

# BIOAg Final Project Report

Title: Strategic Development of the Organic & Sustainable Agriculture Major at WSU Everett

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## Abstract:

The goal of this project was to develop innovative approaches to delivering the Organic & Sustainable Agriculture major (previously known as the “Organic Agriculture Systems” major) at the new WSU Everett campus. This major focuses on sustainable approaches to agriculture, and its initiation at WSU Everett provides opportunities to train competent, sustainability-focused students for agricultural careers in western Washington. This project aimed to evaluate the current program in Pullman, identify needs and skills required for successful student experiences and job placements, and determine future strategies for supporting sustainable agriculture education at WSU Everett.

## Project Description:

In this project, we: (1) carried out surveys and focus group interviews of current Pullman Organic & Sustainable Agriculture students to identify student needs and areas of improvements, (2) researched and surveyed potential agricultural industry employers in Washington to identify career paths and expected skills, and (3) proposed a strategy to support the growth of sustainable agriculture education at WSU Everett.

## Outputs

- Overview of Work Completed and in Progress:
  1. A comprehensive report detailing the results of the research was developed and provided to CAHNRS leadership. This report includes results from student surveys, feedback from alumni, and an overview of the state’s agricultural industry needs in new employees. Images from this report can be found in Figures 1 and 2 below.

## STUDENT SURVEYS

### Methods

Students were recruited by sending an email link to the Qualtrics survey via their academic advisor. Students were given a \$10 gift card after completion of the survey. Survey participants were instructed to skip any questions that they were not comfortable answering.

### Results and Discussion

Survey respondents included 1 Freshman, 4 Sophomores, 3 Juniors, and 4 Seniors. Four of these students also indicated plans to pursue a horticulture minor, with one of those four also pursuing a soil science minor. Another student had a second major in Fruit and Vegetable Management, while another student had a second major in Landscape and Greenhouse Management. Finally, one student noted that they were also getting a second degree in Business Management. Six of the students indicated agricultural experience (family farm, prior employment, 4H, or FFA) prior to attending WSU. Specific metrics regarding overall student satisfaction of the program were also collected and are illustrated in Figure 1.

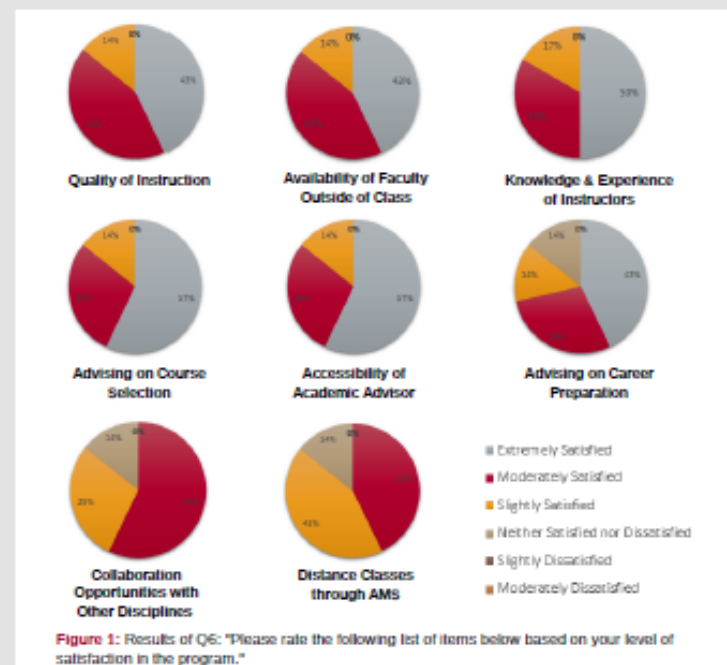


Figure 1: Page 2 of the final report that visualizes the results from student surveys.

## AGRICULTURAL JOB SEARCH (CONTINUED)

### Career Hard Skills Assessment

Hard skills were also analyzed to determine which skills would make graduates most competitive in the job market. These results can be found in Figure 4.



### Industry Employer Key Findings:

- There are employment opportunities statewide for graduates of agricultural disciplines
- Internships in related fields are key for future employment opportunities
- Business skills may be important to some employers, but basic computer skills, sales & marketing, and crop nutrition knowledge are more widely valued by employers in this study
- Communication skills are by far the most high valued soft skills by employers

Figure 2: Page 11 of the final report that illustrates the key hard skills required for graduates of agricultural degree programs and conclusions from this portion of the study.

- Methods, Results, and Discussion (discussion for final reports only):
  - More detailed methods, results, and discussion regarding this research can be found in the report previously referenced.
  - **Methods:**

For the student surveys, students were recruited by an email link that led to a Qualtrics survey. Students were given a \$10 gift card after completing the survey. In addition, a focus group was held with current OSA students in Pullman. Alumni of the program were also contacted by email and were given a \$15 gift card incentive for completing the survey. Industry practitioners were also contacted and offered a \$25 gift card for survey completion. Due to low industry responses, an alternative strategy was devised that involved collecting data from agricultural job postings on Indeed.com. The information gathered from this online search included job location, educational requirements, desired soft skills, desired hard skills, and employer organization type.

