

Project Title: CA Community College Program Expansion: CA Secure Food Supply (SFS) Enhanced Biosecurity Plans

<p>Project Profile</p> <p>Cooperator: University of California (Davis) Project ID: Agreement ID: FAIN: AP22VSSP0000C025 Award Amount: \$ 502,156 Agreement Period: 4/1/2022 – 3/31/2024 Project PI POC: Bennie Irve Osburn Financial POC: Bennie Irve Osburn VS Program Manager:</p>	<p>Project Summary</p> <p>The WIFSS team at UC Davis will work collaboratively with two Hispanic serving institutions (HIS) to develop teaching materials and on-farm, experiential learning activities on enhanced biosecurity practices that will be integrated into existing community college certificate and degree programs. The community colleges that will be participating in the project are San Joaquin Delta College (SJDC) and Woodland Community College (WCC). The content of the newly developed community college curriculum will be derived from educational materials already developed by WIFSS and CDFA to assist farmers in the development of enhanced biosecurity plans that comply with the California Secure Food Supply program; a project funded by a 2019 USDA NADPRP grant. The newly proposed project will utilize the deliverables from the 2019 project and extend their impact. The new curriculum will give current college students in-demand job skills of writing enhance biosecurity plans and consulting on biosecurity for animal agriculture farms. Faculty from each college, along with other community college stakeholders, will help WIFSS staff adapt the current materials for use in existing college classes. This team will also interface with CDFA and the CA dairy industry to ensure that the skills taught will benefit CDFA and dairy farmers, and contribute to workforce development. College students who complete the new curriculum will complete on-farm experiential learning events that provide hands-on experiences including setting up and practicing essential biosecurity activities on an actual working dairy farm, and tours of poultry farms as a demonstration of existing enhanced biosecurity.</p>	<p>Report Date 10/1/2022 – 12/31/2022</p> <p>Completion Score (Project is active)</p> <p>Budget Status 25.6% Spent</p>
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Project Update

Objectives	Completion Score (0-10)	Major Project Milestone Achievements
<p>1. Create one (1) enhanced biosecurity curriculum framework that will articulate with existing community college programs at both Woodland and SJDC by the end of month 5 (July 31, 2022).</p>	<p>10 (Project completed)</p>	<p>See Activities Completed This Quarter for further details.</p> <p>Objective 1 Create one (1) enhanced biosecurity curriculum framework that will articulate with existing community college programs at both Woodland and SJDC by the end of month 5 (July 31, 2022).</p> <ul style="list-style-type: none"> This objective was completed in Q2. The framework can be viewed by following this link: https://ucdavis.box.com/s/r0g33ld8hecpnxik5vmnbjgke1uddigo <p>Objective 2 Synthesize fifteen (15) new online learning modules, learning activities, and/or video-based teaching aids on enhanced biosecurity theory and practice on-farms by the end of month 9 (December 31, 2022).</p> <ul style="list-style-type: none"> 2.2: Team members have completed a total of 22 teaching components. For a breakdown of the module components that have been completed to date, please view the attached Google sheet: https://ucdavis.box.com/s/xun6nlkdg2kd7pl1yljzqc7lzc8oc93q 2.3 – 2.8: The curriculum development steps outlined here are being followed as each module/learning activity is being developed. 2.9: The presentation of the project was completed by Brandi Asmus and Candice Stafford-Banks at the mid-winter meeting of the California Agriculture Teachers Association (CATA). 2.9: Our team had planned to have the conference attendees review and give feedback on the materials at this event, but we have decided to proceed differently. The newly developed materials will be used by our project instructors in their classes in the Spring 2023 semester, and we will adjust the materials as needed based on how the students interact with the lessons and learning activities. Once the materials have been used with students, they will be made available through Canvas LMS to other CA community college instructors, and through another shared database for college instructors outside of California who may not have access to Canvas.
<p>2. Synthesize fifteen (15) new online learning modules, learning activities, and/or video-based teaching aides on enhanced biosecurity theory and practice on-farms by the end of month 9 (December 31, 2022).</p>	<p>(Project is active)</p>	

