

**Minnesota Soybean Research and Promotion Council (MSR&PC)**

Date: May 13, 2021, Final Year-End Report, 2020-2021 MSR&PC Grant

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Title of Research:

SMSU Student Introduction to CCA Using Classroom and Field Education

Purpose and Organization of the Final Year-End Report

At SMSU, we view the submission of our 2020-2021 MSR&PC Year-End Report as an opportunity to explain our project results in relation to our proposal’s original goals and objectives.

We are very grateful for the MSR&PC’s support and encouragement of our project. From the very beginning, strong guidance from MSR&PC’s Research Director, Dr. David Kee, as well as helpful assistance provided by Beth Roemhildt and Sara Hewitt have helped us greatly as we have strived to fulfill our project objectives.

In an effort to highlight the key project findings and deliverables, we organize our report, as follows:

* Executive Summary
* Project Goals, Outcomes, Successes and Challenges
* Benefits and Educational Impacts of Project Networking and Communication
* Lessons Learned and Future CCA Educational Programs

Executive Summary

The primary goal of SMSU’s 2020-2021 MSR&PC project is to create and promote an educational program that helps our students prepare to take and pass the Certified Crop Advisor (CCA) examination.

The major components of our project’s CCA educational programming effort are:

* SMSU faculty contacted representatives of the Minnesota Certified Crop Advisors (MCCA) organization and the American Society of Agronomy (ASA) to obtain resources and official materials that we could share with our SMSU students to increase awareness of the importance and relevance of CCA certification.
* In February 2020, before Pandemic restrictions were implemented, SMSU invited Dr. David Kee to visit directly with SMSU students, and help them realize the value of pursuing CCA Certification.
* In the beginning of Fall Semester 2020 at SMSU, SMSU Agriculture Faculty and the SMSU Ag Club used both class and meeting times to make students aware that CCA educational workshops would be offered. These workshops were scheduled to occur in both Fall and Spring to help interested students prepare to take the CCA Exams.
* SMSU students participated in the faculty-taught workshops in late November 2020, and also in early April 2021, just before the exams were administered. Because of the COVID-19 Pandemic, SMSU offered the workshops both in-person (socially distanced and masked) and on Zoom.
* The ASA assisted us by scheduling a test-time set-aside especially for students in April 2021.
* As we explained when SMSU filed for a No-Cost Extension (NCE) of our 2020-2021 project, a number or the activities originally planned for our project could not happen. We submitted a re-budget proposal, and it was approved through the NCE process. One aspect of SMSU’s re-budgeting process was to increase the subsidy from the grant to help students with the cost of the CCA examination fees. SMSU students who registered for the both the International and Minnesota CCA exams paid $25 each to sign-up for the exams, and the MSR&PC grant covered the remainder of the students’ exam fees.
* Seven SMSU students registered to take both CCA exams, and the ASA proctored these tests remotely because of the Pandemic during the week of April 14-20, 2021. Only six SMSU students actually took the exams. One student successfully passed the Minnesota CCA exam. No other SMSU student passed either the MN or the International CCA Exam during the April 2021 testing period.
* The SMSU students who took the exams were disappointed, but not defeated. They are ready to try again in either Fall Semester 2021 or Spring Semester 2022.
* SMSU faculty will research new teaching and learning strategies in an effort to help students have a higher success rate when they take the CCA exams again in the upcoming academic year.

Project Goals, Outcomes, Successes and Challenges

*Project Goals.* As described in the Executive Summary above, the main goals of our CCA Educational Project are to:

* Increase awareness among SMSU students, faculty and staff about the value and relevance of CCA Certification.
* Encourage SMSU students to participate in educational programs designed to enhance preparation for taking and passing the International and the Minnesota CCA certification exams.
* Encourage SMSU faculty and other outside experts to create and deliver educational workshops to assist students as they ready themselves to take these challenging CCA exams.
* Provide a financial incentive, and help students on limited budgets, to be able to afford the examination fees, by using grant funds to defray the cost of those fees.
* To help students, faculty and staff understand that full CCA Certification goes beyond passing the examinations. It is necessary to gain hours of relevant agronomic experience, and also pursue continuing education to maintain the currency of the CCA Certification over time.

