

# The U.S. roundtable for sustainable beef and application of practices in a Nebraska feedlot

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## Abstract

The U.S. Roundtable for Sustainable Beef (USRSB) was formed in 2015 by more than 90 member-companies in the U.S. beef supply chain, allied industry partners, and stakeholders in civil society. Since inception, the USRSB has accomplished developing the U.S. Beef Industry Sustainability Framework (Framework) inclusive of 6 high-priority indicators, sector-specific metrics for each indicator, and sustainability assessment guides which include tools and resources for every company in the supply chain. Drinnin Feedlots is one feedlot member implementing components of the Framework in a practical and commercial setting. The USRSB also has developed a self-assessment tool for all beef supply chain sectors, and is currently in the process of developing interactive educational on-line modules. The USRSB also aids programs already developed in the marketplace through a Recognition Process that allows supply chain programs that have incorporated the metrics of the Framework to apply, be evaluated by a third party, and approved for Recognition by the USRSB. The USRSB is now poised to set 6 U.S. beef industry sustainability goals and supply chain sector targets in the Fall of 2021. The tactics underlying the goals and targets will direct the work of the USRSB into the future.

**Key words:** beef, sustainability, USRSB, roundtable, goals, feedlot, metrics, indicators, sustainable, cattle, modules, recognition, beef quality assurance, framework, sustainable practices

## The progress of the USRSB

### The Framework

The U.S. Roundtable for Sustainable Beef (USRSB) began as an idea by a number of supply chain companies and visionaries who understood the need and value of bringing all beef stakeholders together in a collaborative effort which can help drive progress in beef sustainability in the U.S. and communicate those improvements to the world. Their vision was for the U.S. beef industry to be the trusted leader in environmentally friendly, socially responsible, and economically viable beef. This vision culminated in forming the USRSB in 2015 with 94 founding members from across the supply chain, non-government organizations, research institutions, and allied industry partners. Strategically, they focused on increasing involvement of companies and individuals across all stakeholder groups, developing the U.S. Beef Industry Sustainability Framework (Framework), and dissemination and adoption of Framework principles ultimately improving the sustainability outcomes within the U.S. beef industry.

The Framework is a resource developed to identify opportunities for continuous improvement in all types of operations and companies throughout the beef industry. Engaging each sector of the value chain was a critical component of the Framework development. From cattle production to value chain sourcing

and from veterinary science to soil health, these diverse backgrounds and expertise created a comprehensive and scientifically informed Framework that can be adapted to diverse operation and company situations in the beef industry. The ability to establish benchmarks for current conditions and assess progress toward goals is critical to the U.S. beef industry's sustainability efforts. The USRSB is committed to measuring and documenting sustainability progress over time, and will use surveys, the U.S. Beef Industry Life Cycle Assessment, and reported information to measure the implementation effectiveness of the Framework and how it can best assist with industry-wide progress. The Framework is an extension of the USRSB's definition of sustainable beef; a socially responsible, environmentally sound, and economically viable product that prioritizes planet, people, animals, and progress. The Framework is comprised of high-priority indicators, sector specific metrics, and sustainability assessment guides.

The Framework began with the decision to identify indicators. The USRSB defines indicators as the areas most important to beef sustainability for the entire supply chain. After many meetings (the proceedings of which can be supplied by USRSB staff) the organization aligned around 6 high-priority indicators: Water Resources, Air & Greenhouse Gas Emissions, Land Resources, Employee Safety & Well-being, Efficiency & Yield, and Animal Health & Well-being. The process that led to these 6 indicators was laborious and was a process of taking the 160 areas identified by the membership, grouping, narrowing and re-grouping. Facilitation by Dr. Marty Matlock with the University of Arkansas allowed the group to narrow the field to 6.

