October 2023

Roundtable Farmer Interview

Q/A

- How do you envision this app would improve your overall farming practices and crop management?

    - The grade gives them the ability to break down factors of grade, answer questions (yield response, fertility, etc.), helps them decide what is working and why, and correlations between grade and other variables
    - Based on the results, what can I feed a crop to make it better?
    - How does a nutrition plan do in one zone compared to another?
    - Zones: variability -> high/low areas (impact of salt, water, etc.). A square field has topography and different nutrition rates in each zone (ex: 5 zones per field)
        - Might see quality leaking into other zones through grade/characteristic maps

- What kind of information do you typically need to make decisions about harvesting and crop management?

    - They start with soil testing (nutrients), set yield targets, build a fertility plan, decide what herbicides to use
    - Quality of the crop right now is non-existent among competitors

- How would you like to see this information displayed?
    - See it in layers; be able to overlay the map data (of each characteristic?)
    - A map for each characteristic
        - Basic grade map and then filter by characteristics
    - Quality leaking into other zones

- What technology, tools, or apps do you currently use for crop management and grading? What do you like or dislike about them?
    - What features or functionalities in a mobile app would make your work as a farmer more efficient and productive?
        - AFS Connect
        - Ukko agro: select different fields/weather station
        - MyJohnDeere: brought other apps in
        - Croptimistic
        - They wish there was 1 app to do it all.
        - They want portability of the map to other apps (don’t want to flip between apps to see maps)
            - Format: ARC JIS, Shapefile

        - Export function where the map can be exported as a certain file format
        - Want to use the overlay of info in the myJohnDeere app
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- How do you map your field/zones?

    - Satellite imagine in seeding maps, create the boundary in myJohnDeere and AFS connect. (build and save boundary)
    - Don't get hung up on the borders: users will have to do boundary
        - Before this, they had to drive around their field

- How would you handle variations in grain quality across different parts of your fields or crops?
        - Ex: all 5 zones of grain are stored in 1 grain bin and 1 sample is taken from it for grade quality

    - Would you store it separately? Would you assign combines to harvest grains based on quality? This could mean if the barley is malt would you take it before a rain or move on to do more wheat if you knew the barley was not malt (higher value for malt barley vs feed barley)

        - No (unless significant rain downfall). Logistics (7-8 combines going, have to keep track of everything - lots of decisions, it would have to be a drastic change in quality) and time prolongs harvest.
            - 11-day seeding window
            - 30-day harvest window (they only have equipment for that long)

- Do you currently use historical data or trends of your crops to plan future crops or optimize your operations? If not, would you if given the tools?
    - How do you currently do this?
    - What characteristics of your crops are important in identifying plans?
    - Can you describe any past experiences that you believe could be useful for future crop planning and grading?

        - They want to learn about grain quality over time rather than optimized paths. They are constantly asking: what can we do better? (learn from quality ex: herbicide, nutrition, etc.)
        - Their goal is to make the crop healthier, they want to change things to make the grade better (haven't been able to do this until now)

- Would you like to receive alerts or notifications about significant changes in crop quality or conditions?
    - App alert/popup? email? In-app feature?

- Would like to get an alert for bad grade (be in the loop)
- They are not sure what they would do if they received alerts of bad grades, they have never encountered this situation before.
- Not email. They would want a text or push notification. Get alerts in the combine (both apps).
- Want a range of how many notifications they get (if it acres of poor quality then they want a notification, for example. High precision vs low precision controlled notifications (they will be on the side of the road making decisions)

- Are there specific challenges related to navigating your fields or making decisions about combine paths and grain collection? Can you describe the biggest challenges you face during the harvest season?
    - Would you be open to changing the combined path given an optimized route?

        - Riley is careful about where his tires go (may not grow as well the next year). Pathways consider the distance travelled, compaction with grain carts, etc.
        - The more data they get, the more they need to consider colours (green - high, yellow - medium, red - low)
        - They decide which way the combines will go based on GPS lines. They may change routes based on wind direction or spraying.

- Do you rotate crops or make specific decisions based on soil health and nutrient levels, and if so, how would you like to incorporate this data into your app?

    - They always rotate crops (for everything they do)

- If your combine drivers were more engaged by some type of gamification, how valuable would that be to you?
    - What type of gamification would be useful and engaging at the same time?

    - They think it would be cool but their biggest goal is to make sure the app works (30-day time constraint) so they can't mess around when it comes to the functionality having bugs. If everything works then they could see it as a value add for team morale.