

AGRICULTURE & NATURAL RESOURCES
Alicia Boor – K-State Research and Extension

Making the Most of Damaged Wheat:
Feeding Low Bushel Weight and
Sprouted Wheat to Beef Cattle

This year’s weather has delayed harvest and left many wheat growers with fields of low-test weight and sprouted grain. This damage causes large discounts at the elevator because the grain does not meet standards for milling or export. Wheat that does not meet market specs still have value as livestock feed either as part of supplements for grazing cattle or in mixed diets to growing and finishing cattle.

Feeding Value and Nutritional Considerations

Despite its poor appearance, **low test weight or sprouted wheat retains much of its energy and protein content as animal feed.** In fact, the nutrient composition often compares well to regular wheat:

Crude Protein: Often 12–14%, depending on variety and growing conditions.

Total Digestible Nutrients (TDN): Generally, 80–85%, making it a high-energy feed.

Sprouting Effect: Enzymatic changes during sprouting may actually increase starch digestibility, though spoilage is a concern if storage is poor.

The main challenge is balancing the ration correctly. Wheat is **high in starch and low in fiber**, so overfeeding can lead to digestive upsets like **acidosis** or **founder** making feeding management a key consideration.

Tips for Feeding Damaged Wheat Safely

1. **Limit Inclusion:** Start with low levels and increase gradually.

Supplementing grazing cattle: limit feeding to 0.3 to 0.5% of bodyweight per feeding or as only ½ of less of a supplement fed at a higher rate. No more than 2 to 3 pounds per day for a growing calf or 4 to 6 pounds for a mature beef cow. Increase feeding frequency when feeding wheat, doubling the feeding rate and feeding every other day is not recommended.

Growing and finishing cattle on mixed rations: wheat can replace part of the corn. We recommend no more than 1/3 of the total ration or ½ of the grain in the concentrate portion of the ration. Feeding management becomes more important when feeding highly digestible grains like wheat.

2. **Process with Care:** Processing increases digestibility of wheat by 20 to 30%. Coarsely rolling wheat improves digestibility but avoid fine grinding. When processing is too fine the starch in wheat is digested too fast in the rumen and increases the risk of ruminal acidosis.

3. **Balance the Ration:** Wheat should be fed with adequate **roughage** (hay, silage, or straw) to maintain rumen health. Avoid low-roughage low-fiber diets.

4. **Monitor Intakes Closely:** Watch for signs of overeating, scours, or bloating when feeding sprouted or damaged wheat.

Other Considerations
Storage is Key: Keep wheat dry and cool. Sprouted grain with higher moisture is especially vulnerable to spoilage.

Test for Mycotoxins or Mold: Sprouted wheat may be more prone to spoilage. If stored improperly, mold and toxins can develop. Always test suspect lots before feeding.

Feeding downgraded wheat can be a benefit for cattle producers to gain access to a high-energy feed at a discount — provided it’s done safely and with proper nutrition support. Before incorporating low-quality wheat into your feeding program, consult with a **livestock nutritionist** or **Extension specialist** to balance the ration and ensure safety with careful management.

Used with permission from Paul Beck, Oklahoma State University Cooperative Extension Beef Cattle Nutrition Specialist

Alicia Boor is an Agriculture and Natural Resources agent in the Cottonwood District (which includes Barton and Ellis counties) for K-State Research and Extension. You can contact her by e-mail at aboor@ksu.edu or calling 620-793-1910

COTTONWOOD EXTENSION DISTRICT
Stacy Campbell - Crop Production Ext. Agent

Registration open for the K-State/
KARA Summer Field Day

Kansas State University and the Kansas Agribusiness Retailers Association (KARA) are hosting two 2-day Summer Field School sessions on July 8–9 and July 10–11, 2025, at the K-State Agronomy Education Center (2213 Agronomy Farm Road), located just north of the K-State football stadium in Manhattan. The field days are the same on the two different dates. This year’s program will spotlight soybean and cotton production, with comprehensive, hands-on sessions covering:

