2019 JUNIOR NATIONAL HEREFORD EXPO CERTIFIED HEREFORD BEEF® COOK-OFF STUDY GUIDE

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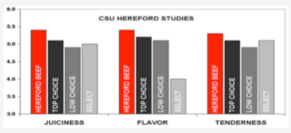
HISTORY OF CHB



1991

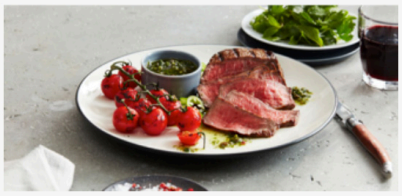
The American Hereford Association partners with Colorado State University to study the contribution of Hereford beef to the American food supply. The results showed Hereford beef was superior in every category.

1995

Certified Hereford Beef is formed to market Hereford Beef to American families, from American families.

2003

Certified Hereford beef surpasses the 25 million pounds sold mark.



2005

Certified Hereford Beef celebrates it's 10th anniversary.

2005

The Certified Hereford Beef Choice program is launched into the market.

2014

Certified Hereford Beef surpasses the 50 million pounds sold mark.

2015

Certified Hereford Beef celebrates it's 20-year anniversary.

2017

Certified Hereford Beef launched the Premium program – an upper 2/3rds USDA Choice and Prime program

FOR MORE INFORMATION, PLEASE VISIT CERTIFIEDHEREFORDBEEF.COM

LIVE ANIMAL SPECIFICATION
AMERICAN HEREFORD ASSOCIATION'S
SPECIFICATION FOR CHARACTERISTICS OF CATTLE ELIGIBLE FOR THE AMERICAN HEREFORD ASSOCIATION CERTIFIED HEREFORD BEEF PROGRAM
APRIL 2016

I. SCOPE

This specification is for use by representatives of the American Hereford Association (AHA) and its designates to assure that cattle presented for Certified Hereford Beef (CHB) program certification by the Quality and Assessment Division (QAD) of USDA meet the live animal requirements of the CHB program. The purpose of this specification is to define visual indicators of cattle that are at least 50% Hereford and 100% English breed type to the exclusion of dairy, continental, and Bos indicus genetic type cattle.

II. REQUIREMENTS

(a) Phenotype

- Cattle offered for AHA qualification must have a predominately (51%) white face. Cattle must exhibit white markings over the jaw, forehead and muzzle. Cattle must have white markings on all three locations or they are unacceptable.
- Cattle must exhibit some or all of the traditional markings of a Hereford or Hereford/English crossbred animal such as white on the face and neck. White markings on any part of the hip, shoulder or side of the body such as spots, stripes, or belts are not acceptable.
- Cattle offered for qualification other than solid red, solid black, or roan with a predominately white face, such as yellow, gray, brown, brindle, or smoke are ineligible.
- Steers and heifers presented for AHA qualification must be of beef type breeding. Animals must express some evidence of muscle bulge. Although not limited to, this bulge is best observed in the large muscles of the round.
- An animal expressing dairy type breeding (dairy-type head, prominent "hook" bones, large "barrel-like" body, etc.) typically has muscles in the round which are semi-flat to concave or "dished" in appearance. Such animals are not acceptable.
- Cattle offered for qualification shall not have an excessive hump on the withers (protruding above the top line), excessively long ears (ears that project downward from the head) or an elongated head indicative of bos indicus genetics. The hump on the withers should not be confused with a crest on the neck, which is normal for many thick muscled cattle, particularly males.
- To qualify, cattle may be either horned or polled. Bulls, bullocks, or cows are not acceptable.

(b) Genotype

In lieu of the aforementioned phenotypic requirements regarding color and traditional Hereford markings, qualification can be based upon a signed affidavit provided by the cattle breeder that verifies the cattle are at least genetically ½ Hereford breeding and 100% British bred (Angus, Red Angus, Shorthorn, Hereford, or South Devon). All genotype cattle must be the direct offspring of a registered Hereford bull or cow. This affidavit must be submitted to a representative of the AHA prior to feedlot qualification. Cattle qualifying by genotype documentation must be presented for slaughter as a unique lot separated from all phenotype qualified cattle and non-qualifying cattle and designated as "Genotype" cattle on the kill sheet. Genotype qualified cattle may not change ownership after they have been assigned an official AHA lot number and have been approved for slaughter.

CHB Harvest Monitoring Procedures

At the time of slaughter, trained employees of the slaughter plant shall determine those animals that meet the CHB Live Animal Specifications and identify the carcasses of those animals with a "C" stamp, or other identifying marking, approved by the local Quality and Assessment Division (QAD) supervisor. When identification of CHB carcasses will be performed with a marking other than a "C" stamp, slaughter plant management will provide to QAD a written SOP identifying the determined method. This documentation will be posted in each QAD office so that any QAD employee can access the information.

With regard to cattle that are genetically identified, the identity of the qualifying lot must be maintained until the "C" stamp, or other approved identifying marking, is applied to the carcass.

USDA QAD agents shall conduct unannounced, random checks of the AHA approved personnel to monitor compliance with the procedures, as shown in Table I. AHA approved personnel shall be designated with a program specified helmet sticker. QAD agents shall observe the work of the approved plant employee for a period of two to five minutes. Any observations shown in Table II as defects shall be recorded by the QAD agent during each monitoring period.

TABLE I. MONITORING FREQUENCY

Slaughter Rate Number of cattle/shift	Frequency of monitoring periods 1/
Up to 500	2
501 – 1,000	4
1,001 – 1,500	6
1,501 – 2,000	8
Over 2,000	10

1/ The QAD agent shall randomly determine the times of actual observation before the beginning of the slaughter shift based on the plant's expected slaughter rate.

TABLE II. LIVE ANIMAL AND CARCASS DEFECTS

Defect Categories

Major	Minor	Defects
101		30 percent or less of the face is white
	201	31 percent to 50 percent of the face is white
102		Cattle with 50 percent white face are other than solid red, solid black, or roan
	202	Cattle with 50 percent white face are light red and do not show additional Hereford markings
103		Cattle with markings on the hip, shoulder, or side of the body including spots, stripes, or belts.
104		Presence of two or more of the following bos indicus indicators: excessive hump, excessive ears, or bos indicus head
	204	Presence of one of the following bos indicus indicators: excessive hump, excessive ears, or bos indicus head
105		Animal qualified which has predominant dairy characteristics
	205	Animal qualified which has noticeable, but not predominant, dairy characteristics
106		Non-approved plant employees performing live animal identification
	206	Unidentified approved plant employee performing live animal identification
107		Carcass in cooler with CHB roll that does not have a "C" stamp (or other approved identifying marking) or a USDA "Accepted as Specified" stamp over the "grade schedule" marking
	207	"C" stamp, or other approved identifying marking, not placed on approved area of carcass
108		Identity of genetically qualified cattle is not maintained up to the point at which the "C" stamp, or other approved identifying marking, is applied to the carcass
109		Carcass of a bull, bullock, or cow identified with "C" stamp, or other approved identifying marking

Defects 101, 201, 102, and 202 apply to cattle that are not genotype qualified. As long as no defects are observed under program monitoring the designated frequency of monitoring shall continue. However, observation of any major defect, two minor defects within a week, or three minor defects within four weeks, shall immediately result in accelerated monitoring. Under accelerated monitoring the frequency of monitoring shall be doubled. If no defects are observed during two weeks of accelerated monitoring, the plant shall revert to the normal monitoring level. If any major defect or two minor defects are observed under accelerated monitoring the identification program shall be placed under 100% QAD supervision for four weeks. After four weeks of 100% supervision, the program will revert to accelerated monitoring before going to normal monitoring.

USDA SPECIFICATION FOR CERTIFICATION OF BEEF CARCASS QUALITY AND YIELD CHARACTERISTICS OF OFFICIALLY GRADED BEEF

This program is for certification by an USDA Agricultural Marketing Service (QAD) grader of U.S. Prime and Choice steer and heifer beef carcasses which are derived from cattle that meet the phenotypic requirements solely of the USDA Live Animal Specifications for Characteristics of Cattle Eligible for the American Hereford Association's Certified Hereford Beef Program (AHA); or of both the USDA Live Animal Specifications for Characteristics of Cattle Eligible for the American Hereford Association's Certified Hereford Beef Program (AHA) and the USDA Specification for Characteristics of Cattle Eligible for Approved Beef Programs Claiming Angus Influence (AAA). The purpose of dual live animal specifications (AHA and AAA) are to define visual indicators from black baldy cattle that meet both the Hereford influence phenotypic requirements (AHA) and meet the Angus influence phenotypic requirements (AAA) and beef carcasses that are identified as Black Baldy cattle to USDA AMS Quality Assessment Division graders and (b) meet the following set of requirements:

1. A marbling score of Modest 00 and higher;
2. Less than 30 months of age with lean color, texture, firmness, meeting the requirements for A maturity in the U.S. grade it qualifies for; U.S. Prime, Choice grade;
3. Medium or fine marbling texture;
4. Ribeye Area (REA) of 10.0 to 16.0 in^2;
5. Hot Carcass Weight (HCW) of 1,050 lbs. or less
6. Fat Thickness (FT) less than 1.0 inch;
7. Moderately thick or thicker muscling and tend to be at least moderately wide and at least thick in relation to their length;
8. Rhomboideus muscle (hump) shall not exceed 2 inches in height;
9. Free of "dark cutting" characteristics; and
10. Practically free (not distracting from visual quality) of capillary rupture in the ribeye muscle.

