**Abstract:**

**Revitalizing Pastures and Controlling Weeds Through Soil Health**

**Exploring alternative cash crops, forages and ground covers that can be grown in the SLV with low and very low water inputs.**

The successful student for this internship will be joining the SLV Area Extension team and will be making a real contribution in conducting two field research trials that have the potential of significant impact on the natural resource health of the Valley, and significant economic impact on our community. In SLV Area Extension, everything we do fosters healthy kids and families, prosperous farm, ranches and businesses, and strong, resilient, proud communities.

Mentor Committee:

Larry Brown, SLV Area Extension Director and Ag Agent

Annie Overlin, CSU Extension Regional Range Specialist

Tom McCracken, Saguache County Commissioner and ag producer

Nitika Cooper, SLV Weed Management Assoc. Director; Center and Rio Grande Soil Conservation Districts Manager

Zach Czarnecki, SLV Research Station Manager

Why These Projects and Why They Are Important:

The San Luis Valley is a major agriculture production area, generating $350-$450 million income per year, and is totally dependent on irrigation. Because of ongoing drought and historically high water use, our aquifer is dropping and we are in danger of the state engineer shutting off irrigation wells and drying up farm land. The economic impact would be devastating, not only to the farmers, but to all the communities in the SLV which are largely dependent on the agriculturally based economy.

Simultaneously, there are exciting new developments and interest in improving soil health. Earlier field trials have shown great promise in both increasing the growth and vigor of desirable plants and controlling weeds by improving soil micronutrients and soil function rather than by use of traditional fertilizers and herbicides.

It is our role as CSU Extension and Research, to help identify these possibilities, take on the risk of doing trials on potential alternative crops and production systems to learn more ourselves, and to engage with our ag producers and communities what we learn.

What Student will be Doing:

The student will have the opportunity to meet and form working alliances with a diverse group of stake holders, including agriculture producers, agri-business owners, CSU Extension agents and specialists, county Commissioners, Conservation District board members, and county weed management professionals. The student will be meeting people who are active in their industry and in leadership roles in their communities.

The student will work directly with the Agent and other mentors, gaining firsthand experience in designing and conducting field research trials and demonstration plots, collecting and analyzing data, and designing Extension educational events to present what we learn to stakeholders. Student will gain boots-on-the-ground experience with soil testing, plant tissue testing, planting and irrigating a crop, and what it means to be an Extension professional.

Location of Work:

All work will be in the San Luis Valley. Housing is available for the student at the CSU Research Farm in Center. Student will be spending office time at the SLV Area Extension office in Monte Vista, and will be doing field work in Saguache, Rio Grande, Alamosa and Conejos counties.

Summary:

We are looking for a student who is genuine, has a good work ethic, who wants to meet and team up with some great people and make a real contribution.