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**Progress Report**

PROJECT TITLE: Farmable Vegetative Buffers

PROJECT NUMBER:

REPORTING PERIOD: Nov 1 2017– Jan 31, 2018

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

All yield data from the first year of the study have been compiled and statistically analyzed, and the laboratory analyses of all plant and soil samples have been completed. Results have been reported in several outreach activities, and plans have been made for the 2nd year of field research in 2018.

In order to cope with the loss of our primary kura field at Rosemount, which is on land that the University is selling, we seeded a new 40 acre field on DNR land that is managed by the University. That field was seeded in August following harvest of winter wheat. Seeding was later than planned due to wet conditions, so reseeding may be necessary in spring 2018.

The kura clover seed that we harvested from the remainder of the original field has been cleaned and tested by Werner Seed. They divided it into two lots – 2400 lb of 99.8% pure, 93% germ rate, and 804 lb pf 93% pure, 85% germ rate. We are working to find a seed producer interested in using some of this to begin commercial kura seed production. Albert Lea Seed House is assisting us in this effort.

2.) IDENTIFY ANY SIGNIFICANT FINDINGS AND RESULTS OF THE PROJECT TO DATE.

We found that in 1st year corn following kura clover (corn planted into established kura clover using zone tillage), there was no response to added N, i.e. – no significant differences in yield across the range of applied N from 0 to 223 lb acre-1, with yields averaging approximately 200 bu acre-1. For second year corn in kura living mulch, yields were optimized at an N rate of 107 lb acre-1, well below U of M recommendations. Stover yields followed the same trends as grain yields. Residual soil N at the end of the season was consistent with these results, i.e. – at optimum N rates (0 for 1st year, 107 for 2nd year) there was very little residual N susceptible to off-season leaching. These results are summarized in an attached brochure.

Our seed yields on kura clover were much higher this year than they were the first time we produced seed. We believe the difference was due to mowing at a slower speed, to minimize shattering.

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

We still have not identified a producer who would allow us to put in some demonstration living mulch buffers. We talked with several people about this at both the MN Short Course and Ag Expo, but nothing is finalized yet.

4.) FINANCIAL INFORMATION (*Describe any budget challenges and provide specific reasons for deviations from the projected project spending.*)

Project is on budget thus far. However, we need confirmation of the 2nd year of funding in order to conduct the second year of the field research and to continue the assistantship for the graduate student (Alexander) who is working on the project.

5.) EDUCATION AND OUTREACH ACTIVITES. *(Describe any conferences, workshops, field days, etc attended, number of contacts at each event, and/or publications developed to disseminate project results.)*

*Dr. Baker made two presentations at the U of M Short Course on Crop and Pest Management in December describing this research project within the overall context of living mulch systems and the buffer law. Dr. Venterea and Grad student Jon Alexander presented a poster describing the project at the MN Ag Expo in Mankato, Jan. 25, 2018.*

*We also prepared a brochure (attached) describing the research that was distributed at Ag Expo.*