_____

Items 1 and 2 shall be determined in accordance with the "Official United States Standards for Grades of Carcass Beef."

Item 3 shall be evaluated using the USDA-AMS-LS-SB-02 Marbling Texture card.

Item 4, REA, is inclusive of the lower and upper limits and allows for one side to meet the standard to consider both eligible for certification.

Item 5, A maximum allowable HCW of 1,050 lbs. as determined and applied at the hot scale. (If kidney, pelvic and heart fat is fully or partially removed and not accounted for in the final HCW, then HCW must be less than 1,025 lbs.

Item 6, FT, is to be determined at the 12th rib and represent solely an evaluation of subcutaneous fat over the ribeye at a point ¾ the lateral length of the eye muscle from the backbone. If the actual FT over the ribeye has been altered due to a hide pull, gouge, trim, or other irregularity, a predicted line shall be determined along the curvature of the ribeye to establish an accurate prediction of unaltered fat thickness at the 12th rib surface. FT may be determined on either side of the carcass with at least one side meeting the standard to consider both eligible for certification.

Item 7 muscle thickness, is evaluated by averaging the thickness of the various parts, considering not only the proportion (%) each part is the carcass but also the general value of each part. Superior muscle thickness implies a high proportion of meat to bone and a high proportion of the weight of the carcass in the more valuable parts.

Item 8 shall be measured from a line formed by the extension of the top line (including the fat) and measuring the lean muscle (excluding the fat) perpendicular to that line in the center of the hump.

CERTIFICATION

Carcasses to be examined for compliance with the requirements of this specification shall be clearly identified when presented to the QAD grader for certification. Procedures for identification, certification, the removal of preliminary identification marks (or other methods of control) from non-qualifying carcasses, and control of certified carcasses shall be in accordance with established Quality Assessment Division (QAD) procedures. The QAD grader shall certify acceptable carcasses and complete the Live Animal/Carcass Certification Worksheet (Form LS-5-6).

The costs of all grading and certification services performed by the QAD grader involving examinations, supervision, official documentation, and related services shall be borne by the person, group, or plant requesting the service.

LABELING

Labeling of Certified Hereford Beef Program products (i.e., Certified Hereford Beef or Nuestro Rancho) shall be in compliance with Food Safety and Inspection Service regulations and policy guidelines, QAD instructions and Livestock and Seed Program Policy Standardization Procedure 2 (LS Policy SP2).

DARREL L DOWD Digitally signed by DARRELL DOWD Date: 2018.12.18 11:13:02 -07'00'

Approved
January 1, 2019

USDA SPECIFICATION FOR CERTIFICATION OF BEEF CARCASS QUALITY AND YIELD CHARACTERISTICS OF OFFICIALLY GRADED BEEF

This specification is for certification by an Agricultural Marketing Service (AMS) grader of U.S. Prime and Choice steer and heifer beef carcasses which: (a) meet the American Hereford Association's live animal specification and (b) meet the following set of requirements:

1. A marbling score of Small 00 or higher;
2. Less than 30 months of age with lean color, texture, firmness, meeting the requirements for A maturity in the U.S. grade it qualifies for;
3. Medium or fine marbling texture;
4. Ribeye Area (REA) of 10.0 to 16.0 in^2
5. Hot Carcass Weight (HCW) of 1,050 lbs. or less*
6. Fat Thickness (FT) less than 1.0 inch;
7. Moderately thick or thicker muscling and tend to be at least moderately wide and thick in relation to their length;
8. No hump exceeding 2 inches in height;
9. Practically free (not detracting from visual quality) of capillary rupture in the ribeye muscle; and
10. Free of "dark cutting" characteristics.

Items 1, 2, and 3 shall be determined in accordance with the "Official United States Standards for Grades of Carcass Beef."

Item 3 shall be evaluated using the USDA-AMS-LS-SB-02 Marbling Texture card.

Item 4, REA, is inclusive of the lower and upper limits and allows for one side to meet the standard to consider both eligible for certification.

Item 5 establishes a maximum allowable HCW of 1,050 lbs. as determined and applied to the carcass at the hot scale. *(If Kidney, Pelvic and Heart Fat is fully or partially removed and not accounted for in the final HCW, then HCW must be less than 1,025 lbs.).

Item 6, FT, is to be determined at the 12th rib and represent solely an evaluation of subcutaneous fat over the ribeye at a point ¾ the lateral length of the eye muscle from the backbone. If the actual FT over the ribeye has been altered due to a hide pull, gouge, trim, or other irregularity, a predicted line shall be determined along the curvature of the ribeye to establish an accurate prediction of unaltered fat thickness at the 12th rib surface. FT may be determined on either side of the carcass with at least one side meeting the standard to consider both eligible for certification.

Item 7, muscle thickness, is evaluated by averaging the thickness of the various parts, considering not only the proportion (%) each part is of the carcass but also the general value of each part. Superior muscle thickness implies a high proportion of meat to bone and a high proportion of the weight of the carcass in the more valuable parts.

Item 8 shall be measured from a line formed by the extension of the top line (including the fat) and measuring the lean muscle (excluding the fat) perpendicular to that line in the center of the hump.

CERTIFICATION

An AMS grader will certify acceptable carcasses. Carcasses to be examined for compliance with the requirements of this specification shall be clearly identified when presented to the AMS grader for certification. Procedures for identification, certification, the removal of preliminary identification marks (or other methods of control) from non-qualifying carcasses, and control of certified carcasses shall be in accordance with established Quality Assessment Division (QAD) procedures.

The costs of all grading and certification services performed by the AMS grader involving examinations, supervision, official documentation, and related services shall be borne by the person, group, or plant requesting the service.

LABELING

Labeling of Certified Hereford Beef Program products shall be in compliance with Food Safety and Inspection Service regulations and policy guidelines, QAD instructions, Livestock and Poultry Program Policy and Standardization Procedure 2.

FOR MORE INFORMATION ABOUT BRANDED BEEF PROGRAMS, PLEASE VISIT
WWW.AMS.USDA.GOV/SERVICES/AUDITING/CERTIFIED-BEEF-PROGRAMS