*Project Outcomes.* An important objective for our 2020-2021 MSR&PC Grant is to encourage SMSU students actively prepare for CCA certification. A key outcome is to have our students actually pay a portion of the exam fees, register for the CCA exams, take the exams and then determine their pass/fail rate on the exams.

Below is a list of our project outcomes:

* As indicated earlier in this report, seven SMSU students registered for both the MN and the International CCA Exams. The ASA arranged that our SMSU students could take the exams in a remotely-proctored electronic format during the week of April 14-20, 2021.
* Six SMSU Students actually took both CCA exams during April 14- 20, 2021. Of those SMSU students who participated in the exams, one student passed the Minnesota CCA exam. No other SMSU students passed either of the exams during the time scheduled by the ASA.
* With the help of the Grant, SMSU scheduled and delivered two workshops to help our students prepare to take the CCA Exams. These workshops occurred on November 20, 2020 and April 6, 2021. During the workshops, we covered topics in the four major test areas of the CCA Exams: 1) Nutrient Management, 2) Soil and Water Management, 3) Pest Management and 4) Crop Management. Our expert consultants who conducted our workshops were Professor Sam Tutt, Dr. Adam Alford, Dr. Tom Dilley and SMSU Alum Jakob Hicks.
* At the September 22, 2020 meeting of the Board of Directors for the Minnesota Certified Crop Advisors (MCCA) Organization, SMSU joined a conference call with the board and explained the goals of our MSRPC-funded CCA educational proposal. The MCCA Board made and passed a motion in support of our educational efforts.

*Project Successes and Challenges.* Similar to all programs at SMSU, and throughout the world, the COVID-19 Pandemic required that we make adjustments in how we implemented our grant-funded CCA Educational Project. As we worked to overcome obstacles, we made some necessary changes, and we can highlight some of the successful results:

* By observing social-distancing, masking and related safety precautions, we were able to conduct our CCA Educational workshops simultaneously in-person and on Zoom.
* By working closely with the ASA, our students were able to take the CCA Exams during April 14-20, 2021 using remotely-proctored electronic technologies.
* Thanks to the availability of the No-Cost Extension (NCE) process for the MSR&PC grant, we used the re-budgeting option to redirect funds within our proposal to decrease support for areas (such as travel and conferences) that were not longer possible because of the Pandemic, and put more emphasis on programs and activities that made sense within the grant (purchasing more exam preparation materials and increasing the financial support to help students to afford the exam fee expenses).

As we view the results of our CCA Educational Project, we also need to address the challenges that we encountered. Fortunately, we have future opportunities to make changes and work towards converting our challenges into successes. Here are the areas where we have a work-in-progress yet to complete:

* While the majority of our SMSU students did not pass the CCA exams administered in April 2021, those same students are ready to take the exams again. Now that they have a “feel” for the rigor of these certification exams, our students will be better able to prepare themselves the next exam offering.
* SMSU will receive additional assistance from the ASA in the form of official feedback on the student performance outcomes that can be reported from the April 2021 CCA exam results. Michele Lovejoy, ASA Program Assessment Manager, indicated via email that an outcomes assessment will be performed and shared to demonstrate how our group of SMSU students did (on average) on the exams.
* Looking further into the future, we would like to anticipate how SMSU can continue to support our students who pass the CCA exams. The ASA sponsors two scholarship programs that provide support for students seeking to gain even more value from CCA Certification. In this regard, SMSU received an email indicating that Lauren McCann ([lmccann@sciencesocieties.org](mailto:lmccann@sciencesocieties.org)) and Susan Chapman ([schapman@sciencesocieties.org](mailto:schapman@sciencesocieties.org)) in the ASA membership department will help SMSU promote student participation in the ASA’s GO and Greenfield Scholars programs.
* At SMSU, a more flexible exam schedule can help our students prepare-for and take the CCA exams when they are ready. In a recent email, Michele Lovejoy informed us that the International CCA Exam is now available as an on-demand test. This new arrangement means that an individual can take this exam at any time. The registration link can be found here on [https://www.certifiedcropadviser.org/exams/registration](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.certifiedcropadviser.org%2Fexams%2Fregistration&data=04%7C01%7Cgerald.toland%40smsu.edu%7C1dd7057bdaab4619928508d91550db05%7C5011c7c60ab446ab9ef4fae74a921a7f%7C0%7C0%7C637564259838259941%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C2000&sdata=ZWcAi1ASC%2FTLkj29Dh6NhJj9rQc5KTWreIr%2BivvY1Y4%3D&reserved=0). ASA will be also be working diligently to launch local board exams to become on-demand as well.

