

My “Crappy” Summer Job

by Jeanna Jenkins, GLS student

This summer I had the wonderful opportunity, through both the University of Nebraska–Lincoln Extension and the Undergraduate Creative Activities and Research Experiences (UCARE) program to participate in, well, undergraduate research!

I became interested in range management as a career after I attended the Nebraska Youth Range Camp in the summer of 2010. The next summer I went to work for Dr. Bradshaw in the Entomology Department at the Panhandle Research and Extension Center in Scottsbluff. He gave me a majority of the responsibility for a project concerning rangeland entomology, which I found very fascinating. When I came back to work for him the next summer, he asked if I would be interested in doing a UCARE project with him and the post doc he'd just hired. He warned that it would be a “crappy” job, but that didn't deter me much.

My assignment: dung beetles. Dung beetles recycle dung, of course, and we wanted our focus to be on what kind of impact that could have on rangeland. Cattle don't like to eat around their poop (and who can blame them) and most patties are at least 2 feet in diameter. The removal of the dung could open up a lot more

rangeland for utilization. So to start, we looked at a previous study done by Dr. Sean Whipple on the types of dung that are the most attractive to the dung beetles. His study showed that there are different levels of attraction based on the diet fed to the animal producing the waste. So we collected several pounds worth of poop from cattle that had all been fed forage diets of different digestibility values. One was a very high quality cover crop (boy that stuff was runny!). We had two different levels of brome hay, one cocktail hay and a sorghum silage diet. I'm currently in the process of determining the exact digestibility values on those.



Me with my head in one of the traps.



Typical ground beetle found in traps.

It took an entire crew and some heavy machinery to dig all of the holes we needed for our traps; the lack of rain made the ground as hard as asphalt. The traps consisted of a five-gallon bucket buried in the ground,

covered by a lid that was propped up by two 2" x 2" x 1' boards and “baited” with an aerated red solo cup stapled to one board so that it was suspended above the trap. The bottom of the bucket was lightly coated with dirt so that the beetles wouldn't desiccate, although it made a



prime hiding place for snakes, mice and toads that also fell in the trap! Our trial pasture was located in Sidney, NE, at the High Plains Ag Lab, so every week that we re-baited the trap and collected our beetles, we had to have some way to haul all the “bait” in an organized manner. During one late-night trapping excursion for someone else’s project, I had a 3:00 AM stroke of genius and built what we came to name the Crapper Stacker. It’s amazing what you can construct from cardboard, duct tape and a hot glue gun.

It was a hellacious process, the collections, and I haven’t had the chance to sort through any of them, so I have yet to see the fruit of my labor — fighting off

biting flying ants (straight from Pandora’s box, I tell you!), snakes and other nasty dead things, unbearable heat and the long hours of travel time, but if we can find a way to increase range-



One piece of the Crapper Stacker.

land health and utilization, it was totally worth it!

Student Profiles

Kyra Baldwin hails from Scottsbluff, NE where her family has a cow-calf operation along with some irrigated crop land. In high school she was an officer in FFA and participated in competitions such as livestock judging (making it to nationals) and range judging. It was at a state range judging contest where she heard a presentation about Grazing Livestock Systems from a current GLS student. She also talked with grass-land ecologist Dr. Walter Schacht, one of the founders of the GLS major, at the Nebraska Youth Range Camp.



Kyra Baldwin

Kyra had considered starting elsewhere and then transferring to UNL, but now she’s glad she began her college career here. “I attended the College of Agricultural Sciences and Natural Resources open house and was impressed with the facilities as well as comments by the dean and the faculty,” she said. “CASNR seemed to offer lots of possibilities, and I liked it here. People were so friendly.”

As high school seniors, Kyra and fellow GLSer Jeanna Jenkins gave presentations at the Nebraska Section of the Society for Range Management meeting. The Nebraska Section of SRM critiqued the presentations, helped them fine-tune their talks, and then gave them some financial support to present at the national SRM meeting in Billings, MT. Involvement with SRM continued at the

college level; Kyra attended the national meeting in Spokane, WA earlier this year where she participated in two competitions: the Undergraduate Range Management Examination and the Plant Identification Contest. She is also in the Pre-Veterinary Club, Range Management Club and the Nebraska Beef Industry Scholars program, and is a member of the national agricultural honorary society, Alpha Zeta.

Kyra likes the way her CASNR classes build on each other. “The agricultural and financial classes will help me have more in-depth conversations with my parents about decision making in our family operation,” she said.

During the past two summers, Kyra worked as a technician in the weed science section at UNL’s Panhandle Research and Extension Center. Her field responsibilities included recording weeds and crops at different stages of growth and counting weeds that survived spraying. Her experience helped her to know that she is definitely more interested in weeds than crops.