PACKING PARTNER - NATIONAL BEEF

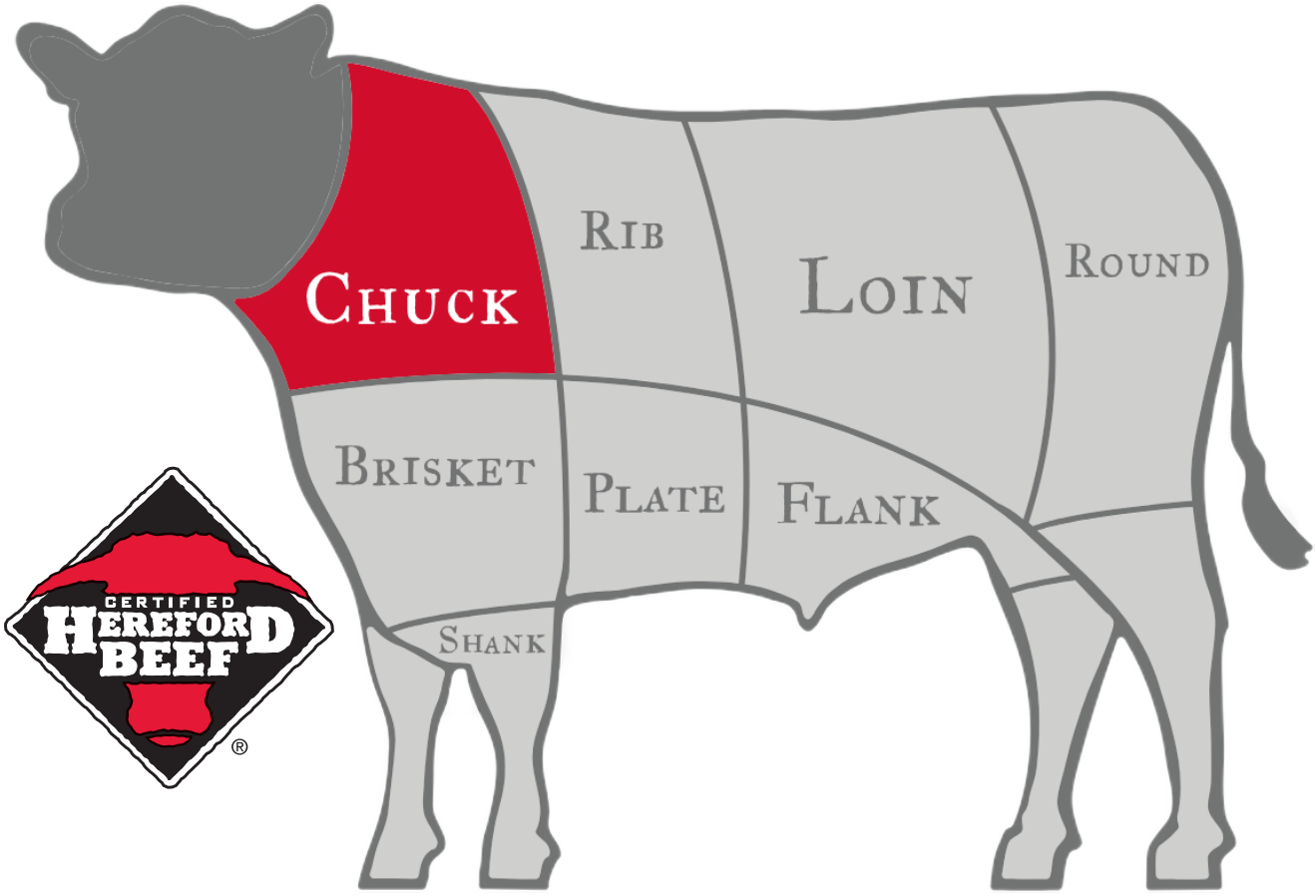
DARE TO BE DIFFERENT WITH CERTIFIED

HEREFORD BEEF®

When you offer the best cuts of the juiciest beef, you stand out from the rest. Choosing a one-of-a-kind Certified Hereford Beef® program from National Beef® helps differentiate your business in this competitive marketplace. With its grain-fed diet and unique characteristics, your customers enjoy a consistent, flavorful and tender beef eating experience every time.

PLEASE VISIT NATIONALBEEF.COM/PRODUCTS/VABRANDS/PAGES/CERTIFIED-HEREFORD-BEEF.aspx
FOR MORE INFORMATION ABOUT OUR PACKER PARTNER

BEEF CUTS EDUCATION

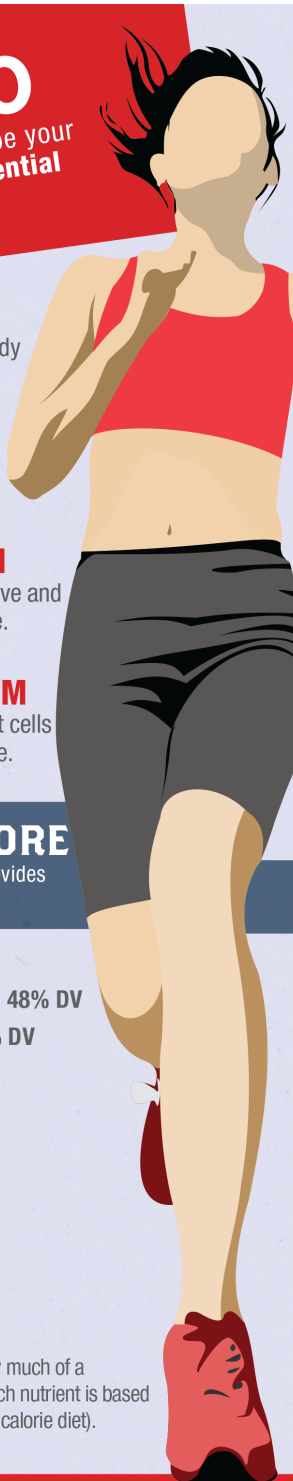


TO LEARN MORE ABOUT BEEF CUTS FROM OUR INTERACTIVE BEEF CUTS LIBRARY, PLEASE VISIT
CERTIFIEDHEREFORDBEEF.COM/RECIPES/CUTS

BEEF NUTRITION

BEEF'S BIG 10

Do more than just get through the day – be your best every day. **Here's how beef's essential nutrients can help.**



VITAMINS B_6 and B_{12} help maintain brain function.

B-vitamins in beef help give you the **energy** to tackle busy days.

IRON helps your body use oxygen.

ZINC helps maintain a healthy immune system.

CHOLINE supports nervous system development.

PHOSPHORUS helps build bones and teeth.

All lean beef cuts have less than 10 grams of total fat, 4.5 grams or less of saturated fat and less than 95 milligrams of cholesterol per 3 ½-oz. cooked serving. **Surprise! Some cuts of beef are as lean as a 3-oz. skinless chicken thigh.**

PROTEIN helps preserve and build muscle.

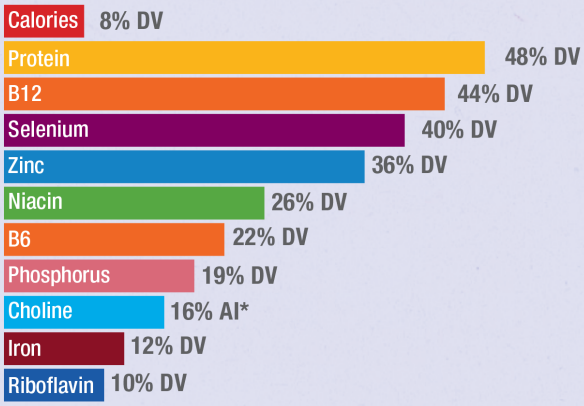
NIACIN supports energy production and metabolism.

SELENIUM helps protect cells from damage.

RIBOFLAVIN helps convert food into fuel.

BEEF GIVES YOUR BODY MORE

of the nutrients you need. A 3-oz. serving of lean beef provides the following nutrients in about 150 calories:



The "daily value" percentage (aka DV) helps you determine how much of a particular nutrient a food contributes to average daily needs. Each nutrient is based on 100% of the daily requirements for that nutrient (for a 2,000 calorie diet).

*(*AI stands for Adequate Intake. The highest AI for Choline is 550mg.)*

DID YOU KNOW?

- Don't be left unsatisfied. A 3-oz serving of lean beef provides 25 g (about half) of the Daily Value for protein, which is one of the most satisfying nutrients.
- Get your workout in! Exercise is more effective when paired with a higher-protein diet.
- Interested in heart health? Research shows that including lean beef, even daily as part of a heart-healthy diet and lifestyle, improved cholesterol levels.

BEEF

Funded by the Beef Checkoff.

For recipes and more visit
BeefItsWhatsForDinner.com

U.S. Department of Agriculture, Agricultural Research Service, USDA Nutrient Data Laboratory. 2012. USDA National Nutrient Database for Standard Reference, Release 25. Available at: http://www.nal.usda.gov/fnic/foodcomp/search/.
Paddon-Jones D, Westman E, Mattes RD, Wolfe RR, Astrup A, Westerterp-Plantenga M. Protein, weight management, and satiety. Am J Clin Nutr 2008;87:1558S-61S.
Layman DK, Evans E, Baum JI, Seyler J, Erickson DJ, Boileau RA. Dietary protein and exercise have additive effects on body composition during weight loss in adult women. J Nutr 2005;135:1903–10.
Symons TB, Sheffield-Moore M, Mamerow MM, Wolfe RR, Paddon-Jones D. The anabolic response to resistance exercise and a protein-rich meal is not diminished by age. J Nutr Health Aging 2011;15:376-81.
Roussell MA, Hill AM, Gaugler TL, West SG, Vanden Heuvel JP, Alaupovic P, Gillies PJ, and Kris-Etherton PM. Beef in an Optimal Lean Diet study: Effects on lipids, lipoproteins, and apolipoproteins. Am J Clin Nutr 2012;95:9-16.

PROTEIN BENEFITS

Beef gives your body more of the high-quality protein you need to achieve and maintain a healthy weight and preserve and build muscle.