Benefits and Educational Impacts of Project Networking and Communication

During Fall Semester 2019, we benefitted tremendously from expert advice and correspondence, when were in the initial stages of developing our grant proposal to create a CCA Educational Program.

On October 8, 2019, SMSU faculty participated in a telephone conference call with these ASA personnel at located at Madison, Wisconsin:  Luther Smith, Chris Boomsma, Katie Miles and Eric Welsh. We discussed implementation of CCA training/education for students at SMSU. During the conversation, the ASA representatives did great job helping SMSU to explore how best to begin preparing our students for the Certified Crop Adviser certification.

Steve Sodeman, a CCA-certified crop consultant and a colleague of Professor Sam Tutt participated in SMSU’s classroom seminars during the 2019-2020 Academic Year. Steve also offered us valuable input on how to structure our CCA educational program.

SMSU’s School of Agriculture planned and held its 2nd Annual Agronomy Field Day on August 5, 2020 at the McLaughlin farm just north of the SMSU campus. Dr. David Kee, MSR&PC Director of Research, was one of the guest speakers at the event. Dr. Kee emphasized the importance of educational efforts to help college-level agriculture students prepare themselves to become professionals who are CCA-certified, effective communicators and valuable network-builders.

During Fall Semester 2020 at SMSU, we incorporated CCA materials into our Pest Management, Crop Production and Precision Agriculture courses. We also promoted the importance of the CCA Certification through the SMSU Ag and PAS Clubs.

In Spring Semester 2021, SMSU worked closely with ASA’s Michele Lovejoy to make all the arrangements necessary for our students to take the CCA exams remotely during April 14-20, 2021.

Lessons Learned and Future CCA Educational Programs

Thanks to outside expert advice, and the workshops made possible by our 2020-2021 MSR&PC Grant, agriculture students at SMSU now have a greater awareness of the value and importance of CCA Certification. But we have more work to do.

As we look to the future, we know that we will need to make additional efforts and try-out different educational strategies, as we prepare some of our students to re-take the CCA exams, and also encourage additional students to take the exams for the first time too.

Thanks to an opportunity to seek additional funds for the upcoming 2021-2022 Academic Year, SMSU was awarded a second MSR&PC Grant. The title of this nest project is: Phase II: *Applying Classroom and Field Education Experiences to Enhance Student Participation and Success in CCA Certification.*

We will seek additional input from sources inside and outside SMSU on how best to structure our CCA Educational Curriculum to encourage students to engage in disciplined preparation, and increase the potential to pass these challenging exams.

SMSU recently used email to reach-out to Dr. Greta Schuster, Professor of Agronomy and Integrated Pest Management at Texas A&M University – Kingsville (TAMU-K). Dr. Schuster and her colleagues are also seeking to develop a curriculum that will lead students towards CCA Certification. SMSU and TAMU-K will work together, compare notes, and share ideas on how best to prepare students to become CCA Certified.

At SMSU, we are very grateful to the MSR&PC, and all our supporters, as we work to improve the quality, rigor and relevance of our agricultural programs. It is an exciting and worthwhile enterprise, and we look forward to making genuine progress in the coming year, and beyond.