Next, the USRSB broke into 5 supply chain sectors with the civil society and allied industry members floating across all sectors to develop sector specific metrics for each of the 6 indicators. The 5 sectors are: cow-calf, auction market, feedlot, packer/processor and retail/food service. Metrics measure activities linked to each of the high priority indicators. The metrics were developed to address the unique characteristics of each segment of the value chain, outlining ways an operation or company can measure sustainability progress. The approach and development of metrics were owned by each value chain sector with an expectation to actively engage other stakeholder groups including civil society and allied industry members. This process following numerous meetings resulted in 52 metrics across the 5 supply chain sectors.

To operationalize the metrics, a technical guidance document was needed to aid user understanding and facilitate implementation. This effort led to development of the Sustainability Assessment Guides (SAGs) for each sector which provide value chain members additional tools and resources for assessing their own operation in relation to the high priority indicators and accompanying metrics. Much like the metric development process, sectors took the lead in developing these resources utilizing feedback received from every other sector. The SAGs outline the purpose and resources for approaches and methods to improve each metric.

Applying the indicators, metrics, and SAGs the USRSB packaged them together to form the U.S. Beef Industry Sustainability Framework, which was publicly launched in 2019 and available at [www.beefsustainability.us](http://www.beefsustainability.us).

## Continuous improvement

The U.S. beef value chain is committed to continually seeking opportunities for voluntary improvement, by implementing the Framework. In turn, the Framework will help connect consumers to the beef production community, answering questions they may have about beef production.

## Applying the framework

Since finalization and launch of the Framework in 2019, the USRSB has been working to disseminate the Framework across the supply chain. First, the USRSB worked with the Noble Research Institute to develop a quick self-assessment tool for individual operations and companies. The tool asks straight-forward questions about practices and approaches, then provides the user with a gauge-style score for each indicator as well as an overall score, indicated by Red, Yellow, or Green, with green being the most positive position. It can then direct the user to the Framework components which may help improve their operation.

The USRSB next began work with educational tool development company to develop interactive in-depth online modules which are free. Again, the USRSB developed the suites of modules by supply chain sector. Groups of modules were developed for pasture-based operations, feedlots, auction markets, packers and processors and retail and foodservice companies, were and completed in 2021. They are available at [www.usrsb.org/resources](http://www.usrsb.org/resources).

The USRSB concurrently developed a program to allow business-to-business supply chain programs that were already in the market to have an avenue to receive recognition for incorporating the Framework into their program. The USRSB Recognition Program requires an application, fee, and third-party analysis to achieve recognition. The program was launched in 2019 along-side the Framework.

The last work stream developed under the Framework was the Project Support Process. For research projects, pilots, education programs, or other similar initiatives, the USRSB developed a process with which it can grant its support. The process requires an application and review by a USRSB committee, and offers project partners a letter of support and opportunity to share the project with the full USRSB membership. Supported projects can be found on the landing page of [www.USRSB.org](http://www.USRSB.org).

## Current status and course of action

The USRSB currently has 132 members, including global suppliers, retailers and restaurant brands, individual cow calf and feedlot producers, and widely known and respected NGOs. The membership of the USRSB touches more than one-third of the cattle in the U.S. – more than 80% of the beef processed in the U.S. – and touches more than 100 million U.S. consumers on a daily basis. The Recognition program covers 16 branded programs that touch 7.5 million head of cattle and 18 million pounds of beef annually. As more tools, resources, and educational opportunities are developed and administered, the USRSB expects to see continuous improvement across all 6 high-priority indicators.

## Setting goals for the U.S. beef supply chain

The USRSB's most recent endeavor is to set industry goals and sector-specific targets across their 6 high priority indicators. Goal-setting is a challenging and complex social exercise that can have great reward and potential risk. Goals provide measurable results within a specific timeframe and they help members understand how they can contribute to meeting the objective. Goals can be instrumental in establishing a positive and collaborative culture toward sustainability. To date, few beef industry-wide sustainability targets exist due to the segmentation of the supply chain and the desire to encourage goal setting from the ground-up rather than the top-down. Increasing the adoption of the U.S. Beef Industry Sustainability Framework is also core to improving upon the sustainability of all U.S. beef, and industry goals are an opportunity to promote and support the Framework. The USRSB believes their goals will drive the entire U.S. beef industry toward concrete, science-based solutions that will lead to improved outcomes across the 3 domains of sustainability: economic, environmental and social. Specifically, addressing consumer and societal concerns by setting forward-looking goals to improve the sustainability of beef production together (e.g., animal well-being, climate change) will:

