

# Study finds how rangeland grasses and upland sedge stack up in crude protein, TDN

How do some common rangeland grasses and an upland sedge compare in their crude protein and total digestible nutrient (TDN) contents?

We sampled western/thickspike wheatgrass (AKA rhizomatous wheatgrass), needle-and-thread grass, green needlegrass, bluebunch wheatgrass, and threadleaf sedge, which are common throughout Wyoming's eastern plains and western basin.

Monthly samples were collected from pastures in northeast Johnson County (Powder River Breaks) and along the Red Wall and foothills of the southern Bighorn mountains in northwest Natrona County between July 2015 and October 2018.

The Texas A&M University Soil, Water, and Forage Lab analyzed samples for crude protein and acid detergent fiber (ADF) amounts. TDN levels in the plants were determined from their ADF values.

The table below shows crude protein and TDN of the rhizomatous wheatgrasses, needle-and-thread grass, green needlegrass, bluebunch wheatgrass, and threadleaf sedge for January through April, May and June, July, August and September, and October through December.

Combining months, except July, was due to the similarity of the quality values throughout those months. Crude protein and TDN were

highest in May and June and lowest during the dormant season of October through April.

Rhizomatous wheatgrasses contained more crude protein compared to the other grasses and the sedge, and its TDN levels were higher, except for that of needle-and-thread. However, dormant season TDN levels of all were satisfactory for non-lactating beef cows in mid-gestation, and growing season amounts were sufficient for a cow in late gestation and when lactating.

Crude protein levels were only adequate in late spring and early summer in all the grasses and sedge for cows in all stages of production, and the rhizomatous wheatgrasses contained enough in late summer to meet the needs of a dry cow in mid-gestation.

Knowing the quality of range forage throughout the year is important to ensure the livestock nutrient needs are being met and if not, what needs to be supplemented. The results indicate that if a rancher chooses to sample their rangeland grasses and upland sedges for crude protein and TDN analysis, they need only sample the predominate plants and combine them, saving time and costs.

In addition, sampling would only need to occur in late summer and the dormant season to assess potential nutrient shortfalls, especially for crude protein.

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Sheri Hagwood, hosted by the USDA-NRCS PLANTS Database

**Western wheatgrass (*Pascopyrum smithii* (Rydb.) Å. Löve)**

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Grasses/Sedge	%Crude Protein					%Total Digestible Nutrients				
	Jan - Apr	May - Jun	Jul	Aug - Sep	Oct - Dec	Jan - Apr	May - Jun	Jul	Aug - Sep	Oct - Dec
Rhizomatous wheatgrasses	3.71	12.36	8.71	6.36	4.25	59.0	68.3	65.8	62.5	59.5
Needle-and-thread grass	3.49	10.54	7.18	5.87	4.10	57.1	67.0	64.8	61.8	58.6
Green needlegrass	3.26	11.10	6.95	4.94	3.26	55.9	67.6	64.1	59.9	56.8
Bluebunch wheatgrass	3.29	9.30	6.92	5.48	2.98	54.9	63.3	63.4	61.9	53.8
Threadleaf sedge	Not sampled	11.00	6.81	5.84	Not sampled	Not sampled	69.8	68.0	64.1	Not sampled

We know you'd rather not give - or get - food poisoning. Here's how not to.

## This is a case of not better to give OR receive

Enjoying the outdoors is part of living in Wyoming. Food safety can be a concern whether enjoying winter or summer activities. While foodborne illnesses are more common in the warmer months, these safe food practices can help you stay healthy all year long.

### Farmers Markets and Gardens

- Wash fruits and vegetables under cool, running water. This is necessary even if you do not eat the outside or the skin. Bacteria from the outside can end up inside when cutting into a melon or peel a banana.
- Once cut, keep fruits and vegetables refrigerated.
- Use separate cutting boards for fresh produce and other foods, like meat and poultry. Wash and sanitize cutting boards between foods to

- avoid cross contamination, especially when cutting fruits and vegetables that won't be cooked.
- When buying fresh produce at the farmers market, use an insulated grocery bag with an icepack to keep fruits and vegetables, especially leafy greens, from wilting.
- If buying perishables at the farmers market, like meats or dairy products, bring a cooler with ice or icepacks to keep food safe, and put it in a refrigerator as quickly as possible.

### Barbeques

- Wash hands before and after handling raw meat, poultry, and seafood.
- Keep raw meat, poultry, and seafood away from other foods.

