

GOOD FOOD



COMMITTED TO RAISING GOOD FOOD

Raising safe and wholesome beef that nourishes families is a top priority for U.S. cattle farmers and ranchers. A number of attributes make beef a good food, including:

- Nutrition
- Tenderness and taste
- Accessibility
- Safety

Each of these qualities is uniquely critical to creating a winning beef product that lives up to the high standards of consumers in the United States and overseas. Over the years, the U.S. beef industry has invested significantly in research to better understand the nutritional attributes of beef, the role of beef in a healthy diet and how to improve safety, tenderness and overall quality of U.S. beef.

WHERE WE ARE TODAY

Investing in Nutrition Research

Since the 1920s, America's cattle farmers and ranchers have funded research to help understand beef's role in a healthy diet and build a foundation of beef nutrition knowledge. For example, cattlemen-supported research by Dr. George H. Whipple found that naturally iron-rich beef liver could reverse the effects of anemia.

This research directly led to liver treatment of pernicious anemia (hemoglobin deficiency), a previously fatal disease, by physicians George R. Minot and William P. Murphy. For these ground-breaking findings, the three researchers shared the 1934 Nobel Prize for Medicine.¹

In fact, the need for beef nutrition research played a critical role in the decision by farmers and ranchers to vote in favor of funding a mandatory Beef Checkoff Program. As a result, learning more about beef and its nutritional profile has long been a priority for the beef industry. Nutrition research continues to generate a pipeline of scientific evidence showing the important role that beef plays in today's healthful and active lifestyles. Over the last decade, research has demonstrated that beef's high-quality protein and unique package of essential nutrients may help overweight individuals achieve a healthier body weight; help diabetics manage their blood sugar levels; and help individuals manage their cholesterol and blood pressure when included as part of a healthful, balanced diet.



Responsibility to Society

95 percent of cattlemen feel a responsibility to society to provide access to safe, healthy, affordable beef.



Cattlemen's Statement of Principles Regarding Nutrition and Health

The "Statement of Principles Regarding Nutrition and Health" were established in 1984 and were reaffirmed in February 2008 by the National Cattlemen's Beef Association (NCBA). Cattlemen pledge to use the following principles to guide actions and communications about beef in regard to nutrition and health:

1. We will provide factual, scientifically-supported information about beef to help consumers make informed choices about what they eat.
2. We believe that overwhelming scientific evidence shows that dietary balance, variety and moderation coupled with appropriate physical activity provides the foundation for a healthful life and we support the recommendations of the Dietary Guidelines for Americans and the United States Department of Agriculture (USDA) food guide in that regard.
3. We are committed to conducting and participating in programs to actively disseminate accurate information about the nutritional advantages of beef which support and extend the important consumer messages in the Dietary Guidelines for Americans and the USDA food guide.
4. We recognize the important role of health professionals and nutrition educators in providing nutrition information and are committed to working with them and their professional organizations to communicate accurate information about nutrition and health.
5. While we believe that dietary balance, variety, moderation and physical activity are the keys to health, we also encourage individuals with specific health concerns that require dietary modification to consult a physician followed by nutrition counseling from a registered dietitian.
6. We will support research on the nutritional qualities of beef and will accurately communicate research findings to help consumers make informed decisions about their diet.
7. We recognize that consumers want foods that are good tasting and convenient as well as nutritious and will support research to provide beef products that meet these consumer desires.

Clarifying Inconsistent Science

The beef industry has helped clarify inconsistent science, as in the case of cancer risk. In response to conflicting scientific information on the topic of red meat consumption and cancer, the beef industry commissioned experts in nutrition and epidemiology to examine the existing literature on red meat and various cancers, including breast, prostate, kidney, pancreatic, stomach and colorectal cancers. This independent scientific review of the existing epidemiological research found no conclusive evidence of a causal relationship between red meat and any of the cancers studied.²

Establishing the Importance of Nutrient-Density

The beef industry has been a leader in advancing the science on nutrient density and, today, a strong body of evidence showcases the value of nutrient-rich foods such as beef in the diet. Nutrient-rich foods provide a greater amount of beneficial nutrients per calorie than other foods, which is important given the rising rate of obesity in America and the resulting need to get more nutritional value from fewer calories. In 2003, cattlemen invested their beef checkoff resources in co-founding the Nutrient-Rich Foods Coalition (NRFC) to help further the scientific and market research to educate consumers about incorporating nutrient-rich foods, like lean beef, whole grains, low-fat dairy, fruits and vegetables, into their everyday diets. The NRFC partnership brings together 21 leading agricultural commodity organizations representing the five basic food groups. Beef is one of the most nutrient-dense foods: one 3-ounce serving of lean beef contains on average 154 calories, contributing less than 10 percent of calories to a 2,000-calorie diet, yet supplying more than 10 percent of the Daily Value for 10 essential nutrients, including protein, iron, B-vitamins and zinc.

