

Extension Application for Summer Intern 10 weeks

Erik Wardle, Soil and Crop Sciences, Agricultural Sciences
W005 Plant Science Bldg.
Erik.wardle@colostate.edu
970-491-0447

Associated Mentors:

Troy Bauder, Assistant Deputy Director Agricultural Experiment Station
Todd Hagenbuch, CSU Extension County Director and Agriculture Agent
Christina Welch, Research and Outreach Coordinator, Agricultural Water Quality Program
Emmanuel Deleon, Technical Lead, Agricultural Water Quality Program

The primary internship goal is for the student to contribute to a scientifically sound sampling and data collection process for the summer 2021 field season. This includes supporting the installation, sample collection and maintenance for edge of field water quality monitoring equipment. The student will have the opportunity to gain work experience conducting research in irrigated agriculture and water quality monitoring as well as extension practices. The geographic area will cover the state of Colorado with a primary focus in the Front Range. There will likely be an option to travel pending COVID protocols.

The scope includes the student technician assisting in laboratory, office and field tasks for water quality monitoring projects. Lab activities will include testing and preparation of sensors and data loggers, processing soil, water, and plant samples, data entry, general cleaning/lab upkeep, website maintenance, and other tasks as needed. Field activities include installation/removal of water quality sampling instruments, soil moisture sensors and precipitation/irrigation gauges, soil sampling, and plant growth measurement. In addition, the student may assist with some basic farming operations, work with extension educational materials, conduct literature reviews and help with outreach activities, writing and other project needs.

This applied research project is within the mandate of the Agricultural Water Quality Program. Our program helps to develop and validate agricultural Best Management Practices (BMPs). We are currently expanding the program and therefore the number and extent of field sites. The program is soliciting additional support for the installations, sample collection and processing. The intern will work with a large network of external stakeholders, including but not limited to: CSU Extension, CSU Agriculture Experiment Stations, Colorado Department of Agriculture, and local farmers and producers.

Student learning outcomes are: hands on opportunity to gain research experience in both the laboratory and in the field; professional development opportunities available through networking with stakeholders, and outreach opportunities; improved knowledge and experience with scientific protocols for water, plant and soil sampling.

Students will be trained and supervised consistently with the potential for independent work later in the season. All program members are treated as equals and creative input, energy and ideas are strongly encouraged. The intern will be expected to work both in a team and independently as needed. The team is focused on interns leaving with significant skill and experience in

agronomic research and outreach related to water and soil. No student housing assistance provided. However, travel funds are available if travel is approved and necessary.

Specific deliverables will be determined during the first week of the program. The student's deliverables could include but are not limited to: attaining a drone pilot license; contributing to the publication of one Extension document or factsheet; contribute to social media outreach for the program; assume full responsibility for collecting and processing data from one field site for the duration of the 10 week internship. Additionally, the poster and video deliverable can be tailored to the student's interest in that it could be highly technical or focused more on extension outreach and engaging producers.