- **Results and discussion:**

Overall, current OSA students in Pullman are satisfied with the major and have had positive experiences. However, some students indicated that some improvement could be made with advising on career preparation and collaboration with other disciplines.

Alumni were difficult to reach, as many of their collected email addresses are no longer active and longitudinal tracking has proved to be a time intensive task. The OSA program at Everett should anticipate these challenges and work on creating a strategy to keep in touch with graduates of the program. Both current and past OSA students indicated some benefit to collaboration with a business program such as Hospitality Business Management, with one alum stating that such collaboration “could have changed [their] career direction”, though others clearly indicated that they would not be interested in such an opportunity.

Discussions with current and past OSA students indicate that the coursework, instruction, and advising generally meets or exceeds the expectations of those interested in the field. The students in this major have a wide variety of interests and post-graduation plans, including but not limited to: attending graduate school; working in the tree fruit industry; and starting an independent farming business. It is important that students begin to consider their career paths early and find an internship experience that aligns with their goals.

The survey responses from the agricultural industry were limited and therefore have limited use. However, many response themes relating to both soft and hard skills corresponded to the data collected from the online agricultural job search.

The online agricultural job search demonstrated that there were agricultural job opportunities available statewide. There were 38 positions analyzed on two separate dates. Out of the 38 positions, 11 of them were from a government or non-government organization, 4 were from an educational institution, and 23 were from private industry. An undergraduate degree was required for 24 of the positions and preferred for 10 of the positions. Related work experience was stated as important in 24 of the postings. The most important soft skills included: “written and verbal communication”; “ability to work independently”; and “ability to work with others”. The most important hard skills included: “basic computer skills”; “sales and marketing”; and “crop nutrition and fertilizer knowledge”.

Though not every student or employer emphasized the importance of business knowledge, a significant portion indicated that a business skillset would be useful. Collaboration with HBM at the Everett campus would be a logical choice to give OSA students additional skills to be successful after graduation. This could be achieved with an HBM option as part of the OSA major or by creating an agribusiness minor that combines topics such as “farm-to-table” and “agritourism”.

- **Publications, Handouts, Other Text & Web Products:**

- The results were compiled into a final report and provided to CAHNRS administration. Results from this study also informed curriculum proposals that were submitted to CAHNRS administration in Spring 2019 to aid in the growth of WSU Everett.

- Outreach & Education Activities:
  - This study helped inform grant proposals that were collaborative efforts of WSU Everett, WSU Mount Vernon NWREC, WSU Extension, and regional community college faculty. Though these proposals were unsuccessful in gaining funding, the increased amount of collaboration among these groups may lead to future work together and will hopefully benefit the students of the WSU Everett OSA program.

## Impacts

- Short-Term:
  - Increased knowledge of student experiences within OSA major
  - Increased knowledge of current employment opportunities for graduates
- Intermediate-Term:
  - Assistance in plans for the growth of WSU Everett sustainable agriculture programs including recruitments strategies and additional curriculum proposals
  - Increased collaboration with regional sustainable agriculture education institutions
- Long-Term:
  - Guidance for development for future western Washington programs for higher education including a template for program assessments

## Additional funding applied for/secured:

- USDA NIFA Higher Education Challenge (HEC) Grant Program
  - Application Years: 2017, 2018, 2019
  - Proposal Title: *Establishing an Experiential Learning Pathway to Increase Student Preparedness and Diversity in the Agricultural Sciences*
  - Amount Requested: \$299,957 in 2017, \$299,366 in 2018, and \$299,997 in 2019
  - Funding Status: Declined
- NSF Improving Undergraduate STEM Education: Education and Human Resources (IUSE:EHR) Grant Program
  - Application Year: 2018
  - Proposal Title: *Planting Seeds: Developing Pathways for Undergraduate STEM Sustainable Agriculture Education through Early Exposure and Engagement*
  - Amount Requested: \$1,948,724
  - Funding Status: Declined
- USDA Outreach and Assistance for Socially Disadvantaged Farmers and Ranchers and Veteran Farmers and Ranchers Program (2501 Program)
  - Application Year: 2019
  - Proposal Title: *ACE: Agricultural Careers and Education for Western Washington Veterans*
  - Amount Requested: \$292,818
  - Funding Status: Declined

## Graduate students funded:

No graduate students were directly funded with this grant. A graduate student did transcribe the focus group interview, but the student was paid using other funds already secured by Dr. Seo.

## Recommendations for future research:

Future work should evaluate if additional agricultural education opportunities would be successful at WSU Everett. In addition, research how to implement longitudinal tracking of students and alumni would benefit the program by showing the long-term and short-term success of graduates. Lastly, periodic assessments, at least once per decade, should be done to assess programmatic success and strategies for improvement. These should involve students, alumni, and future employers to make sure that programmatic targets are being met.