

Attachment A. Business Plan

My family's history of living in Hay Springs can go back five generations. I am a fifth generation farmer and my wife is a fifth generation farmer from California. On my mom's side, they raised sheep, cattle and various grains and in 1940 my grandparents on my dad's side moved from Banner county to where my wife and I currently live on our family homestead. After graduating from University of Nebraska-Lincoln in 2016, I took over farming for my family as well as some newly purchased ground, custom work, and leasing ground from Gordon to south of Hay Springs. I pride myself on no-till operations and have created a diverse rotation of five different crops for various pest and weed management. We have a legume and grass rotation which also provides increased soil fertility and allows us to have better water practices. We also have incorporated other precision practices such as soil moisture probes and we soil sample and analyze yield data to create the most precise seed, strip-till, and fertilizer prescriptions. My wife and I are both graduates of University of Nebraska-Lincoln. I graduated in 2015 with a Bachelor's of Science in Mechanized Systems Management with a minor in Agronomy. My wife received her BS in Agricultural Communications with a double minor in Ag Leadership and Ag Business in 2021 from California Polytechnic State University and now is graduating in May of 2024 from Lincoln with a Masters in Conservation Agriculture.

With both of us having such a strong passion for agriculture, we always are looking for ways to make us better stewards of our land. My wife has a background with different precision agriculture practices as she was the Digital Sales Advisor for Simplot before taking over all of our farms precision. One of the struggles we have had with trying to expand our precision management side of things is the fact that all our monitors are different. We have generation 2 monitors and globes, that are no longer serviced by John Deere, some generation 3 monitors and generation 4. With some of our monitors no longer being serviceable, we are looking for a way to upgrade not just the generation 2 but all the monitors so we can be on the same level playing field. This is a huge financial burden as these new monitors are over \$6,000 a piece and keep us limited to what we can do for our sustainability projects. There is a different way to download data, a different way to format it, and very difficult to keep track of everything via flash drives and SD cards. Something we are currently working on this year is integrating all of our tractors, combines, and planters into John Deere operations center to have all of our data in one place. Once we get all of our data downloaded and transferred we plan to start new with our monitors as to make our precision side more accurate and efficient. We are working with our John Deere Precision Ag Specialist to accomplish this. Once done, we plan to order three generation 5 with section control, three generation 5, six 7000 receivers and six new modems to get everything on the same page. With the new upgrades we can now send strip-till, seed, and fertilizer prescriptions to any of our tractors from anyplace we have with a computer. This will save time and overall ensure prescriptions are loaded to monitors before the driver is even in the tractor so we can make sure they utilize them. Being able to have all our data on my John Deere will make it easy for us to compare data, create management zones, and identify issues efficiently. This will cut out the need for driving from field to field with flash drives while drivers wait to start.

According to the FCC National Broadband Map, we do have coverage however, where our specific locations are we are underserved from a radio based network as our operation is spread out enough that the available towers would not always be able to be utilized, tree rows can block our service and overall we lack the coverage we need to receive accurate data. A loss of connection in the field, which we've had, results in partial data which really can affect our goals to be precise in accurate in our data to create realistic management zones which set our season up for success or failure. Connectivity cannot be what slows us down as we cannot afford to be dealing with messy, missing data. This grant would help us alleviate this problem because unlike our current GPS receivers, the newer 7000 globes utilize an RTK accuracy through satellites and not towers, known as SFRTK provided by John Deere.

We plan to have data moved to MyJohnDeere by end of February and hopefully integrate our new monitors before planting peas mid-April. We are a family that wants to evolve by making farming easier and more sustainable. We have seen the research, we seen the results, and we like what we see so anyway we can keep our soils healthy for our future generations to come is how we plan to farm. We hope one day our kids will want to takeover and then our grandkids but we cannot have that if we don't better our farming practices to ensure farm's longevity.

Over the next five years with new monitors, we plan to continue to get more efficient by having more prescriptions, more readily available data, and will provide the data to show our landlords for custom ground how they can implement this into their field plans as well and save money, increase yields, and save their field soil fertility.