in first year)

B. Project year 1: Target for season: 500 acres spraying pre fungicide (\$15), 2,000 acres fungicide (\$15), 500 acre pasture (\$15-\$18), 500 acres seeding (\$20-\$25)

- i. \$16,500 – Grant
- \$7,500 – Revenue spraying early
- \$30,000 – Revenue fungicide
- \$7,500 – Revenue pasture (low estimate)
- \$10,000 – Revenue seeding (low estimate)

\$71,500 – Total Income

-\$36,500 – (Drone, generator, plumbing, equip if paid in year 1)

-\$6,000 – Legal and Accounting

-\$5,000 – Insurance

-\$6,000 – Rantizo Fly More Package (training, compliance reporting, managed Part 137 training and application, management software, insurance discount, peak season support priority, and more)

-\$7,000 – Part Time Labor
-\$3,000 – Fuel/milage
-\$1,500 – Consumable items
-\$3,000 – Bank Interest

\$3,500 – Net cash flow

C. Year 2-5 Target for season: 500 acres spraying pre fungicide (\$15), 2,000 acres fungicide (\$15), 500 acre pasture (\$15-\$18), 500 acres seeding (\$20-\$25)

- i. \$7,500 – Revenue spraying early
- \$30,000 – Revenue fungicide
- \$7,500 – Revenue pasture (low estimate)
- \$10,000 – Revenue seeding (low estimate)
- \$7,000 – Revenue marking up products (get licensed during year 1)

\$62,000 – Total Income

-\$0 – (Drone, generator, plumbing, equip if paid in year 1)
-\$3,000 – Legal and Accounting
-\$5,000 – Insurance
-\$6,000 – Rantizo Fly More Package (training, compliance reporting, managed Part 137 training and application, management software, insurance discount, peak season support priority, and more)
-\$7,000 – Part Time Labor
-\$3,000 – Fuel/milage
-\$3,500 – Consumable items

\$34,500 – Net Revenue

\$141,500 – 5 year net potential (3,500+(3,500x4))

7. COST-BENEFIT ANALYSIS

- A. Short term impact - at a minimum the drone will pay for itself within the second year and provide net income by year 3 while providing a part time job opportunity beyond myself. In a more likely, season long scenario, there is a potential to pay for itself and all overhead in year one. Then it will continue to add net income over the 4 years. These projections are assuming a steady demand through the that period with a single drone. The potential could be much greater as many I have talked to are able to achieve 5,000-6,000 acres per drone in a year. It is probable that more

adoption would allow for the addition of 1-2 more drones, as well as more employees, drastically increasing the profitability and community impact over the next 5 years.

- B. Long term impact - the financial benefit to our business and the community will be significant. It will potentially generate well over \$100,000 net income, while adding job opportunities, providing excellent service for farmers. The economic gain with mild growth over a 10 year period could easily exceed \$500,000 to the operation. (two drones each spraying 4,500 acres at \$15 is \$135,000 gross revenue per year)