- When grilling, use clean utensils and plates for cooked food and never place cooked foods on a plate that held raw food.
- When marinating, keep foods refrigerated and do not reuse marinades.
- Cook foods to the correct temperature. Use a food thermometer to check.
- Keep raw meat, poultry, and seafood refrigerated or in a cooler with ice until ready to cook, and put cooked food away quickly.

### Camping

- Transport foods in a cooler and bring the smallest amount possible. For example, bring a small carton of milk. Discard any perishable foods if the ice melts or the icepacks are no longer frozen.

# Side-by-sides seen as safer than ATVs but certainly not free from danger

Recreational Off-highway Vehicles (ROVs) – side-by-sides or UTVs – have become increasingly popular for many uses including recreation, construction, and agriculture.

Their versatility makes them a great tool for farms and ranches. Often, they are chosen over ATVs because, in addition to versatility, they are also seen as safer, but many of the safety recommendations are often ignored by agriculture users.

Many of the jobs for which we use ROVs on a farm or ranch require more focus on the task at hand than on operating the vehicle. When moving cows on horseback, we tend to focus on the cows and let the horse do a lot of the driving. We expect our horse to avoid many hazards such as badger holes, ditches, etc., while we focus on the cows.

Unfortunately, there are times when using an ROV to move cows we expect the ROV to do a lot of the driving as well. When we move cows on an ROV we need to be aware of our driving as well as the cows.

When I travel across Wyoming and observe ROV use for recreation and agriculture, I would probably have to give us an overall grade of no better than a C-. The Recreational Off-Highway Vehicle Association has developed safety rules (right). Think about how we are doing as you read through these rules.

YouTube abounds with videos of people making poor choices on ROVs, including plenty of farm and ranch examples. I watched a video where the driver jumped a small ditch at a relatively low speed with a Can-Am Commander (a utility-type ROV). The ROV landed too far forward on its front tires then somersaulted over and lit on the rollover protection structure. The driver was not wearing his seat belt or helmet and was thrown from the ROV. He was lucky he only required a short hospital stay.

Accidents like this don't just happen to anonymous folks on YouTube; almost all of us know a farmer or rancher who has been involved in a serious accident. I know of ranchers who have rolled ROVs end-over-end as well onto the side.

ROVs are great tools for agriculture; however, taking them seriously is important as is utilizing proper safety procedures and techniques when using them. Please contact me if interested in more information about safe handling or in taking a safe handling course.

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Sometimes, accidents happen when doing the most routine things. See Tips for loading and unloading an ATV at [bit.ly/wyo-atv-sense](http://bit.ly/wyo-atv-sense).

## ROV SAFETY RULES

- Always fasten your seat belt, wear a helmet and other protective gear, and keep all parts of your body inside the ROV.
- Avoid paved surfaces. ROVs are designed for off-highway use.
- Drive only in designated areas, at a safe speed, and use care when turning and crossing slopes.
- Never drive or ride under the influence of alcohol or drugs.
- Never drive an ROV unless you're 16 or older and have a valid driver's license.
- Never carry more passengers for which the ROV is designed, and never allow a passenger who is too small to sit in a passenger seat.
- Read and follow the operator's manual and warning labels.
- Take an ROV safety class.

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- Keep coolers in shady places, covered with a light-colored blanket to reflect the heat.
- Frozen meat and poultry will stay cold longer in a cooler. Keep these uncooked items away from other foods, especially any foods already cooked or foods meant to be eaten raw.
- Refrigerate or freeze packaged drinks prior to putting them into the cooler to help keep the ice from melting.

### Packed lunches and picnics

- Use an insulated bag or cooler for lunches and picnics to keep foods cool.
- Use a thermos or hot pack in a separate insulated bag to keep foods warm.

- Wash your hands and surfaces before making lunch or packing a picnic.
- Wash and dry fruits and vegetables before adding them to a lunch box or picnic basket.
- Foods that can easily spoil must be kept cold.
- Add ice or an icepack to your lunch or picnic basket. If you do not have an icepack, you can also keep foods cold by freezing items such as water bottles, yogurt, pudding, applesauce, or a 100 percent juice and packing it next to the perishable food right before you leave.

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## FOOD SAFETY INFORMATION

- Handling food safely while on the road – keep your vacation fun. [bit.ly/food-safe-road](http://bit.ly/food-safe-road)
- Safety practices for packing lunch and snacks for your child. [bit.ly/safe-snacks](http://bit.ly/safe-snacks)
- Food safety during outdoor activities. [bit.ly/food-safe-outdoors](http://bit.ly/food-safe-outdoors)
- Here are food safety tips by event and season. [bit.ly/food-safe-seasons](http://bit.ly/food-safe-seasons)