- Crop growth and soil fertility for soybeans and cotton production
- Herbicide symptomol-

ogy and glufosinate optimization

- Weed identification
- Precision agriculture
- Soil health
- Crop diseases and insect management

Registration Information

- 2-day program: \$220 (includes lunch both days)
- 1-day option: \$135 (includes lunch for that day)
- Earn multiple Certified Crop Advisor (CCA) and 1A credits (exact credit total forthcoming)

The complete program overview and registration link are available at the KS. Agribusiness Retailers site: <https://www.ksagretailers.org/events-training/ksu-field-days/>

Lodging & Details
Lodging options and additional information are listed on the registration page.

This field day is open to anyone who is interested. If you have any questions, contact Peter Tomlinson, K-State Environmental Quality Specialist at ptomlin@ksu.edu

Stacy Campbell is a Crop Production Extension agent in the Cottonwood District (which includes Barton and Ellis counties) for K-State Research and Extension. You can contact him by e-mail at scampbel@ksu.edu or by calling 785-628-9430.

COTTONWOOD EXTENSION DISTRICT
Monique Koerner, Family and Community Wellness Agent

Leg Strength

Last week I discussed grip strength as it relates to health and longevity. This week we will discuss emerging research that underscores the critical role of leg strength in overall health. From enhancing mobility to reducing the risk of falls and chronic diseases, strong legs are foundational to maintain independence and vitality as we age.

Importance of Leg Strength

Leg muscles, particularly quadriceps, hamstrings and glutes are vital for daily activities such as standing, walking and climbing stairs. Maintaining robust lower body strength is associated with:

Reduced risk of falls: strong legs enhance balance and coordination, decreasing the likelihood of falls, which can lead to serious injuries in older adults

Improved cardiovascular health: studies indicate that individuals with great leg strength have a lower risk of heart failure and better outcomes after heart attacks. For instance, research presented at the European Society of Cardiology’s Heart Failure 2023 congress found that strong quadriceps were linked to reduced risk of developing heart failure post-heart attack.

Enhanced metabolic function: leg strength contributes to better glucose metabolism, aiding in the prevention and management of type 2 diabetes.

Longevity: a study published in BMJ Open Sport & Exercise Medicine revealed that older adults who engaged in heavy resistance training, maintained leg strength over a

four-year period, suggesting long term benefits of strength training on mobility and independence.

Building and Maintaining Leg Strength

Incorporating leg strengthening exercises into your routine can yield significant health benefits. Effective exercises include:

Squats and Lunges: these compound movements target multiple leg muscles, enhancing strength and coordination

Leg Presses: utilizing gym equipment to perform leg presses can build quadriceps, hamstring and glute strength.

Calf Raises: Strengthening the calves supports balance and stability.

Resistance Training: Engaging in weightlifting or resistance band exercises can improve muscle mass and function.

Leg Strength as a Predictor of Health Outcomes

Leg Strength serves as a reliable indicator of overall health and can predict various health outcomes:

Mortality Risk: research indicates that lower extremity strength is inversely associated with all-cause mortality, even among sedentary individuals.

Recovery from illness: individuals with stronger legs recover more quickly from surgeries and illnesses, highlighting the importance of maintaining leg strength for resilience.

Functional Independence: strong legs are essential for performing daily tasks independently, reducing the need for assistance or long-term care.

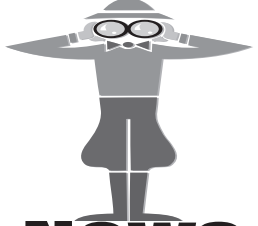
Prioritizing leg strength is crucial for maintaining health, independence, and quality of life, especially

as we age. Regular leg strengthening exercises can lead to improved mobility, reduced risk of chronic disease, and enhanced longevity. Incorporating such exercises into your fitness routine is a proactive step toward healthier aging.