		<p><u>Objective 3</u> Train at least sixty (60) college students on enhanced biosecurity so that they can demonstrate knowledge and skills by passing formative assessments with a score greater than or equal to 70%, and complete on-farm enhanced biosecurity activities scored by SMEs using a rubric. All student training and assessment will be completed by the end of month 21 (December 31, 2023)</p> <ul style="list-style-type: none"> • The community college faculty are preparing to implement the new course materials starting in January 2023 (Spring 2023 semester) • The course syllabus is being updated to include the new learning objectives and project plans
<p>3. Train at least sixty (60) college students on enhanced biosecurity so that they can demonstrate knowledge and skills by passing formative assessments with a score greater than or equal to 70%, and complete on-farm enhanced biosecurity activities scored by SMEs using a rubric. All student training and assessment will be completed by the end of month 21 (December 31, 2023)</p>	<p>1 (Project is active)</p>	

<p>4. Publish one (1) article on the development of the curriculum and the delivery of the new course materials and experiential learning activities.</p>	<p>1 (Project is active)</p>	<p>Objective 4 Publish one (1) article on the development of the curriculum and the delivery of the new course materials and experiential learning activities.</p> <ul style="list-style-type: none"> • Discussions with Dr. Osburn about the article have begun; an outline will be generated in Q3 or Q4 • The article will be written for an educational journal
<p>Next Steps</p> <ul style="list-style-type: none"> - (new) Teach the newly developed modules - (new) Finalize minor changes made to the curriculum framework (in a few areas the topics were expanded and learning objectives were adjusted to reflect the expanded content) - (new) Complete the development of additional course materials that we've decided to add to the list of deliverables for this project. - (carry over from Q3) Complete the design of on-farm experiential learning activity - (Carry over from Q3) Finalize the updates to the course syllabi that will be used in Spring 2023 semester - (carry over from Q3) Finalize the changes to the Canvas course 		

Activities Completed This Quarter

List activities completed in the last quarter. These should align with items listed in the project Work Plan under the plan's action section.

Major Project Milestone Achievements

Objective 1 Create one (1) enhanced biosecurity curriculum framework that will articulate with existing community college programs at both Woodland and SJDC by the end of month 5 (July 31, 2022).

- Milestones 1.1, 1.2, 1.3, and 1.4 were completed through the collaboration between UC Davis staff and community college (CC) faculty. The curriculum framework is available for review and was submitted along with this report.

Objective 2

- Project landing page created that catalogs the two projects that WIFSS has been working on for USDA NADPRP program since 2020: <http://www.wifss.ucdavis.edu/nadprp-landing/>
 - Current project page: <https://www.wifss.ucdavis.edu/nadprp-22-24/>

- The above project webpage includes a form to collect faculty information so that we can establish a distribution list to keep people informed of the progress of the project and disseminate the completed course materials when they are ready for sharing. It also includes the personnel involved in the project, a project executive summary, the project objectives, and the past project reports.
- Our project leaders presented at the CATA conference:
 - The conference is an annual, focused Professional Development conference for California Community College Agriculture and Natural Resources faculty and deans. It is hosted by regions across California, to allow for faculty to use examples of agriculture outside of their college region. We have consistent discussions around Curriculum (new projects like WIFSS) that allow for distribution of cutting-edge materials; Student Leadership - we host 2 activities each year for students to engage with other CC students; Vision - looking to what the industry will need in the future; and Inservice - planning professional development at Summer Conference and Midwinter. The conference was attended by 74 participants.
 - Dr. Bennie I. Osburn and Heather Johnson gave an overview of the Western Institute for Food Safety and Security (WIFSS) and One Health. The presentation included a quick tour of the WIFSS website and the catalog of resources that are available to high school and college instructors through our website. <https://wifss.ucdavis.edu/>. Attendees completed evaluations. The results showed that 77% of the participants rated the WIFSS presentation “Good-Excellent”.
 - Brandi Asmus and Dr. Candice Stafford-Banks gave an overview of the project as part of their presentation during the curriculum breakout session.
 - It was noted that faculty would like additional experiential learning activities to be added to the conference. They currently participate in field trips to local farms which are described as being very beneficial. UC Davis recognizes our ability to develop and offer workshops and/or tours of the campus veterinary medicine and agriculture and environmental science facilities on campus to add to the conference learning experience for the faculty and deans who attend.
- Educational materials completed in Q4 of 2022 include:
 - For a detailed breakdown of the modules and materials completed, or being completed, please see the attached Google sheet: <https://ucdavis.box.com/s/xun6nlkdg2kd7pl1yljqc7lzc8oc93q>
 - Note: The “Secure Food Supply” module was expanded to include a broader overview of biosecurity in addition to teaching about the Secure Food Supply (SFS) program.
 - Note: The “Specific On-Dairy Biosecurity Practices” module is being repurposed and will be incorporated into the experiential learning activity. This activity centers on a visit to a working dairy farm. While on the farm, students will learn about the biosecurity practices in place, and how those would be enhanced in the event of an animal disease outbreak.

