

19. Applied research in vegetable production: variety trials and produce safety

Mentors: [Seth Urbanowitz](#), [Amanda McQuade](#), [Martha Sullins](#), [Marisa Bunning](#)

Location: Tri River Area (Grand Junction)

1. Mentors

- Seth Urbanowitz, Tri River Area Extension Agronomist;
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- Amanda McQuade, Western Colorado Research Center Program Coordinator;
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- Martha Sullins, Food Systems and Business Management;
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- Marisa Bunning, Professor and Extension Specialist, Food Safety
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2. Region: Tri River Area (Grand Junction/Mesa County)

3. Internship Goals, Scope, and Objectives

This internship will engage the intern in two important aspects of applied research in vegetable production: variety trials and produce safety. The intern will assist Mr. Urbanowitz in an onion variety trial using a randomized complete block design commonly used in agricultural research. The variety trial will require approximately 30 hours during the 10-week internship (with the option of flexing internship hours so that the intern could participate in maturity evaluations and harvesting in September and October, respectively). With the remaining time, the intern gaining hands-on experience in small-scale vegetable production for a farm-to-foodbank program based at the Western Colorado Research Center (WCRC) (4 days/week). Under the mentorship of Mr. Urbanowitz and Dr. McQuade, the intern will apply the practical experience in vegetable production to research and develop a customized farm safety plan that is compliant with the Food Safety Modernization Act (FSMA) (1 day/week).

4. PRU activities included in internship: The cropping systems PRU conducts variety trials with a number of different crops throughout the state. The intern will be introduced to the purpose and structure of PRUs.

5. Learning objectives: Through mentorship and if possible in the timeframe, through professional development learning opportunities in produce safety, the intern is anticipated to learn the following:

- Design, implementation and evaluation of produce variety trial using a randomized complete block design;

- Practical experience in cultivating onion, seasonal vegetables, and tree fruit in Colorado;
- Industry standards around fresh market produce, the Food Safety Modernization Act; and
- The role of Extension Agents and faculty/staff of Agricultural Experiment Stations

6. *Stakeholder Needs*

The Western Slope has seen a decline in the diversity of cropping systems over time. This reduces economic resiliency and vitality, especially when higher value crops are lost. Tree fruit, onion, dry beans and hop acreage has all been declining over the last 20 years. Onion variety trials support profitable production by helping to select varieties that have acceptable yields, exhibit improved disease resistance and are suited to western Colorado's climate. Thus, the project meets the needs of onion producers on the Western Slope. In addition, the internship project will address the needs of the Western Slope community as a whole. Over the past three years, the farm-to-foodbank program at WCRC has grown and donated over 270,000 of fresh produce to hunger relief organizations on the Western Slope. The development of a food safety plan helps ensure that the produce is safe for consumption. The food safety plan also allows the Research Center to provide education and support in the areas of food safety to the producers, students, and community whom we serve.

7. *Mentorship Experience*

Mr. Urbanowitz has mentored an agronomy intern while employed with a farmers cooperative. He learned what the intern's long-term goals were, transferred appropriate knowledge through hands-on experience and connected him with appropriate resources. In three years at WCRC, Dr. McQuade has mentored 12 post-secondary interns in fields such as vegetable production, STEM education, and nutrition. Our philosophy is to provide practical, hands-on learning experiences in the field and challenge interns to apply that information to an independent project. Internships are considered successful when interns learn practical skills and information, while developing as independent, critical thinkers.

8. *Connections with CSU faculty*

Mr. Urbanowitz and McQuade have worked with Martha Sullins and the 2018 CSU Produce Safety Fellowship Program to assist in the development of the WCRC food safety plan. This internship is a continuation of that work.

9. *Housing and Transportation*

Free housing, including utilities and internet access, is available onsite at WCRC. The intern will have a private bedroom and will share a 4-bedroom, 2-bath house with other CSU students. Given the rural nature of the Western Slope, an intern would benefit from

having a personal vehicle, but all internship-related travel within the Western Slope will be covered by WCRC or Tri River Area Extension. The intern is required to cover expenses associated with moving to the Grand Junction area (~1 tank of gas from Fort Collins).