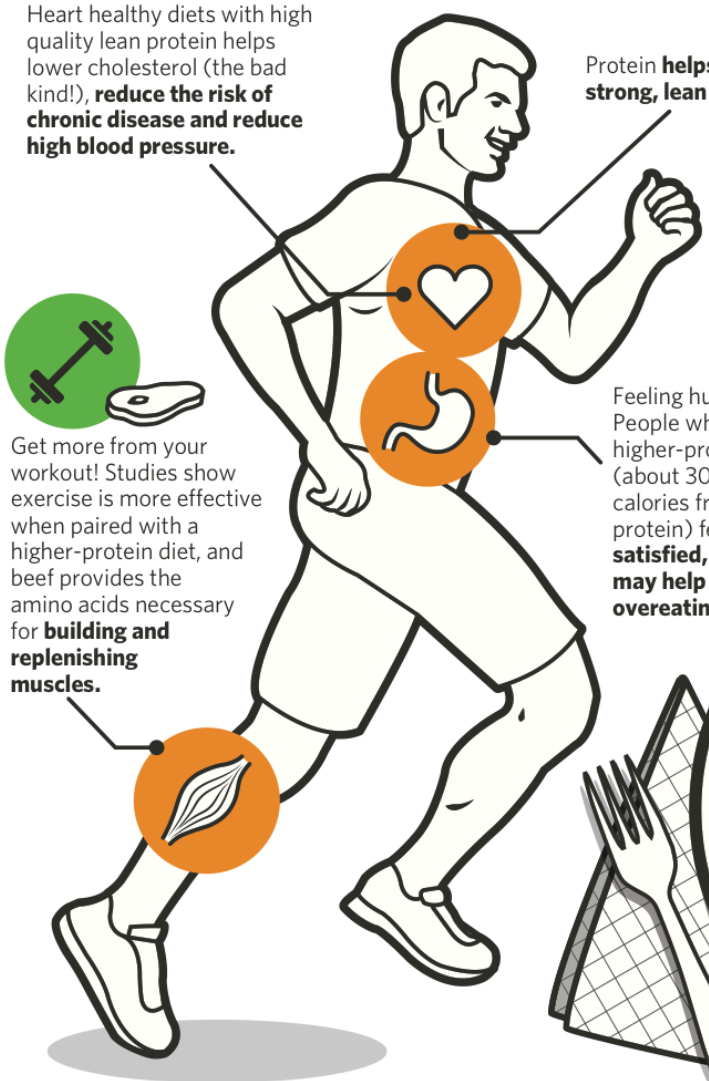
WHY FOCUS ON PROTEIN?

Heart healthy diets with high quality lean protein helps lower cholesterol (the bad kind!), **reduce the risk of chronic disease and reduce high blood pressure.**

Protein **helps support strong, lean bodies.**

Get more from your workout! Studies show exercise is more effective when paired with a higher-protein diet, and beef provides the amino acids necessary for **building and replenishing muscles.**

Feeling hungry? People who eat a higher-protein diet (about 30% of daily calories from protein) feel **more satisfied, which may help prevent overeating.**



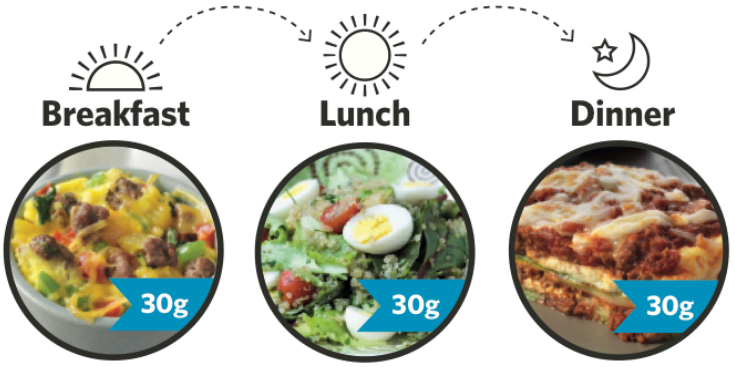
50%

of your recommended Daily Value of protein

a 3-oz serving of beef provides 25 grams of protein and 10 essential nutrients in one tasty package.

THE BENEFITS OF BALANCED PROTEIN THROUGHOUT THE DAY

New research shows spreading protein intake evenly throughout the day may be the most beneficial for overall health and wellness.

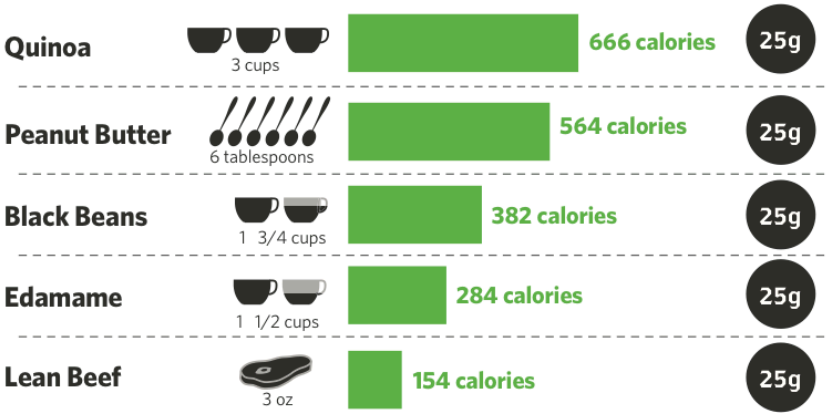


25-30 grams

aim for this amount of protein at each meal, plus snacks for ultimate body benefits.

WHAT DOES 25 GRAMS OF PROTEIN LOOK LIKE?

Take a look at what 25 grams of protein looks like and the caloric cost of plant protein



Animal proteins, such as lean beef, provide complete high-quality protein that contains all the essential amino acids the body needs for optimal health.

USDA/HHS. Dietary Guidelines for Americans, 2010. 7th Edition, Washington, DC: U.S. Government Printing Office, December 2010.

USDA, Agricultural Research Service. Energy intakes: percentages of energy from protein, carbohydrate, fat, and alcohol, by gender and age, what we eat in America, NHANES 2009–2010. Available at: www.ars.usda.gov/ba/bhnrc/fsrg.

Mamerow M, et al. Dietary protein distribution positively influences 24-h muscle protein synthesis in healthy adults. J Nutr. 2014;144:876-80.

Paddon-Jones D, et al. Protein, weight management, and satiety. Am J Clin Nutr. 2008;87:1558S-61S.

Leidy H, et al. Beneficial effects of a higher-protein breakfast on the appetitive, hormonal, and neural signals controlling energy intake regulation in overweight/obese "breakfast-skipping" late-adolescent girls. Am J Clin Nutr. 2013;97:677-88.

Leidy H, et al. Increased dietary protein consumed at breakfast leads to an initial and sustained feeling of fullness during energy restriction compared to other meal times. Br J Nutr. 2009;101:798-803.

Johnston C, et al. High-protein, low-fat diets are effective for weight loss and favorably alter biomarkers in healthy adults. J Nutr. 2004;134: 586-91.

Layman D, et al. Dietary protein and exercise have additive effects on body composition during weight loss in adult women. J Nutr. 2005;135:1903-10.

Layman D, Walker D. Potential importance of leucine in treatment of obesity and the metabolic syndrome. J Nutr. 2006;136:319S–23S.

Noakes M, et al. Effect of an energy-restricted, high-protein, low-fat diet relative to a conventional high-carbohydrate, low-fat diet on weight loss, body composition, nutritional status, and markers of cardiovascular health in obese women. Am J Clin Nutr. 2005;81:1298-306.

Merchant A, et al. Protein intake is inversely associated with abdominal obesity in a multi-ethnic population. J Nutr. 2005;135:1196-201.

Symons T, et al. A moderate serving of high-quality protein maximally stimulates skeletal muscle protein synthesis in young and elderly subjects. J Am Diet Assoc. 2009;109:1582-6.

Rodriguez N, et al. Dietary protein, endurance exercise, and human skeletal-muscle protein turnover. Curr Opin Clin Nutr Metab Care. 2007;10:40-45.

Layman D, et al. Protein in optimal health: heart disease and type 2 diabetes. Am J Clin Nutr. 2008;87:1571S-5S.

Paddon-Jones D, Leidy H. Dietary protein and muscle in older persons. Curr Opin Clin Nutr Metab Care. 2014;17:5-11.

Westerterp-Plantenga MS, et al. Dietary protein, metabolism, and body-weight regulation: dose-response effects. Int J Obes 2006;30:S16-S23.

Roussell M, et al. Beef in an Optimal Lean Diet study: effects on lipids, lipoproteins, and apolipoproteins. Am J Clin Nutr. 2012;95:9-16.

Wycherley T, et al. Effects of energy-restricted high-protein, low-fat compared with standard-protein, low-fat diets: a meta-analysis of randomized controlled trials. Am J Clin Nutr. 2012;96:1281-98.