Source : García-Hermoso A, Caverro-Redondo I, Ramírez-Vélez R, Ruiz JR, Ortega FB, Lee DC, Martínez-Vizcaino V. Muscular Strength as a Predictor of All-Cause Mortality in an Apparently Healthy Population: A Systematic Review and Meta-Analysis of Data From Approximately 2 Million Men and Women. Arch Phys Med Rehabil. 2018 Oct;99(10):2100-2113.e5. doi: 10.1016/j.apmr.2018.01.008. Epub 2018 Feb 7. PMID: 29425700.

Monique Koerner is the Family and Community Wellness Agent with K-State Research and Extension – Cottonwood District. You may reach her at: 785-628-9430 or moniquek@ksu.edu

WANTED



NEWS
about
Your
Family,
Friends,
and
Neighbors

A WOMAN’S VIEW
THE FARMER TODAY

We took a drive through parts of Western Kansas this past Saturday and had a visual treat. The countryside is gorgeous. The nickname, “The Wheat State”, certainly is a compliment to an area that supplies bread on the table for people throughout the world.

I remember when “Fred” and I first moved to Kansas in 1966. My ears had been filled with stories from Fred as he described his hometown, telling me about the farms, ranches, cattle, and other agricultural details of the state. Of course, I was very excited about this move to the “Wild West”.

Soon, we met others our age, most of them involved in agriculture. In those days, college graduates often returned to their hometowns to begin their careers. It was not as common, then, for young adults to flee to the cities; instead, they chose to set up shop at home.

In our case, several of “Fred’s” old high school classmates had recently received their degrees, gotten married, and were investing their futures in farming in Pawnee County. Great memories of growing up in a rural area lured them back to their hometowns, and to the farms, where they worked alongside their dads.

Optimistic and enthused, they were ready to put the blade in the soil while also raising cattle (and kids). I never heard them say anything but upbeat remarks about their farming operations.

We were involved in a retail business with “Fred’s” dad, and we were enthusi-

astic and excited to be in business. However, there were some farmers with whom we did business who exuded a different perspective.

And what they said and how they perceived the farming situation did not affect Fred, but it affected me.

It seemed that all I heard was gloom and doom.

“Well, at the rate things are going, if we don’t get some rain, we won’t have much of a harvest.” “You say the wheat looks good? Wellllll, I don’t know about that.” “And anyway, at the price of wheat, it almost isn’t worth planting.”

Truly, I believed what they said. And it worried me.

I envisioned our business sign hanging by one nail, creaking and swaying in the wind, in front of a closed store.

That’s what I thought, until I eventually realized what they were saying was only talk.

Just a bad habit. Their glass was “half empty,” not “half full,” thinking.

And today?

Today’s successful farmer, by and large, is not a negative person. He doesn’t have time to be.

Let’s brag about them a little.

Many of the farm families around here have been in the ag business for generations, not just for a short run. And they are among the hardest-working, most educated and dedicated, down-to-earth families you would ever want to meet. And, these farmers are meeting the challenges of today’s agriculture. It isn’t easy.

Our Western Kansas farmers are getting it done with machinery and technology that would put any old smarty-pants Easterner from New York to shame. You know, those braggers think the farmers out here are bumpkins who drive horse drawn tractors and two-door pick-up trucks? They think their one vehicle is expensive and high-tech? Well, we have news for them! I wish every single city dweller knew what you spend on machinery, and what kind of equipment you drive!!

And wouldn’t most of those “one-dimensional” job folks just drop their mouths open to see what a farmer back here has to know to operate his business?

Keeping up with... the latest farming methods, insect and disease deterrents, the best seeds, the most efficient engineering techniques, business knowledge, tech savvy, continuing education, and maintaining environmental conservation are just a few of the many challenges faced by today’s farmers.

Oh, and let’s not forget their grit and hard work all year, planting, replanting, harvesting, spraying, managing machinery, and on and on and on.

Our farmers are amazing. Go ahead. Put that feather in your ball cap. And don’t be afraid to admit it, and say, “I am doing a darn good job, and having a great time too.”

And I’m glad, way back there, I learned not to pay attention to the negative complainers. juditabler@gmail.com

