



**SOUTH DAKOTA  
STATE UNIVERSITY**  
West River Research and Extension

**Master's of Science Assistantship  
Department of Animal Sciences**

**Utilizing precision livestock technology for managing livestock production on rangelands**

**Location:** Based in either Rapid City or Brookings, SD

**Field work:** Summer field work in Cottonwood, SD

**Salary:** \$17,000/yr + tuition waiver

**Start Date:** Spring 2021 (exact date is flexible)

**Expected completion:** May 2023

**Closing Date:** Until position is filled



**Description:** A graduate research assistantship (M.S.) is available within the SDSU Department of Animal Sciences evaluating the use of precision livestock technology to manage livestock and natural resources in a rangeland production setting. The primary objective of this study is to evaluate the influence of stocking rate, grazing management strategies, and forage quality on livestock performance within a rangeland setting. Specifically, this study will utilize GPS collars and daily SmartScale technology to understand the impact of stock densities and changes in forage quality on individual animal performance and behavior. Additional research opportunities may include studying the use of virtual fence technology to inform grazing rotational schedules for improving natural resource management and maximizing livestock production. This project will provide valuable information about incorporating precision livestock technology into rangeland management systems and will play a critical role in translating and communicating essential information to livestock producers who are interested in incorporating technology on their operation. The student will be part of an inter-disciplinary team and will have opportunities for both collaboration with other graduate students and faculty and professional development.

**Preferred qualifications:** Candidates must have a bachelor's degree from an accredited university and a valid driver's license. Students with a background in range science, animal science, or biology are encouraged to apply. Students with a background in field data collection and experience working with livestock are preferred. Candidates should have a strong academic background and an interest in utilizing technology to better understand rangeland and livestock systems. Candidates with strong analytical skills and knowledge or experience using statistical programming software (e.g. Program R or Python) or enthusiasm and willing to learn will be most competitive.

**Interested candidates:** Candidates interested in this position should email Jameson Brennan [Jameson.brennan@sdstate.edu](mailto:Jameson.brennan@sdstate.edu) with the following:

- 1) A cover letter describing your background, qualifications, and career goals
- 2) A resume
- 3) Unofficial transcripts
- 4) Contact information for 3 professional references