Significant Changes from the Work Plan

Describe major deviations from the original project work plan. Significant changes in the project objectives, sub-objectives, deliverables, and outcomes must be approved by the Program Manager.

- Objective 2: Curriculum development will continue into Q1 of 2023. At the end of Q4 of 2022 we have completed 22 components that will be used to teach biosecurity and enhanced biosecurity principles in the college classes taught by our project college instructors. The materials that will be developed in Q1 of 2023 are in addition to the amount that we committed to building in the original proposal, but are essential to creating a well-rounded, comprehensive set of teaching materials that will be useful to other instructors.
- Objective 2: The work plan initially included SME review and feedback in objective 2. We have decided to use the newly developed materials with students in the Spring 2023 semester before providing them to other college instructors and asking for input or review. Our instructors and developers would like to complete the pilot delivery of the new materials ourselves and make any needed changes/adjustments that we identify first. After we share the materials with other instructors, we may solicit input from them, and possibly make other adjustments to the materials in the final quarter of the project if time permits.
- Objective 3: The team had planned to create the on-farm experiential learning activity in the fall of 2022, but we have decided to create that activity during the spring semester of 2023 so that it can be customized for the students who will be completing the activity. We determined that creating in advance was not efficient because it would need to be adjusted following the students' performance on the other learning activities that will lead up to the on-farm, experiential learning activity.

Success Stories

Please share any unique event, outcomes, or evidence of positive change related to the project that provides a narrative for project success. This includes any story related to the project that paints a picture of a situation, provides background information, or shares activities associated with the project that do not qualify for reporting elsewhere in the report.

- (Q4) – In the 4th quarter of 2022 our team was successful in putting together materials for our course and meeting the minimum requirement outlined in the grant proposal. We also successfully framed out the Canvas LMS site that will be used to house the course materials when all is complete. We are pleased that we've been able to outline additional teaching materials and learning activities that will be built in addition to what we committed to build in the proposal. This will result in a much more complete and robust curriculum that will be useful in teaching about biosecurity and enhanced biosecurity on farms where poultry and livestock are raised. We feel that the course materials will be useful to other faculty at other colleges in California and in other states. We look forward to promoting the availability of the course materials and have created a project landing page with a form that people can complete to be added to our mailing/distribution list so that when everything is ready and available, they will be notified.
- (Q4) – Attending the CATA midwinter conference was a great opportunity for networking, sharing our project report, and learning about other projects that are complimentary. We met Dr. Sharon Freeman at Fresno State University who has created an educational program for high school and community college agriculture students using the Agricultural Experience Tracker (AET). This is a tool that many 4-H and agriculture students in high school and college are using to track the educational experiences that they are having that are in addition to their formal, in-class education. We plan to meet with Dr. Freeman in January or February to discuss how we can learn from them about

using the AET with our training and experiential learning activities. We believe that this possible partnership with Fresno State will be mutually beneficial to UC Davis, Fresno State, and the community college and high school agriculture programs that will be using our course materials.

- (Q4) – At the CATA midwinter conference we learned that the faculty in CA is looking for hands-on experiential learning activities that they can participate in themselves as a form of continuing education. We plan to open up the on-farm experiential learning activity that we are building to teachers at nearby colleges and high schools in northern CA. In doing this, we will be “training the trainers” who can then take these lesson plans and modify them for their own purposes in their classrooms.
- (From Q3 report) - As was mentioned above, we have the opportunity to work closely with CDFA on the creation of a module that will satisfy part of the curriculum framework while also ensuring that the content being taught in class is the most up-to-date material on the subject of the secure food supply program.
- (From Q2 report) - As we move forward with the creation of the course materials to satisfy the objectives of this project, our team continues to look for opportunities to further develop a complete certificate and/or degree program in on-farm biosecurity that could be delivered through the community college system. The program would be based on needs assessment data and specific needs from the industry following the community colleges well-established system for evaluating community needs. The mission of the community college is to serve the local community first and foremost. We believe in this mission and are looking for opportunities to help develop the agricultural workforce in communities where agriculture is a major industry. We also aim to strengthen the working relationship among institutions of higher learning from the community colleges to the universities to state and county agricultural departments. Funding for workforce development projects will likely become available during the course of this project and we plan to gather information from the industry and college administration to help us better understand the needs that a certificate and/or degree program in on-farm biosecurity could meet.