Due to the overwhelming evidence that now exists in support of nutrient-density, the *2010 Dietary Guidelines for Americans*, released by the U.S. Department of Agriculture (USDA) and Department of Health and Human Services (HHS) in January 2011, stress the importance of choosing nutrient-rich foods. The Guidelines recommend that individuals choose a variety of protein-rich and nutrient-rich foods, including lean

meats, such as beef.³ Since the first set of USDA Dietary Guidelines for Americans in 1980, lean beef has been recognized as a food to include in a healthy diet.

The 2010 Dietary Guidelines Advisory Committee report noted that the Meat & Beans Group is the only food group Americans currently eat within recommended limits, which is currently set at 5-7 ounces per day.⁴ Despite misperceptions, Americans are not over-consuming beef. The average American eats 1.7 ounces of beef per day.⁵ Learn more about beef's nutritional value at www.BeefNutrition.org.

Investing in BOLD Heart-Health Research

Beginning in 2007, cattlemen invested their beef checkoff dollars in initiating a major human clinical research trial aimed at comparing the Dietary Approach to Stopping Hypertension (DASH) diet—a low-sodium eating plan rich in fruits, vegetables and low-fat or non-fat dairy—to a higher-beef version of the DASH diet.⁶ On average, the standard DASH diet contains only two beef meals per week. Internationally recognized nutrition researcher, Penny Kris-Etherton, Ph.D., and her team of scientists at Penn State University named this study “BOLD”—an acronym for “Beef in an Optimal Lean Diet.” The BOLD diet includes an average of 12 lean beef meals per week. Initial results show the BOLD diet is as effective as the DASH diet for improving blood cholesterol levels and lipids, thereby supporting the inclusion of lean beef in a heart-healthy diet. The results have recently been presented at two of the leading national scientific conferences and scientific papers are currently being prepared for submission to peer-reviewed scientific journals.

Responding to Consumers' Love of Lean Beef

Beef is leaner today than ever before due primarily to cattle genetics, the way cattle are fed and beef trimming at retail. Today, a sirloin steak has 34 percent less total fat than it did in 1963.⁷ More than 29 cuts of beef now meet government guidelines for lean, including favorites such as T-Bone, tenderloin, strip steak, filet and lean ground beef.

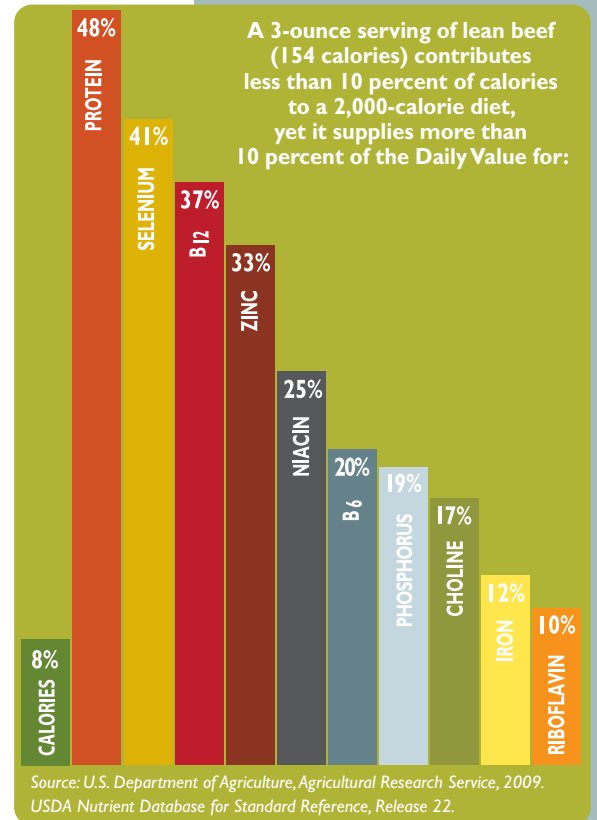
The beef checkoff-funded 2005 National Beef Market Basket Survey showed that the average fat thickness/trim level for retail beef cuts today is less than one-eighth inch and many beef cuts have no visible outside fat.⁸ The beef industry continues to improve, offering more lean and trimmed options so consumers can enjoy beef as part of a healthy, balanced diet.