- Grow beef demand and drive profitability within the U.S. beef industry
- Continue to support U.S. beef's contribution to food security and livelihoods
- Increase the resiliency of the beef supply chain

To achieve this, the USRSB will collaborate with other industry initiatives and encourage business-to-business relationships and partnerships that advance the continuous improvement of U.S. beef. Perfect alignment with other industry goals is not required to drive positive outcomes. We believe USRSB leadership in creating firm commitments and agreed upon principles for reporting progress is necessary to lead to more concrete sustainability discussions and positioning the USRSB as the trusted source for sustainability information in the U.S. beef supply chain.

## Sustainable practices at a nebraska feedlot

Mike Drinnin owns and operates two feedlots in Nebraska with total head capacity of 13,000. He and his sons run the feedlots on a daily basis, along with their row-crop operation. They have long focused on improving efficiency, from feed trucks to rate of gain, but they also focus on other aspects of sustainability, such as animal well-being, water quality, worker safety and transition planning, all of which are espoused by the USRSB's Framework. Now more than ever the Drinnins view all aspects of their operation through the lens of sustainability, and understand they are all key to the continued success of their operation and the beef industry.

## Sustainability at the feedlot

All aspects of sustainability are considered, and optimized, at Drinnin Feedlots. From facilities designs that take into account the natural slope of the land or processing facilities that reduce animal stress, the Drinnins believe that all aspects of the operation can and should be continually evaluated to keep them running as efficiently and sustainably as possible.

## Environmental sustainability

Water quality is important for Drinnin Feedlots for many reasons. First and foremost, it is important to protect the quality of water because it is the same system in which their families and neighbors utilize. Second, it is important for their animals to have access to clean water for their health and nutrition. And third, it is also legally required. Under their state permit, both feedlots are required to capture and store all water that falls onto the production area. Drinnin Feedlots use the slope of the feedlot to guide the precipitation into structured holding ponds. The nutrient-dense water can then be part of a sustainable cycle as it is pumped to nearby fields to fertilize crops, which will be used as feed for the cattle. This beneficial use of the water and nutrients is critical in an area that can be prone to drought, and sits above the Ogallala Aquifer.

When utilizing groundwater on their irrigated cropland, the Drinnins have lowered their energy and water usage through the installment of high efficiency water pumps and more precise irrigation techniques. The practices help reduce the demand on the aquifer.

Their location is key to one critical aspect of their focus on sustainability, utilizing the readily available grain and grain by-products to maximize the sustainability of their cattle feed. In fact, the area has been referred to as “The Golden Triangle,” for its prime position to raise corn, cattle and ethanol. The feedlots utilize corn produced on their own land and from neighboring farms to finish cattle on a high-energy diet that allows them to get to slaughter weight quicker while consuming less inputs and producing less waste, thereby contributing to a lower carbon footprint than other production systems (Broocks, 2016). Corn by-products like wet distillers grain are utilized to create a balanced optimal diet for finishing the cattle at the Drinnin feedlots, and their location relatively near ethanol production allows the feedlots to efficiently use the by-product with minimal transportation impacts. Other by-products that otherwise might be destined for the landfill are also turned into high-quality beef at the feedlots.

A renewable by-product of cattle production is manure. The Drinnins utilize this resource to fertilize their own corn crop, improving the soil structure and providing the needed nutrients for the plant. Their understanding of the nutrient value of manure and given their ideal location around crop production is key to another sustainable practice they employ – they are able to sell more of their manure to neighboring farmers, not only benefitting the operation financially, but also reducing the amount of artificial fertilizer used in the area’s crop production. Soil organic content has improved when using manure as fertilizer, stabilizing the soil and providing it the structure to house beneficial microbes which are the key to another sustainability benefit, carbon sequestration.