. ABOVE ALL ELSE .
BEEF
IT'S WHAT'S FOR DINNER.
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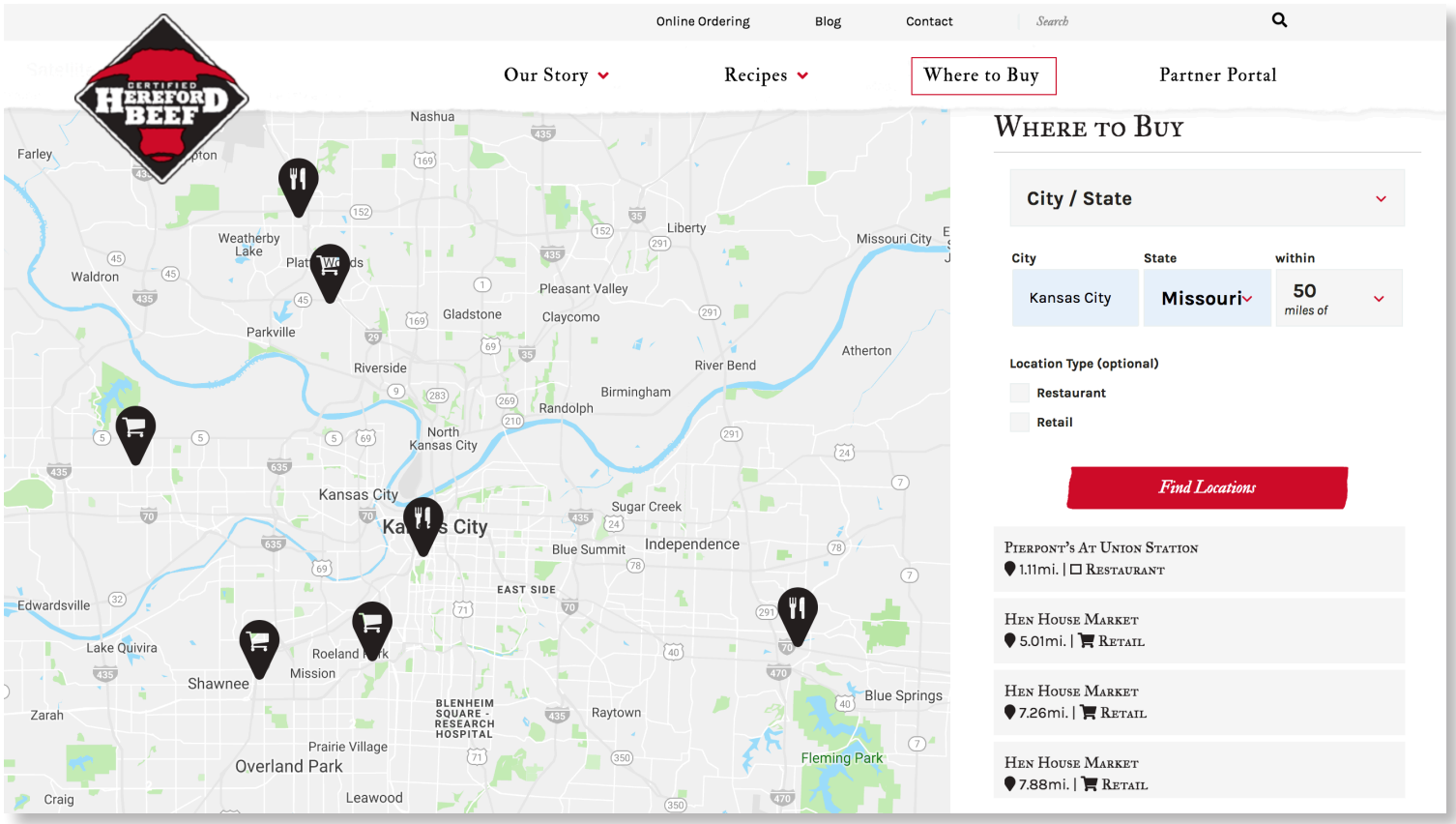
RESTAURANT & RETAIL PARTNERS



TO FIND CHB RESTAURANT AND RETAIL PARTNERS IN YOUR AREA, PLEASE VISIT

CERTIFIEDHEREFORDBEEF.COM/WHERE-TO-BUY

NORTH AMERICAN MEAT INSTITUTE

MEDIA MYTHCRUSHER

Antibiotics in Livestock and Poultry Production

The words you choose and the numbers you use matter.

Antibiotic use and antibiotic resistance in humans and animals are some of the most complex topics that reporters are asked to cover. Certain statistics and phrases are commonly used in reporting and in online sources, and they appear to become an accepted part of the American lexicon. But being mindful of key words and statistics can help reporters improve the accuracy of their coverage and the information that is passed on to readers and viewers. We've compiled ten tips to improve accuracy.

#1: Antibiotics sometimes used in livestock production – but never in meat production.

Antibiotics are sometimes used to ensure livestock and poultry health. Media stories sometimes say "Antibiotics in meat" or "antibiotics in meat production." Antibiotics are not used to produce meat. They are used, at times, to ensure the livestock and poultry health, just as they are sometimes used to care for our pets.

#2: Don't Sing the '80 percent' Song.

An often cited and deliberately 'shocking' statistic says that 80 percent of antibiotics are used in livestock and poultry production, but experts warn against the use of this number for several reasons.

Sales of veterinary antibiotics are tracked, sales of human antibiotics are not. The "80 percent" number uses actual veterinary drug sales data but only uses estimated and projected human antibiotic drug sales data. The vast majority of antibiotics are given either to animals or to people. Very few antibiotics are used in both people and animals.

#3: Cattle and Pigs Weigh More Than People.

If you choose to accept the "80-percent-of-antibiotics-are-used-in-livestock-production" statistic, remember this: Antibiotics are administered based upon weight.

Animals are more numerous and heavier. It takes more antibiotics to treat a lung infection in a 1,400 pound steer than in a 140 pound human.

#4: Don't Confuse the 'R' Words: Resistance and Residues.

The words "resistance" and "residues" are sometimes used interchangeably. The real concern about antibiotic use in humans and in livestock is the potential for bacteria exposed to too many antibiotics to develop resistance to those antibiotics. The real concern among experts is not that humans could be exposed to antibiotics through the meat they eat and somehow develop a 'tolerance' to that antibiotic. (See below.) Rather, the concern is that overexposing bacteria to antibiotics could make them antibiotic resistant. If a human contracts an infection from a germ with

significant resistance, it may be more challenging to treat.

#5: Residues Are Rare, Not 'Commonly Found.'

Under the Food and Drug Administration (FDA) rules, farmers and ranchers must wait a defined period to send animals to market if they have been given antibiotics. In meat and poultry plants, USDA inspectors sample carcasses and organs to ensure no residue violations are found – and they almost never are.

An April 8, 2014, *Washington Post* story reported, "The USDA randomly tests carcasses for residues of pesticides, contaminants and veterinary drugs including antibiotics. In 2011, it screened for 128 chemicals, and 99 percent of the tested carcasses were free of all of them."

#6: Big Difference: 'Livestock Raised Without Antibiotics' vs. 'Antibiotic Free Meat.'

The phrase "Livestock raised without antibiotics" is not interchangeable with "antibiotic free meat." Livestock (and poultry) can be raised with or without antibiotics. Labels on these products must reflect that. USDA will not permit meat and poultry to be labeled "antibiotic free" because it's a misleading way to characterize how antibiotics are used.

#7: Overuse In Humans Is the Biggest Issue, according to CDC.

The Center for Disease Control and Prevention (CDC) 2013 report *Antibiotic Resistant Threats in the United States 2013* said that the number one contributing factor to the development of antimicrobial resistance is overuse in humans, though CDC emphasized the need for good antibiotic stewardship among livestock and poultry farmers as well. In a 2013 press conference, CDC's Director Michael Frieden, M.D., said, "The most acute problem is in hospitals. And the most resistant organisms in hospitals are emerging in those settings, because of poor antimicrobial stewardship among humans." CDC said half of antibiotic prescriptions written to people are unnecessary.

#9: Beware The Use of the 'Superbugs' Moniker.

While a bacteria may be naturally resistant to an make it a 'superbug.' FDA's Center for Veterinary Medicine said it best in a letter to the *New York Times:* "It is an oversimplification to conclude that resistance in any bacterium is problematic for human health. Some bacteria are naturally resistant to certain drugs…Describing certain bacteria that are resistant to one, or even a few, drugs as 'superbugs' is inappropriate. Rather, 'superbugs' are pathogens that can cause severe disease and are very difficult to treat."

#9: Hormones and Antibiotics Are Not the Same.

