02/21/2022 Direct4Ag Kickoff Meeting Notes

Participants:

Tony Studer

Lisa Yanello

Jonathan Coppess

Chris Navarro

Dennis Bowman

Kaiyu Guan

Diego Calderon

Lowell Gentry

Jong Lee

Introductions were made

Digital Infrastructure for Research Extension on Crops and Technology for Agriculture

Slides were presented outlining the goal of the grant. Will connect researchers, extension educations and producers in a productive and effective system of research-translation feedback loop.

This project was called out through AIFARMS advisory board review. We need to stay focused on why the program was developed. Tony believes this works well with AIFARMS and Girish Chowdhary's robotics.

Consider this a pilot program that we would like to grow. Partners with this program are to be AIFARMS, Microsoft, Tuskegee University, NCSA, and others within Illinois, Dennis Bowman (extension), Lowell Gentry, Kaiyu Guan (NRES), and Andrew Margenot (CROPS)

Project start date 10/1/21 (with anticipation funds).

We are pending funding from USDA and NIFA

We want to get the science out to a more general audience (data types, data flow, Microsoft partnership) and tailor this to the audience.

We need to figure out how we are going to work with Microsoft and Tuskegee to get things streamlined.

Let's develop an on line file that outlines what is being developed and a time line of how to evolve. Keeping in mind that this is a pilot program.

We need to show that we can move data from sensors to users in near real time.

Objective 2 is to assess marketed WUE hybrid maize lines and provide producers data through DIRECT4Ag platform. We need to place sensors to track water, water quality, soil moisture data and other metrics. We would like to fly over and gather this data.

Typically these entries go in to a spreadsheet. We'd like to use side by side data to show the producers what the pilot program can do to improve their yield.

Objective 3 – evaluate and disseminate maize productions management strategies for environmental and economic sustainability using the Direct4Ag platform. Complement other on-farm work, logistics of sensor deployment (NITRATAX-Plus SC)

Cover crop model validation, Tuskegee sites

Getting a hold of sensors seems to be stuck in the Covid supply chain.

Andrew is getting data from his sensors through the cloud. Try Meter Group for water activity meters.

There has been a lot of research done with cover crops using the DSSAT model to provide validation.

Lowell Gentry will have three sensors available and is planting wheat and cereal rye. Questions were asked about how cover crops are planted. One way is to plant while you harvest. .Lowell is sampling above ground biomass with his cover crops.

We can set up a simulator and check real farms to see what's happening in real time.

Try to measure C:N ratio with biomass.

Tuskegee would also like to have sites with remote sensing and nutrient loss.

Objective 4 – deliver extension education to large and small scare producers on data access and uses through the Direct4Ag platform.

We would like Direct4Ag to be a way for producers to communicate with each other through a project dashboard blog.

Logistics – Project coordination, Field site coordination, data coordination, mode of communication

How do we communicate? Slack, email, one drive?