“The nutrition research on beef and the decrease in total fat content of beef are major accomplishments for the beef industry. We have so many choices of lean beef cuts today.”

Dr. Penny Kris-Etherton,
Penn State University

Delicious and Nutritious

Beef is a top source of protein, zinc and vitamin B₁₂.



Consumers Love Lean Beef

69 percent of consumers say that when buying certain types of food, buying lean cuts of meat is most important to them.



Helping Consumers Choose Lean Cuts

In late December 2010, USDA Food Safety and Inspection Service (FSIS) published the final rule on Nutrition Labeling of Single Ingredient Products and Ground or Chopped Meat and Poultry Products, which will make it even easier for consumers to choose lean cuts of meat at retail supermarkets.⁹

The rule, which is effective Jan. 1, 2012, requires packages of ground beef to include Nutrition Facts panels on the labels. Popular steaks and roasts are required to carry Nutrition Facts panels either on package labels or at the point-of-purchase. Among other nutrients, the Nutrition Facts panels will include the amount of calories, total fat and saturated fat a product contains. Additionally, any product that lists a lean percentage statement, such as

“90 percent lean,” on its label also will list its fat percentage, making it easier for consumers to understand the amounts of lean protein and fat in their purchase.

The beef industry has long believed that consumers benefit from knowing the nutrient composition of beef. For more than 20 years, beef checkoff-funded programs have worked with retailers to implement nutrition labeling. The beef checkoff recently unveiled a user-friendly, web-based “Nutrition Database for Meat and Poultry Products,” which is based on USDA’s Nutrient Database for Standard Reference. This tool will help retailers create accurate beef nutrition labeling, posters and signage for shoppers. The database can be found at www.beefretail.org/nutritionlabeler/.

Improving Beef Quality

Consistency of beef quality characteristics such as taste and tenderness have continued to improve in order to achieve desirable, repeatable beef-eating experiences with consumers. The first beef checkoff-funded National Beef Tenderness Survey¹⁰ conducted in 1990 found less than satisfactory tenderness in some cuts from the chuck and round and the top sirloin. A second survey¹¹, conducted in 1999, included beef from foodservice facilities and found a 20 percent improvement in tenderness. The latest Tenderness Survey¹², conducted in 2005, found tenderness had improved approximately 18 percent since the 1999 survey.

“ In the past couple of years, the changes that we’ve seen not only in genetics but also in management of cattle has greatly improved the quality of beef. ”

Dr. Glen Dolezal,
Cargill Meat Solutions

A growing body of research evidence, much of it funded by cattlemen through the Beef Checkoff Program, suggests on-farm practices influence the eating quality of beef and can be managed to improve the end product and the consumer eating experience.

Critical elements of effective on-farm beef quality improvement programs are good breeding and genetic decisions, finishing cattle on grain-based diets for the optimal number of days and proper cattle handling to prevent cattle stress.¹³ In addition, the beef industry has worked together to improve techniques and technologies used at beef processing facilities, such as carcass chilling, suspension and aging, as well as mechanical tenderization and marinating to improve consumer eating experiences.¹⁴

Although 75 percent of consumers say they have a positive beef eating experience, the industry continues to research quality improvement opportunities so that every consumer has a positive beef eating experience.¹⁵

Making Beef Accessible to Consumers

Today’s consumer has access to more high-quality beef cuts at a variety of price-points compared to just 10 years ago. Muscle profiling research, initiated by cattle farmers and ranchers through the Beef Checkoff Program in the late 1990s, identified several individual muscles that made great steaks and roasts but were often used for ground beef or stew meat. The industry

discovered that by cutting the carcass differently, they could provide more moderately priced steaks for consumers and also increase beef carcass value.