Often 'hormones and antibiotics' are referenced together in a single phrase, as if they are one and the same. They are not. Antibiotics are used to ensure health and treat illness; supplemental hormones are used to improve an animal's ability to convert feed to muscle, which becomes meat. Antibiotics are used in all species. Supplemental hormones are only permitted in cattle production. The use of antibiotics for growth promotion is being discontinued. (See #10)

#10: Farmers Say 'Goodbye Growth Promoting Antibiotics.'

Humans seek medical care when needed and sometimes that involves antibiotics. The same goes for livestock and poultry where farmers and veterinarians collaborate on their behalf. While antibiotics can, in some cases, help animals convert feed to muscle more easily, the use of antibiotics for this purpose is being discontinued at the recommendation of the FDA.

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AMERICAN MEAT INSTITUTE FACT SHEET

Climate Change and Animal Agriculture: The Facts

Background

To what degree does human activity on Earth lead to climate change? Although the answer to that question is unknown, there is growing public and governmental concern that greenhouse gas (GHG) emissions should be curtailed to reduce future effects of increasing global temperatures and climate change.

Many large U.S. and foreign companies have already started that process and Congress and the Obama Administration are likely to implement policies to restrict emissions from major industrial sources of GHGs. How such policies might affect the meat and livestock industries is important.

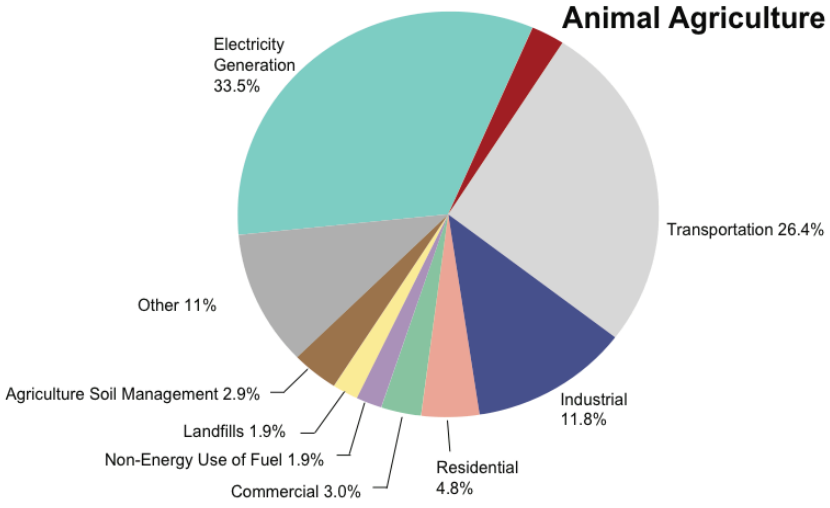
Carbon dioxide, methane, and nitrous oxide comprise almost 98 percent of GHGs in the atmosphere, all of which are important byproducts of human activity, including animal agriculture.

- **Carbon dioxide (CO_2)** is most prevalent GHG (85.4 percent). It enters the atmosphere through burning fossil fuels and solid waste, forest fires, manufacturing, and from the breathing of humans and animals. Carbon dioxide can be removed from the atmosphere by "sequestration" — the process by which carbon dioxide is used ("fixed") by plants as part of the carbon cycle.
- **Methane (CH_4)** is the second most common GHG (8.2 percent), and is 31 times more potent as a GHG than CO_2. It is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also come from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- The third most common (4.4 percent) greenhouse gas is **nitrous oxide (N_2O),** which is 310 times more potent than CO_2. N_2O is emitted during the combustion of fossil fuels and solid waste, as well as during certain agricultural and industrial activities.

Animal Agriculture's Role in GHG Emissions

Despite claims to the contrary, animal agriculture and meat consumption contribute only a small part of U.S. GHG production. According to EPA, in 2007 only 2.8 percent of U.S. GHG emissions came from animal agriculture through a process called enteric fermentation (the digestion of feed by ruminant animals) and through manure management. Since 1990, animal agriculture's contribution to greenhouse gas emissions has remained nearly constant. This is impressive considering U.S. increases in meat production of almost 50 percent, milk production of 16 percent, and egg production of almost 33 percent. The fact that GHG emissions from U.S. animal agriculture have remained has increased dramatically reflects improved feed efficiencies, better manure management strategies and

Only 2.8 Percent of GHG Emissions Come From Animal Agriculture

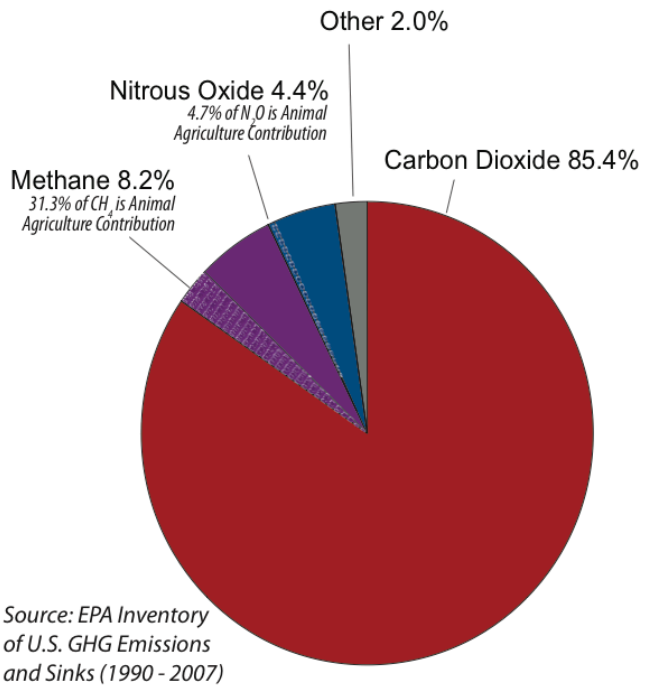


How much does animal agriculture contribute to GHG production? If we take a closer look at the top three GHG emissions in 2007, carbon dioxide represents 85.4 percent of all GHG emissions, with 94 percent resulting from the combustion of fossil fuels. Methane production represents 8.2 percent of all GHG emissions, of which enteric fermentation and manure management combined represent 31.3 percent of total CH_4 production. Nitrous oxide production represents approximately 4.4 percent of all GHG emissions, of which only 4.7 percent is attributable to manure management.

In Perspective:

- Today's American farmer feeds about 144 people worldwide.
- Approximately 85 percent of U.S. grazing lands are unsuitable for crop production. Grazing animals on this land more than doubles the area that can be used to produce food.
- Meat and poultry are an essential part of a balanced diet because they are nutrient dense and are considered "complete proteins," meaning that they contain all nine of the essential amino acids needed by humans. The current USDA recommendation for the consumption of protein is 63 grams a day for adult men and 50 grams a day for adult women.
- A 2006 FAO report estimated total GHG emissions resulting from animal agriculture around the world. Attempts to apply these global numbers to the U.S. are misleading because the vast majority of global GHG emissions attributed to livestock production result from deforestation and converting rain forests and other lands to grow crops or pasture. Such changes do not occur in the U.S., which has seen an increase in the total acreage of forested land over the last several decades — even while total agricultural production has increased.
- Total U.S. dairy farmer GHG emissions decreased by about 32 percent between 1944 and 2007 — even while milk production was up by almost 60 percent. GHG emissions per dairy cow dropped by almost 66 percent.
- All of animal agriculture's GHG emissions from 1990 to 2005 have remained nearly constant, increasing by only about 3.5 percent since 1990. During the same period total U.S. meat production has increased 50 percent, milk production has increased almost 20 percent, and egg production has increased about 32 percent.

Animal Agriculture is a Relatively Small Contributor to Top Three GHG Emissions



Source: EPA Inventory of U.S. GHG Emissions and Sinks (1990 - 2007)

Conclusion

GHG and climate change are important considerations for our industry and society at large. With so much uncertainty built into these topics, it's important that we apply facts when we can. The data show that GHG contributions of U.S. animal agriculture are far less than some reports have suggested.

The fact that emissions have remained the same while industry production has increased shows that livestock and meat producers have taken responsible steps to provide an abundant and affordable meat supply while still protecting the environment.

Helpful Links

American Meat Institute
http://www.meatami.com
http://www.meatsafety.org

NORTH AMERICAN MEAT INSTITUTE

FACT SHEET

INTERVENTIONS TO ENSURE MEAT SAFETY

All meat and poultry products that enter commerce must be inspected by the Food Safety and Inspection Service (FSIS), the public health agency within the U.S. Department of Agriculture (USDA), to ensure that it is safe and produced in compliance with federal regulations. A small percentage of meat products are inspected by state-employed inspectors who have the same jurisdiction and must enforce the same standards and regulations as FSIS meat and poultry inspectors.