Kyra would like to be either a large animal vet or range management specialist. She is, therefore, structuring her program so she will be qualified for both vet school and USDA Natural Resources Conservation Service employment when she graduates with her undergraduate degrees in Grazing Livestock Systems and Animal Science. Whatever she ends up doing, we know she will be someone who “gets involved.”

“You may now present your opening argument.” That’s a phrase **Joelle Pillen** heard as she began one of the many high school activities in which she participated. She was a senior lawyer in the Mock Trial Club at Lakeview High School in Columbus, NE. The National Honor Society student learned a lot about conducting background research, exploring options, interviewing people, and “making a case”... skills that all come in handy when making choices about college, majors and careers.



Joelle Pillen

She had been on the UNL campus several times for events such as FFA contests, and really felt comfortable here where she observed that people were open, friendly, and seemed to know each other. She “interviewed” faculty at the schools under consideration and noted how well the UNL researchers were known in the agricultural industry. Adding that to the facts that she loved the campus and it was close to home, she “made the case” to herself that the College of Agricultural Sciences and Natural Resources offered the most competitive agricultural program and was the best fit for her educational and career goals. She entered UNL as an Animal Science major, and added Grazing Livestock Systems her sophomore year.

Joelle’s family farm in Platte Center consists of a small feedlot, a cow-calf operation (her favorite part) and crops. When she wanted exposure to different types of farming/ranching situations for her internships, she headed west. The first internship was at a large (61,000 head) feedlot in Lamar, CO. She conducted her GLS internship this past summer in the Sandhills at the

Arrowhead Ranch of Rosemary and Kevin Anderson in Whitman, NE.

“The structure of the GLS internship is one of the reasons I added the major,” Joelle said. “I liked that students set goals, develop a project, and report on the internship at the GLS Internship Symposium,” she added.

At the Arrowhead Ranch, she greatly increased her knowledge about range plants, intensive rotation grazing systems, and handling both cattle and horses. “Kevin taught me a lot about low-stress, gentle handling of cattle. And while I’d been riding horses all my life, I learned even more from him about that and roping.”

Joelle said she has always been fascinated with forages and feedstuffs. Not surprisingly, her favorite classes so far were Forage Crop & Range Management and Cow Calf Management. “On our farm we would move cattle from this pasture to another, and then another, but I didn’t know why because I didn’t understand about things like the nutritional value of the various grasses at different stages of growth. My classes and internships are helping me know the ‘why’ of what we do.” She has also particularly enjoyed organic chemistry and classes related to animal physiology and reproduction.

At UNL Joelle has participated in the Block & Bridle, Rodeo and Agronomy Clubs, the Dean’s Scholars in Experiential Leadership (DSEL) Program, and the William H. Thompson Scholars Learning Community.

Careers under consideration are beef nutritionist or manager of a large ranch or moderate-sized feedlot. As a member of her high school Language Club, Joelle traveled to Europe for three weeks. Chances are, whatever path she follows after graduation, it is likely to lead to somewhere a bit closer to home!

Sustainable Use of Turkey’s Rangelands

by Walter Schacht, GLS faculty

I was fortunate to make a trip this summer to Turkey where I worked with scientists in evaluating rangeland health and grazing management in the high plains (steppes) of eastern Turkey. Rangeland health is a concept developed in the USA largely in response to concerns about the sustainability of rangeland systems



Walter, Koc and herder.

under long-term moderate to heavy use (particularly livestock grazing). These concerns about rangeland degradation in the Great Plains are based on less than 200 years of livestock grazing. Turkey’s history is considerably different. Livestock grazing can be traced back to 2500 B.C. in central Asia and much of

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Turkey when small ruminant and horse production was the major economic activity. Transhumance was the common practice with most people moving across communally-owned landscapes with their livestock as the seasons and forage availability changed through the year. The society and culture of early Turks were based on rangeland resources and their livestock; therefore, their governments and laws/rules (tore) were based on rangeland use and animal husbandry. Central “tore”

rules focused on control of grazing seasons, grazing intensity, and other herd management practices.

Many sources state that these



Kars, Upland temporary settlement.

tores and the governments’ focus on rangeland and animal production were early forms of adaptive management for productivity and sustainability.

What is the health and productivity of rangelands in eastern Turkey after 4500 years of livestock grazing?

Botanical composition of rangelands has changed from a diversity of grasses and forbs to simple plant communities dominated by shortgrasses (e.g., sheep fescue) and unpalatable, low-growing shrubs in response to high grazing pressure and season-long continuous grazing practices. Many scientists and livestock producers suggest that much of the change has occurred since the early 1900s when stocking rates increased and tore rules were not commonly enforced. However, ground cover and plant production is still good and soil erosion is at low to moderate levels on most sites. So, after 4500 years of livestock grazing, eastern Turkey’s rangelands are still dependable sources of forage for livestock production. I left Turkey amazed by the resilience of rangeland ecosystems and a new perspective on how we might view rangeland health in the Great Plains.

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