Three new cuts from the beef shoulder clod (Flat Iron, Petite Tender and Ranch Steak) debuted in the early 2000s. Technomic, Inc. reports 81 million pounds of Flat Iron was served in restaurants in 2010, compared to 21 million pounds of Porterhouse and 40 million pounds of T-Bone steak. The Flat Iron is cut from the second most tender muscle in the beef carcass. In 2008, the beef industry introduced five new chuck roll cuts (Chuck Eye Steak/New Delmonico Steak, Boneless Country-Style Ribs, America's Beef Roast, Denver Cut and Sierra Cut) and in 2010 six new round cuts (Round Petite Tender, Santa Fe Cut, San Antonio Steak, Tucson Cut, Braison Cut and Merlot Cut).

Helping Consumers Prepare Beef Meals at Home

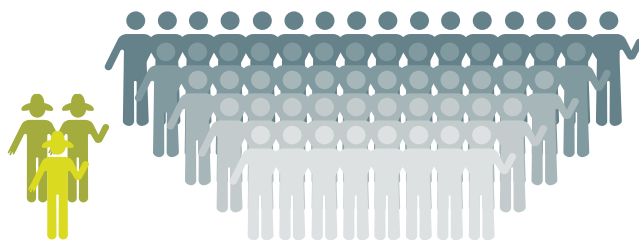
The beef industry also helps consumers prepare great beef meals with a variety of products. Easy, fresh cooking labels, with simple cooking directions and recipes, were pioneered by the beef checkoff and appear on beef packages in grocery stores around the country. In addition, www.BeefItsWhatsForDinner.com includes a library of more than 560 recipes and an interactive meat case that helps consumers navigate the beef choices at retail. Through the Beef Checkoff Program, cattlemen also invested in working with the American Dietetic Association to compile more than 130 recipes for the *Healthy Beef Cookbook*. Most of the recipes in the cookbook are under 400 calories. More than 37,000 *Healthy Beef Cookbooks* have been distributed since 2005.

Feeding a Growing Global Population

Raising beef in the United States is more efficient today than ever before. There are half as many farmers and ranchers today feeding a population that has more than doubled. Advancements in how U.S. cattle farmers and ranchers raise cattle for beef mean more consistently available beef products at numerous price points. But

Feeding a Global Population

There are half as many farmers and ranchers today feeding a population that has more than doubled (6.8 billion people)



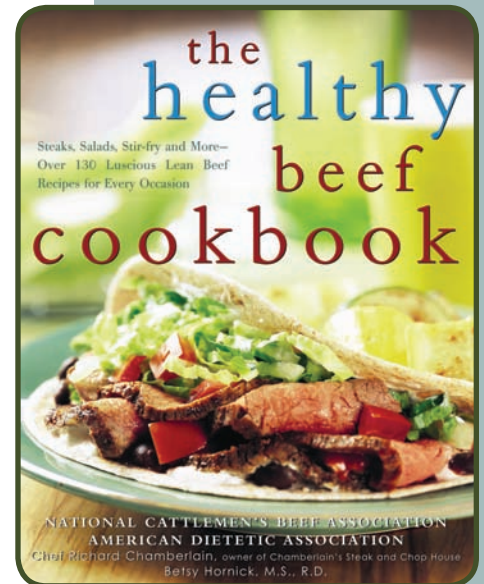
Farmers & Ranchers
742,000

World Population
6.8 billion

Source: U.S. Department of Agriculture National Institute of Food and Agriculture; U.S. Census Bureau World Population

Part of a Healthy Diet

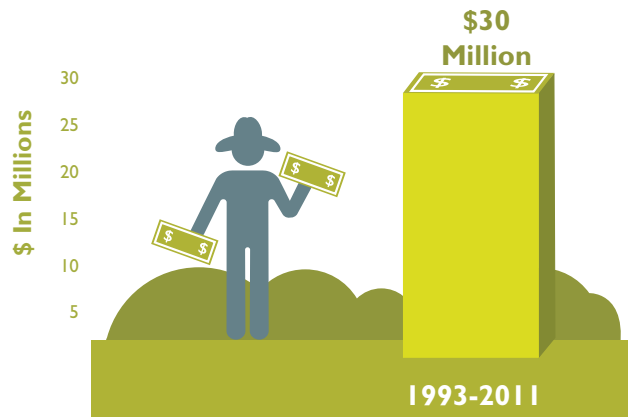
The average American eats 1.7 ounces of beef each day.



with a world population (currently 6.8 billion people) estimated to reach 9 billion by 2050, the agricultural community must continue to innovate in order to feed this growing population, without depleting natural resources.