Meat inspection regulations require that plants have strategies in place to reduce the possibility of microbial contamination to occur on meat and poultry products. It is common to detect very low levels of bacteria that are naturally found on livestock and on fresh meat products.

Meat comes from the muscle of livestock and is internally sterile. However, contamination can be introduced onto the product from the hide of the animal, its gastrointestinal tract, workers or the environment. The steps taken to prevent microbial contamination during the life of the animal, while the meat is processed, during the shipping of the product and during preparation are called "interventions."

To ensure the safety of meat products, a holistic food safety approach called "HACCP" is taken and all aspects of the production system are examined. Within that system, critical control points, where contamination can occur, are identified and interventions are concentrated at the points to reduce the introduction, spread or viability of pathogens.

The introduction of key interventions, accompanied by safe handling practices throughout the life of the product, helps ensure a safe and satisfying eating experience for consumers. Since the early 1990s, many technologies have been put in places that have proven extremely effective. USDA data show significant declines in the prevalence of bacteria on carcasses and on meat products. While it remains technically impossible to produce a bacteria-free fresh meat supply, the meat industry is constantly researching new strategies to reduce bacteria as close to zero as we can possibly make it.

The following list contains some of the most common interventions used by the U.S. meat and poultry industry. Companies select and apply one or more of these interventions contingent upon what proves to be the most effective at reducing pathogens for them.

On the Farm

It is essential to strive to reduce the presence of bacteria on livestock before they arrive at plants to be processed into meat products. On-farm interventions are ongoing to identify strategies to prevent pathogenic bacteria in live animals. Some strategies in use include:

Vaccines: Virulence factors secreted by the system of *E. coli* O157:H7 were found to be effective components of a vaccine that significantly reduced shedding of these bacteria by cattle in a feedlot setting. To date, only one vaccine has been approved for conditional use.

Probiotics: Probiotic bacteria are harmless, beneficial and compete with pathogens to reduce or prevent their colonization of the gut. This is an area that is ripe for additional research.

At the Plant

Production facilities use interventions much like a series of hurdles that block bacteria from entering the final product. Different plants produce different types of products and may select various combinations of interventions based upon their unique processes. Commonly used interventions include:

Hide washes: Some plants wash hides before cattle are processed to reduce the transfer of bacteria from hides to the carcasses.

Sanitary hide removal: Animal hides can be a source of contamination during the harvesting process. Employees are carefully trained to remove or process the hide in a manner that will prevent or reduce any further cross contamination of the hide to the carcass. After hide removal, it is a common industry practice to employ decontamination and antimicrobial treatments to remove any contamination that still may be present on the carcass.

Carcass washes/hot water washes: Hot water sprays are effective in removing microbial contamination from carcasses.

Steam vacuums: Hand-held vacuums that produce steam provide spot treatment for visible contamination.

Thermal treatment /steam pasteurization: Many plants use steam pasteurization or hot water cabinets to blast the outside of carcasses with steam, which pasteurizes carcasses.

Acidified sodium chlorite: Used in conjunction with a host of approved acids, this spray or dip changes the pH of the carcass to a less favorable environment for microorganisms to survive.

Lactic acid wash: Lactic acid is commonly applied to carcasses before they are broken down into smaller pieces.

Lactoferrin or calcium hypochlorite: These water-based antimicrobial sprays can be used on the whole carcass or parts to reduce bacteria.

Chlorine dioxide: Chlorine dioxide can be applied as a spray or dip to red meat parts and to organs to destroy bacteria.

Bacteriophages: Phages are safe, harmless viruses that can attack and destroy targeted bacteria. The Food and Drug Administration (FDA) has recently approved the use of certain phages on foods to reduce or prevent growth of pathogens.

Hypobromous Acid: Hypobromous acid is commonly used in the United States Beef Industry as a biocide for treatment of carcasses in applications that include: hides, prior to removal; carcass and head washing immediately post hide removal; and carcasses immediately before chilling and/or during chilling. There have been numerous studies conducted by USDA, manufacturers, third party research organizations over the past several years validating the use of this technology in the current applications.

During Preparation

As much progress as the industry has made in reducing bacteria on meat, there is still a critical role for food preparers to play in ensuring safety all the way to the table. Safe food handling instructions appear on all meat and poultry products. They include:

- Keep meat and poultry refrigerated, even when thawing;
- Keep raw meat and poultry separate from other foods;
- Keep hot food hot and cold foods cold;
- Cook properly: Consumers should follow the safe handling practices detailed on every package of raw meat and poultry and should take special care to cook ground beef products, such as hamburger and meat loaf, to an internal temperature of 160 F. Poultry products should be cooked to an internal temperature of 165 F. Beef products like steak or roasts can be cooked with 145 F with a three-minute rest period. What is a rest period? It is the minimum time after you remove the meat products from the head source (oven, grill, broiler, etc.) before you may eat the product. Heat is best verified using an instant-read thermometer.

Why are there two different recommended cooking temperatures? Whole muscle cuts like steaks and roasts are sterile on the inside. Cooking the products destroys any bacteria present on the outside of these cuts. However, when meat is ground, any external bacteria that may be present are distributed throughout the ground product. That is why it is so important to ensure that ground prodcuts are throughly cooked to 160 F.

Consumers with food safety questions should visit www.meatsafety.org to learn more about safe food handling, or call USDA's Meat and Poultry Hotline at 1-888-674-6854.

A hot water cabinet is used to pasteurize carcasses before processing.

A worker applies a steam vaccum to areas of visible contamination that may contain bacteria

NORTH AMERICAN MEAT INSTITUTE

FACT SHEET

GROWTH PROMOTANTS IN MEAT PRODUCTION: THEIR USE AND SAFETY

The meat industry uses certain growth promotants to help provide consumers with a wholesome, affordable and increasingly healthful meat supply. Like other technologies currently used by the U.S. meat industry, the use of growth promotants is backed by an overwhelming body of scientific evidence proving its safety and effectiveness.

Two types of growth promotants are used in meat production: hormones in cattle and beta-agonists in cattle and pigs. The three synthetic hormones used in livestock production mimic three naturally occurring hormones. The synthetic hormone zeranol mimics estradiol; the synthetic hormone trenbolone acetate mimics testosterone; and the synthetic hormone melengestrol acetate (MGA) mimics progesterone. These hormones have been safely used in the United States for decades.

Beta-agonists such as ractopamine and zilpaterol are nutrition supplements added to animal feed to assist with muscle development, which is very similar in many respects to certain human supplements that people consume to encourage muscle development. They have been safely used for nearly 20 years.

Small amounts of growth promotants enhance animal growth by increasing the efficiency with which feed is converted to muscle. An animal given growth enhancers gains weight more rapidly and produces a leaner product. By reaching market weight sooner, the cost of meat production goes down, whcih can mean lower prices to consumers.

Benefitting Producers and Consumers

The use of growth promotants in meat production has several benefits throughout the supply chain. Consumers want leaner meat and they want it at a price they can afford. Growth promotants are one tool that helps meat producers satisfy that demand by helping animals make the most of the nutrients found in the food they eat and convert it to more lean muscle.

These sustainable technologies allow producers to reduce the natural resources needed to produce meat. For example, since 1977 U.S. cattle farmers are producing 31 percent more beef with fewer animals, feed, water and land. This increased efficiency has significant environmental benefits and reduces prices for consumers as well.

Regulatory Control in the United States

The safety of growth promoting products used in meat production is assured through several layers of requirements that are enforced by multiple government agencies. First, growth promotants are subject to a comprehensive, multi-step scientific review process conducted by scientists at the Food and Drug Administration's Center for Veterinary Medicine (FDA-CVM) to ensure animal health and human food safety. More than 500 different studies have been conducted on growth promoting products and submitted as part of this stringent approval process. If approved, these products are then re-evaluated by FDA annually and only remain in the marketplace if they are continually proven safe.

In addition, meat packing and processing plants are required to address any potential chemical concerns, such as growth promotant residues, as part of their facility's government-mandated Hazard Analysis and Critical Control Point plan.

Under the Federal Meat Inspection Act, the U.S. Department of Agriculture's Food Safety and Inspection Service (FSIS) tests for residues of growth promoting products at harvest that exceed FDA-established safe levels.