## Social sustainability

Animal health and well-being is a top priority at Drinnin Feedlots. The focus of their efforts to maintain a high level of health and well-being has centered around training their workforce, state-of-the-art facility designs and providing the highest level of care to the animals. These principles of social sustainability work in tandem with the economic and environmental sustainability factors, but must be continually balanced and assessed to remain at the optimal level.

As soon as animals arrive at the Drinnin feedlots, they are provided the highest level of animal care. Vaccinations and nutrition are administered, while facilities like the “Bud box” are used to minimize stress on the animal as it comes into a new setting after transport (Gill). Animal health products and technologies are utilized at the feedlot to improve the animal’s performance, which improves both environmental and economic sustainability. All measures that improve the efficiency of the animal in converting feed to beef increases the sustainability of the operation, as long as they remain balanced across all sustainability indicators.

Pen riders check cattle daily to identify any signs of sickness. If any symptoms are identified, the animal is taken to the hospital pen where veterinarians can evaluate, diagnose and treat any sickness. This level of care maintains the highest degree of animal health and well-being. While many may not understand how animal well-being is central to the operation of a feedlot, the Drinnins understand that happy and healthy animals are relaxed, eat better, stay healthier and ultimately perform better. Ultimately, high levels of social sustainability like animal well-being result in higher economic sustainability for the feedlot operation.

Shade is also provided to cattle. New shade facilities have been installed on multiple pens across the feedlots, and the results are impressive. Cattle utilize the shade, indicating improved animal well-being. The cattle also perform at a higher level, which also benefits the profitability of the feedlot.

Worker safety and well-being are a top priority at all times at the Drinnin feedlots. Not only because 2 of Mike’s sons work at the feedlots, but because as a finely oiled machine the feedlots will not function without healthy employees who understand and enjoy their jobs. All employees at the feedlots who handle cattle are certified under the Beef Quality Assurance (BQA) program (BQA, 2021), and efforts are made to make sure the 3-year certifications stay up-to-date. This certification and training help handlers understand proper facility design and operation, proper animal health product administration protocols, herd health plans, antimicrobial stewardship principles, biosecurity threats, and a host of other animal health and well-being best practices.

## Economic sustainability

While discussed heavily throughout the previous 2 sustainability pillar sections, the business of feeding cattle is the Drinnins’ livelihood, and therefore economic sustainability is always at the forefront of their minds. From animal health and nutrition to employee safety, improvements in these areas translate to improving the business of feeding cattle. But it is also foundational to all sustainability improvements, because in the beef industry, sustainability must be viewed through a systems approach. The sustainability improvements across the other two pillars can only be realized if there is an economically viable business at its core. Without that, there will not be resources to implement further measures, and therefore no further improvements will be realized. Circularly, the improvements in animal health, performance, and environment benefit the operation financially either in the short-term or the long-term, and therefore without them there would not be a financially viable business.

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This symbiotic relationship is recognized and valued at the Drinnin feedlots, which is why they strive for a balancing approach across all aspects. The Drinnins realize that if one falls out of alignment, they could all suffer. This is the ultimate challenge of working in a sustainable production agriculture setting. While complex and intertwined, balancing all 3 pillars of sustainability is a task farmers and ranchers have done for generations, recognizing their reliance on the environment and their interest in preserving it for the next generation. Utilizing resources like those provided by the USRSB will allow Drinnin Feedlots to continue to show improvements across the environmental, social and economic pillars of sustainability.

## Conclusion

As the world continues to demand action on environmental, social and economic challenges, open collaborative forums like the USRSB are key to addressing them as an entire stakeholder group. The USRSB members are united in accomplishing goals for the industry, putting resources to bare to aid every producer or company in the supply chain in advancing their sustainability footprint, and showcasing the continuous improvement of the industry to the world.

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