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**Innovation Grant Progress Report**

PROJECT TITLE: Interseeding Cover Crops into V6 Corn while Side-Dressing Nitrogen

REPORTING PERIOD: December 2018

FARMER INNOVATOR: Keith Hartmann

COLLABORATING ORGANIZATION/PERSON: Nate Firle, CCA-AgRevival

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1. PROJECT ACTIVITIES COMPLETED DURING THE REPORTING PERIOD. (*Describe project progress specific to goals, objectives, and deliverables identified in your project proposal.*)

From the replicated, side by side interseeding vs. check plot (180’ x 1285’) , I collected stalk nitrate samples, harvested and weighed the grain, took 24’ deep late season soil nitrate samples and a cover crop biomass sample.

1. IDENTIFY ANY SIGNIFICANT FINDINGS AND RESULTS OF THE PROJECT TO DATE. (*There may be none to report at some stages of the project)*

Stalk Nitrate Results: At physiological maturity (black layer) I took stalk nitrate samples from each of the 6 test strips. Due to the high amount of moisture during the growing season, most of the stalk samples had a significant amount of stalk rot making the samples inaccurate. According to the results, both the Interseeded cover crop and No cover crop strips tested “Marginal” in their Nitrogen content. This test has been widely variable during the 3 year trial and hasn’t had a strong correlation to yield for determining the effect of the interseeded cover crop.

Yield: The plot average was Interseeded Cover Crop: 184.6 vs. No Cover Crop 184.2. A difference of .4 bushels/acre is not statistically significant in a plot this size. The cover crop did not negatively affect the corn grain yield. This has been consistent all 3 years and supportive to the interseeding practice.

24” Deep Soil Nitrate test: This test showed the most consistent and exciting results this year due in part to the excellent fall growth of the cover crop. The plot average for nitrogen left in the soil under the Interseeded Cover Crop was 29lbs/acre vs. No Cover Crop 45.9lbs/acre. A difference of 16.9lbs/acre shows that the cover crop had adsorbed that excess nitrogen and was holding it in plant form.

Biomass: After the first hard cover crop killing frost (less than 20 degrees F for 20 hours) I clipped a 1 square foot representative sample of the cover crop at the soil surface and weighed the dry matter. Results: 3,296 lbs/A of cover crop dry matter.

3.) CHALLENGES ENCOUNTERED. (*Describe any challenges that you encountered related to project progress specific to goals, objectives, and deliverables identified in the project proposal.*)

Poor stalk quality while cutting stalk nitrate samples. The amount of rot found in the lower 14” of the corn stalk made that test inaccurate.

1. EDUCATION AND OUTREACH ACTIVITES. *(Describe any opportunities to engage with farmers, influencers or the media about your project.)*

September 13th, 2018: Co-hosted a plot day with AgRevival in Gibbon, MN. I showcased my interseeder and had an interseeded corn and soybean plot on display for the 80 attendees. My presentation included soil health and cover crop principles, the first 2 years interseeding results and sponsor recognition. The MN Corn Growers Innovation Grant being one of those.

During the plot event, I interviewed with Peter Scharpe from the *Minnesota Farm Guide* and Paula Mohr from *The Farmer* magazine. I discussed my 3 year research project, results from the plot event and highlighted the importance of my grant sponsors.

1. HOW CAN WE HELP? *(Please let us know how we can improve the experience or assist in your project if possible.)*

Thank you for your continued support of the Innovation Grant Project. I would not have been able to accomplish and replicate my interseeding project at a farmer level scale without your support.