Through science-based improvements in breeding, animal nutrition and health and growth enhancement technologies, U.S. cattle farmers and ranchers raise 20 percent of the world's beef with just 7 percent of the world's cattle.¹⁶ The judicious and safe use of growth promotants approved by the Food and Drug Administration (FDA) improve the average daily gain of cattle by approximately 15 to 25 percent by improving muscle growth and slowing down naturally occurring muscle degradation.¹³

Cattle Ranchers & Farmers Invest in Safety



Source: The Beef Checkoff Program

Reducing Risk of *E. coli* O157:H7

“ We’ve been able to break things down to talk food safety and make that a non-competitive issue. ”

Tim Biela, American Foodservice Corporation

Safety has been a priority for America's cattle farmers and ranchers since they initiated a ground-breaking food industry program in 1993 to aggressively research and reduce foodborne illnesses associated with beef. In late 1992 and early 1993, knowledge of *E. coli* O157:H7 and its effect on human health were mostly unknown. Following unanimous approval of a resolution in August 1993 by the National Livestock and Meat Board, a group of industry and government scientists and executives were appointed to review all of the relevant public and private research and recommend the best course of action to manage *E. coli* O157:H7 in beef. This was the initiation of the Blue Ribbon Task Force. The two specific objectives of the task force were: 1) Identify areas of research/intervention systems and Hazard Analysis and Critical Control Point (HACCP) procedures that would result in a substantial reduction in the risk factors associated with the presence of *E. coli* O157:H7 in beef; and 2) Identify voids in management practices from the farm to the table, which may be critical in the management of *E. coli* O157:H7 in the beef supply. Based on its analysis, the industry's Blue Ribbon Task Force issued a set of recommendations in 1994 designed to improve beef safety.

Bringing the Beef Industry Together to Improve Food Safety



The Beef Industry Food Safety Council (BIFSCO), formed in 1997 and funded in part by the beef checkoff, has more than 70 members and is another example of the beef industry's commitment to safety.

BIFSCO brings together representatives from all segments of the beef industry to develop science-based strategies that address the challenge of *E. coli* O157:H7 and other foodborne pathogens in beef. BIFSCO currently is focused on understanding opportunities to control pathogens at every stage of production, monitoring emerging safety challenges, reaching a broader range of beef

industry players with safety information and validating the extensive list of existing safety controls the beef industry has helped develop and implement. Through BIFSCO, the beef industry has developed best practices for every segment of the production chain to contribute to improved safety. The beef checkoff, in partnership with BIFSCO, has held nine national Beef Safety Summits, annual events attracting industry leaders from around the country. Recently, the outreach efforts have expanded

Interactive

Click here to view a short video about beef safety.

beyond the annual summit to include regional meetings, which are aimed at reaching smaller packers, processors, restaurateurs, grocery store meat managers and others. Four regional workshops were held in 2010 with more than 100 attendees. Another five regional workshops are scheduled for 2011. Learn more at www.BIFSCo.org.

Thanks in part to these efforts, the total number of *E. coli* O157:H7 illnesses was down 25 percent in 2009 compared to the 2006-2008 period—the lowest since 2004. With this decline, *E. coli* O157:H7 incidence met the “Healthy People 2010” goal of no more than one case per 100,000 people.¹⁷ Cattle farmers and ranchers have tackled food safety challenges by building and leading a non-competitive, science-based, collaborative approach. And the industry is committed to long-term food safety improvements. From 1993 through 2011, cattlemen invested more than \$30 million of their beef checkoff dollars to beef safety efforts.

Each year, the beef industry as a whole invests an estimated \$550-million-plus to implement, maintain and/or validate safety controls and conduct product testing.

