**Summer 2022 CSU Extension Internship Program**

**Job Description/Justification**:

1. Assist San Luis Valley Research Center (SLVRC) staff in the management of potato seed production field.
   1. Monitor growth and development of various seed potato varieties.
   2. Remove (rogue) diseased plants and off-types from field.
   3. Use sweep net to monitor insect populations in seed potatoes and adjacent trap crop.
   4. Report field observations to SLVRC farm manager/assistant farm manager and potato breeding staff.
2. Work with SLVRC assistant farm manager on the use of an Unmanned Aerial System (UAS) to monitor all aspects of potato seed production.
   1. Fly UAS (drone) over potato seed production field weekly to obtain imagery of various growth stages of individual potato cultivars (clones).
   2. Download imagery to a software package for analysis.
   3. Examine processed imagery and look for trends related to variety differences, insect/disease pressure, and moisture stress.
   4. Summarize results and report findings to SLVRC staff and local stakeholders.
3. Meet regularly with SLVRC staff, stakeholders and local CSU Extension agent.
   1. Meet with SLVRC staff mentor a minimum of one time per week (most likely there will be multiple meetings per week) to discuss ongoing project and crop monitoring.
   2. Meet with local stakeholders at least twice during the duration of the internship
      1. An initial meeting to discuss needs and perspectives from a producer’s standpoint as it relates to the scope of the project.
      2. A final meeting with stakeholders to discuss preliminary results from field observations.
   3. Meet with CSU extension agent several times to discuss the potential for a seminar with local producers to evaluate validity of using UAS’s to monitor seed potato growth and development.

**Mentors/Stakeholders/CSU Extension**:

1. Mentors: Zach Czarnecki, SLVRC Farm Manager

Jeff Davidson, SLVRC Assistant Farm Manager

Dr. Mohamad Chikh-Ali, Research Scientist/Plant Pathologist

1. Stakeholders: San Luis Valley potato seed producers
2. CSU Extension Agent: Larry Brown

**Housing and Travel Funds**:

1. Housing is available for intern on site at the SLVRC
2. Travel funds are available for intern’s travel to and from the SLVRC