Internationally Recognized Safety Record

There is a clear worldwide scientific consensus to support the use of these approved and licensed growth promotants when used according to good veterinary practices. This consensus is reflected by many government agencies and groups worldwide, including: the European Economic Community Scientific Working Group on Anabolic Agents; the International Codex Alimentarius Committee on Residues of Veterinary Drugs in Foods; the European Agriculture Commission Scientific Conference on Growth Promotion in Meat Production; and the Food and Agriculture Organization (FAO)/World Health Organization (WHO) Joint Expert Committee on Food Additives (JECFA). The world's scientific community has agreed that these products are safe when used according to label directions in food-producing animals. FDA and other scientific bodies also have concluded that there is essentially no difference between meat from animals raised using growth promotants and those raised without their use.

International Controversies

Although the European Union (EU) banned beef from hormone treated animals in the early 1980s, the move has been widely acknowledged as an unscientific trade barrier. After the U.S. filed a case with the World Trade Organization (WTO), a WTO Panel upheld the U.S. position and ruled that there was no scientific basis for the EU's hormone ban and that the EU's hormone ban is inconsistent with WTO principles. The EU appealed the ruling, the but an appellate decision upheld this ruling, the EU was given until May 13, 1999, to bring its measure into compliance. Years later, and after much back and forth between the U.S., the EU and the WTO, the EU is still in the process of coming into compliance.

Similar trade battles have arisen over the FDA approved beta-agonist racoptamine, but in July 2012, the safety of Ractopamine, used appropriately, was affirmed. The Codex Alimentarius Commission adopted maximum residue limits for the amount of the drug allowed in the tissues of pigs and cattle. The decision was made after a rigorous process of scientific assessment to ascertain that the proposed levels of residues have no impact on human health. This assessment was carried out by the Joint Expert Committee on Food Additives, a group

of independent experts convened by the FAO and WHO that provides scientific support to Codex.

Beef Hormones in Perspective

FDA and USDA cooperate to provide consumers with a safe food product by ensuring the proper use of hormones in cattle. FDA regulations have very specific instructions for the proper use of hormones. Hormones are primarily administered as small pelleted implants that contain a specific, legally authorized dosage of the hormone inserted into the ear of the animal and discarded at slaughter. The hormone is released into the bloodstream very slowly, ensuring that the concentration remains relatively constant and low. The prescribed dosage is the level that will produce optimal results. In fact, when it comes to hormones, there is no benefit to using more – only additional costs – thus eliminating the incentive for farmers and producers to exceed permitted levels.

The hormone levels in beef produced using growth hormones are well within the range of naturally occurring levels of these hormones in beef cattle. For example, beef from an uncastrated bull not administered hormones contains testosterone levels more than 10 times higher than the amount in beef from a steer (which is castrated) that has received hormones for growth promotion. According to USDA, the amounts of synthetic estradiol, progesterone and testosterone in animals raised using hormones as growth promoters are extremely low compared with their production in humans. To put it in perspective, if you compare beef from cattle raised using hormones and beef from cattle raised without their use, the difference would be comparable to one blade of grass on a football field. About one pound of beef raised using synthetic estradiol contains about 15,000 times less of this hormone than the amount produced daily by the average man and about nine million times less than the amount produced by a pregnant woman.

Food 3 oz. serving	Estrogen (in nanograms)
Soybean Oil	168,000,000
Milk	11
Potatoes	225
Peas	340
Ice Cream	520
Wheat Germ	3,400
Beef with Hormone Implant	1.9

A 3oz. serving of beef from a steer treated with growth promotants contains 1.9 nanograms of estrogen.

A 3oz. serving of beef from a steer raised without growth promotants, such as certified organic beef contains 1.3 nanograms of estrogen.

One serving of beef from an implanted steer has nearly 20 times less estrogen than FDA permits, not to mention a fraction of what is present in many other foods such as soybean oil, cabbage and grains.

Beta-Agonists in Perspective

Beta-agonists are used as feed ingredients similar to nutrition supplements humans often take. They are sometimes called repartitioning agents because they direct nutrients into muscle rather than fat. They are used in a very targeted way based upon years of experience and research to ensure the animals receive the proper doses and do not exceed approved tolerance levels set by FDA. Beta-agonists are water soluble so they are quickly processed and excreted by the animal's metabolism. An analysis of many studies shows beta-agonists have little impact on meat color, firmness, water-holding capacity, marbling or intramuscular fat.

Tests done on pork samples in 2012 by *Consumer Reports* to detect the FDA-approved beta-agonist Ractopamine found none in 80 percent of pork samples. While there was some detectable ractopamine in 20 percent of samples, the levels found were well below the limits set by FDA.

Currently ractopamine is approved in 26 countries including Canada, Mexico, Australia and Brazil. In July 2012, the Codex Alimentarius Commission, developed in part by the World Health Organization, confirmed ractopamine's safety by establishing a maximum residue limit for ractopamine. The Codex decision provides a worldwide standard.

Final Note

Growth promotants are used in meat production to sustain a high quality and affordable meat supply. Careful federal regulation and oversight of the use of growth promotants should assure consumers that meat from animals raised with approved promotants is safe and wholesome.

INDUSTRY STATISTICS

BEEF INDUSTRY OVERVIEW:

- Most unique and complex lifecycle of any food, includes variety of segments
- Takes 2-3 years to bring beef from farm to fork
- 2016 forecasted economic impact: $67.56 billion in farm cash receipts for cattle and calves.

EVOLUTION OF BEEF INDUSTRY:

- The U.S. beef production system used to be inefficient - cattle were moved around based on the location of grass at any given time.
- The first widespread early cattle feedyards in the nation were built by cottonseed oil-mill operators in the 1850s to utilize mill by-products
- Around 1914, due to a drop in the number of cattle, we started feeding cattle at an earlier age, which resulted in higher-quality meat.

U.S. BEEF COMMUNITY:

- Average age of a principle beef cattle rancher is 58.3
- 913,246 total cattle and calf operations. Of these:
    - 727,906 are beef farms and ranches. Of these:
        - 91% are family-owned or individually-operated
        - 11% are operated by women
    - 26,586 are engaged in cattle feedlot production. Of these:
        - 80% are family-owned or individually-operated
        - 5% are operated by women
    - 64,098 are milk cow operations
- All cattle and calves:
    - 94.4 million - 1% increase from 2017
- All cattle on feed:
    - 14 million - 7% increase from 2017
- Slaughter:
    - Commercial slaughter: 32.2 million
        - Calf: 512,300
    - Federally inspected slaughter: 31.7 million
        - Steer: 16.77 million
        - Heifer: 8.6 million
        - Cow: 5.77 million
        - Bull: 550,200
        - Calf: 503,400
    - Federally inspected beef production: 25.86 million

TOP 5 STATES:

- All cattle:
    - Texas: 12.5 million - 2% increase
    - Nebraska: 6.8 million - 5% increase
    - Kansas: 6.3 million - 2% increase
    - California: 5.2 million - 1% increase
    - Oklahoma: 5.1 million - 2% increase

TOP 5 STATES, CONTINUED:

- Beef cows that have calved:
    - Texas: 5.1 million - 3% increase
    - Missouri: 2.17 million - 5% increase
    - Oklahoma: 2.13 million - 2% increase
    - Nebraska: 1.91 million - 1% decrease
    - South Dakota: 1.8 million - 8% increase
- Calf crop:
    - Texas: 4.4 million
    - Missouri: 2 million
    - Oklahoma: 1.95 million
    - California: 1.88 million
    - South Dakota: 1.84 million
- Cattle on feed:
    - Nebraska: 2.77 million - 12% increase
    - Texas: 2.65 million - 9% increase
    - Kansas: 2.45 million - 7% increase
    - Iowa: 1.26 million - 9% increase
    - Colorado: 1 million - 6% increase
- Of the 30,219 feedlots, those with less than 1,000 head of capacity compose the vast majority of US feedlots
- As of Jan. 1, 2016, of the 13.1 million head on feed, feedlots with greater than 1,000 head capacity account for 81% of the cattle on feed.
- The amount of beef consumed in the US in 2016 was 25.688 billion pounds.
- The amount of beef consumed in the US per capita is 55.7 pounds.
- The average price of USDA Choice beef sold in retail in 2016 was $5.96/pound
- The value of US beef exports, including variety meat, in 2016 was $6.343 billion, up from $6.302 billion in 2015.
- Volume of beef exports: 1,187,050 metric tons in 2016, up from 1,067,614 metric tons in 2015.

TOP US BEEF EXPORT MARKETS FOR 2017:

- Japan: 307,559 metric tons; $1,890 million
- Mexico: 237,972 metric tons; $980 million
- South Korea: 184,152 metric tons; $1,220 million
- Canada: 116,561 metric tons; $796 million
- Hong Kong: 130,728 metric tons; $884 million
- Taiwan: 44,800 metric tons; $410 million

*** ALL STATISTICS COURTESY OF THE NATIONAL CATTLEMEN'S BEEF ASSOCIATION**