Protecting Against Other Pathogens

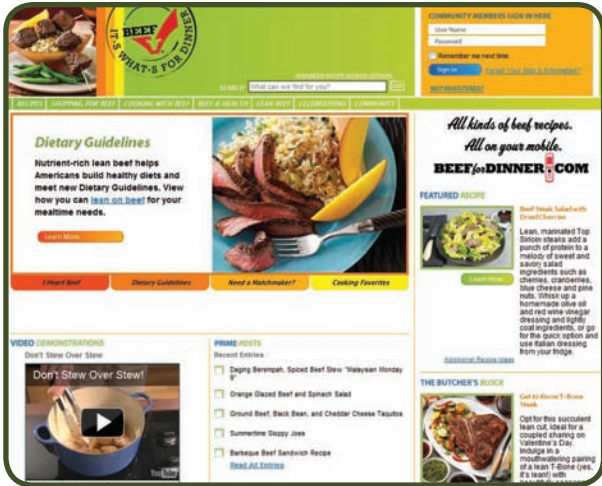
Safety interventions on the farm, during processing and at the point of cooking or preparation are all critical to beef safety. Thus, the beef checkoff research program now focuses on a “systems approach,” evaluating safety improvement practices and technologies throughout the beef supply chain in combinations, not independently. Through collective initiatives, such as BIFSCo, the industry continues to move forward with the single goal of ensuring the safest beef supply in the world.

Food safety pathogens, such as non-O157:H7 strains of *E. coli*, are considered emerging safety challenges, as little is known about them, including the best testing methods. Therefore, a second Blue Ribbon Task Force has been formed to provide guidance for research and industry action. The beef industry and government must continue to invest in safety research that advances our understanding of new and current food safety challenges and continue bringing together industry leaders to cooperatively identify and implement safety solutions.

Beef Safety Timeline

Year	Milestone
1993	The beef checkoff funds a Blue Ribbon Task Force of scientists who outline research needs and industry action to improve beef safety
1994	More than 25 different <i>E. coli</i> interventions are evaluated for reducing pathogens on beef carcasses
1995	Research identifies hot water or steam vacuuming step for effectively removing contamination in processing. Microbial mapping study identifies where bacteria can enter the food chain
1996	Hot water rinse system developed to eliminate harmful bacteria in processing
1997	BIFSCo is formed. Beef industry continues to investigate beef de-contamination methods
2002	Researchers examine the effects of on-farm management practices on the transfer of pathogens from cattle
2003	BIFSCo hosts its first Safety Summit where leaders convene to discuss solutions and develop “best practices” for each segment of the industry
2006	Beef industry is cited as a model for other industries to follow during high-profile produce recalls
2008	The beef checkoff begins “Safe and Savory at 160 F” consumer education program
2009	USDA grants conditional license to the first vaccine to reduce <i>E. coli</i> O157:H7 in cattle
2011	More than 240 industry leaders attend the ninth annual Beef Safety Summit





Educating Consumers on Cooking Beef

Despite improved product safety, consumer education on proper cooking remains a priority. In a beef checkoff-funded food safety survey conducted in December 2010, the vast majority of consumers (79%) said they determine doneness of a ground beef patty by looking at some combination of color and juices. Only 10 percent said they use a meat thermometer, down four percentage points from July 2010.¹⁸

The beef industry recognizes that everyone from cattle farmers and ranchers, to packers and processors, retailers and food service operators and consumers play a role in food safety. The “Safe and Savory at 160 F” program, which is primarily disseminated through major retailers and the www.BeefItsWhatsForDinner.com website, teaches consumers how to safely handle, prepare and cook ground beef to a safe 160 degrees Fahrenheit using an instant-read meat thermometer.

VISION FOR THE FUTURE

In short, the beef industry is focused on deliberate, smart, long-term solutions. As a result, U.S. consumers have reliable access to one of the highest quality, most nutritious and safest beef supplies in the world and cattlemen’s commitment is to keep it that way by:

- Responsibly conducting and sharing research that helps consumers understand how lean beef fits in a healthy diet. Then, making the science available to the nutrition community so beef is recognized as a healthy part of various federal and health professional guidelines.
- Continuing to conduct safety research that advances understanding of current and emerging pathogens and safety tools and leading the annual Safety Summit and regional meetings to encourage the beef industry to validate and implement safety solutions.
- Conducting beef quality research to evaluate the impact of on-farm and beef processing practices.
- Exploring beef fabrication innovation opportunities to deliver cuts that meet consumer demands while increasing carcass value and continuing to work to make beef more convenient.
- Providing consumers with the information they need to enjoy great beef meals, from recipes to nutrition information and retail meat case knowledge.

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Investments in Safety

Cattle farmers and ranchers have invested \$30 million in beef safety efforts.

