

26. Organic codling moth management project

Mentors: [Frank Stonaker](#), [Whitney Cranshaw](#), [Meredith Shrader](#)

Location: Delta County

1. Name of faculty/research scientist mentor and contact information including Department.

Frank Stonaker; mentor

AES WCRC RSII (70/30 AES/CE appointment) and joint appointment with Dept. Horticulture and Landscape Architecture as Assistant Professor.

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Whitney Cranshaw; co-mentor

Professor and Extension Specialist

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2. In what region will the student be working (county/region/state)?

- a. Delta County, Tri River Area, Western Colorado

3. In less than 150 words, please describe the proposed internship goals, scope, and objectives.

- a. Scope:
 - i. The scope of the project is to identify the reasons why codling moth control is less successful than it has been historically in western Colorado organic orchards and share this information with growers along with suggestions for improving its control.
- b. Goals:
 - i. The intern will become familiar with the value of collaborative research, and the value of stakeholder experience and knowledge in planning an applied research project. The intern will be introduced to opportunities for future livelihood and continued education in the field of applied entomology and tree fruit production.

- c. Objectives:
 - i. The intern will participate in and develop an appreciation for the importance of field research techniques including insect scouting, trap monitoring, sprayer calibration, application accuracy, and the collection and accurate recording of field research data. The intern will understand the importance of clearly identifying goals, processes, and communicating outcomes to a stakeholder audience.

4. Which PRU activities are included in the scope of this internship?

- a. PRU: Cropping Systems

5. What student learning outcomes do you anticipate and are there opportunities for professional development?

- a. The student will have the unique opportunity of working closely with a stakeholder/research/extension team that has a very specific problem at hand. This exposure to a diverse community of participants will illustrate the challenges and benefits of collaborative applied research in the agricultural field, and will better prepare the student for future employment and/or study. This experience will provide the student with what I believe is the purpose of Extension; serving a community need with applied science based research. During the summer, there will be research station field days that the intern will be encouraged to attend. Additionally, a local growers' association (Valley Organic Growers Association) hosts regular gatherings specifically designed to allow area interns to meet one another while touring host farms.

6. How does this internship support identified stakeholder needs in your county/region?

- a. Fruit production is a unique and significant enterprise on the Western Slope, and organic production of fruit is concentrated in Delta County – where the state's highest concentration of organic growers is found. Codling moth is the primary insect pest of apples and pears, and until recently has been effectively controlled using IPM. In 2017 and 2018 there has been a sharp increase in damage by the pest, and local producers and packers are concerned that without improved control organic apple and pear production in the area may not continue to be economically viable. A telephone survey of most organic apple producers in the area, the largest regional apple packing shed, and the region's primary agricultural chemical supplier have all requested that research on this topic proceed as quickly as possible. A student intern will be a great help in the field research, and will have an excellent opportunity to meet the leaders in fruit industry here.

7. What is your experience with mentorship? In less than 100 words, please describe your experience with and approach to mentorship.

- a. In 2019 we enjoyed having an excellent intern from this program. Additionally, for nine years, while managing CSU's Specialty Crops Program (HLA) I employed over 60 student interns that were involved in all aspects of growing and marketing organic vegetables, and participating in applied research projects at CSU's Horticultural Research Station. I am a strong believer that formal education programs need an applied arm, and that internships should provide students with the opportunity to explore their interests while receiving guidance. The experience is a two way street for intern and mentor –each learning from the other.

8. Are there on-going connections with CSU faculty associated with this project, or is there identified faculty interest?

- a. In 2019 we initiated a pilot project with a local grower addressing this issue. This project is now funded (SCBG) through 2022. Frank Stonaker, (30/70 CE/AES position) will be the lead on this project, Dr. Cranshaw will continue to participate as a co-PI, and has agreed to participate as the on-campus mentor.

9. Are travel funds available? Opportunities to provide student assistance with housing?

- a. Travel funds to and from campus will be made available at the beginning and end of the internship. A CSU vehicle will be available for farm visits in the region. Comfortable housing on site will be provided, and may be shared with other students and/or visiting scientists.
- b. The intern applicant must have a valid driver's license.**