Q & A with Dr. John Maas on Beef Quality Assurance and the Pneumatic Dart Gun

Date: December 21, 2015

Beef Quality Assurance is one of many resources that cattlemen and women utilize to help raise safer beef for a nutrition and animal welfare conscious consumer base. Recently, the BQA program directors issued an advisory statement regarding pneumatic dart guns that are used for antibiotic administration on some farms and ranches.

by Brandi Buzzard Frobose, Associate Director, Issues Communication, National Cattlemen’s Beef Association, a contractor to the Beef Checkoff

Beef Quality Assurance is one of many resources that cattlemen and women utilize to help raise safer beef for a nutrition and animal welfare conscious consumer base. Recently, the BQA program directors issued an advisory statement regarding pneumatic dart guns that are used for antibiotic administration on some farms and ranches. These dart guns, which have raised concerns in some areas of the beef industry, and their implications are being examined thoroughly by beef industry thought leaders, including the members of the BQA Advisory Board. The Beef Issues Quarterly editorial staff spoke with Dr. John Maas, chair of the advisory board, for his insight on the dart gun advisory and the direction that BQA is taking.

**Beef Issues Quarterly (BIQ):** The BQA program has a rich history of helping develop and promote improved on-farm production practices that lead to improved beef quality for consumers. What is your current role with the Beef Quality Assurance (BQA) program?

**John Maas (JM):** I am currently chair the BQA Advisory Board. I have been on the board for more than 20 years and I have one more year left in my current term on the board.

**BIQ:** Could you explain the state and national partnership that exists within the BQA program?

**JM:** The BQA Advisory Board works with another extremely important group of individuals that comprise the State BQA Coordinators. This is the group of individuals that coordinate and execute BQA trainings in their state. They work with academic scientists and educators to develop educational materials that are tailored to their state’s producers. They work with allied industries, local sales yards, veterinarians, local businesses and local cattle associations to fund and deliver BQA education and certifications. Beef Quality Assurance is fortunate to have corporate sponsorship from Boehringer-Ingelheim, which is particularly helpful in sponsoring producers’ access to on-line training and certification. The whole BQA effort is based on partnerships between local, state, national (CBB and Federation), and corporate arenas. This list of partners is not all-inclusive, but serves as examples of the many ways interested parties have worked together to amplify the BQA message.

**BIQ:** Why should cattlemen invest time and resources in becoming BQA certified?

**JM:** First, it is the right thing to do! Beef Quality Assurance information helps to make every producer aware of the many changing aspects of beef production. These include legal, ethical, environmental, food safety, animal health and welfare, production efficiencies, worker safety and consumer perception considerations. It is all about building quality into beef at every step of the production cycle and beyond. The concepts and techniques highlighted in BQA educational materials give guidelines that are important to the way cattle are managed and handled and to meet the needs for the health and welfare of the cattle, food safety, producer efficiency, and consumer perception.

**BIQ:** What do you see as challenges the BQA program must continue to focus on in the near future?

**JM:** There are several major opportunities to build upon past BQA efforts. The issue of antibiotic use in
Beef Quality Assurance is one of many resources that cattlemen and women utilize to help raise safer beef for a nutrition and animal welfare conscious consumer base. Recently, the BQA program directors issued an advisory statement regarding pneumatic dart guns that are used for antibiotic delivery technologies that can be used to develop guidelines that meet or exceed current BQA criteria for efficacy, animal safety, worker safety, animal welfare, animal health, food safety and all other concerns as compared to current BQA approved methods of drug/product administration. The advisory statement was a list of real and potential problems that might be associated with or caused by the use of darts and a call for help to generate or share data and information that is essential to developing science-based guidelines. It was also the conclusion of the statement that the companies manufacturing, selling and promoting these methods of drug and product delivery have the responsibility and the obligation to develop the data to address efficacy, safety, animal welfare, food safety and all other concerns as compared to current BQA approved methods of drug/product administration. The advisory board has never had concerns expressed about the appropriate use of darting techniques in emergency situations under the supervision and/or advice of the herd veterinarian(s).

**BIQ:** Could you explain the development process around the advisory board’s recent pneumatic dart advisory statement?

**JM:** The BQA Advisory Board has discussed the use of darts to deliver drugs to cattle for a long time. Over the last several years the issue has become a higher priority due to an increased use of these technologies. Additionally, product defects have been found at the packing plant secondary to the use of these technologies. This is analogous to the injection site lesions addressed by BQA audits and subsequent education and management guidelines developed many years ago. The advisory board, state coordinators, and many others see the need for education and guidelines for use of these technologies. Unfortunately, the data and information needed to develop these guidelines based on peer-reviewed science is lacking. The advisory statement was a list of real and potential problems that might be associated with or caused by the use of darts and a call for help to generate or share data and information that is essential to developing science-based guidelines. It was also the conclusion of the statement that the companies manufacturing, selling and promoting these methods of drug and product delivery have the responsibility and the obligation to develop the data to address efficacy, safety, animal welfare, food safety and all other concerns as compared to current BQA approved methods of drug/product administration. The advisory board has never had concerns expressed about the appropriate use of darting techniques in emergency situations under the supervision and/or advice of the herd veterinarian(s).

**BIQ:** What do you see as the primary purpose(s) of the advisory statement?

**JM:** The statement was a call for help to generate and/or share information relative to the use of these dart delivery technologies that can be used to develop guidelines that meet or exceed current BQA criteria for efficacy, animal safety, worker safety, animal welfare, animal health, food safety and all the other concerns that BQA education needs to address. It also stated clearly that until the data and information is generated and/or shared the guidelines for use could not be developed. Therefore, current use of this technology does not meet BQA injectable product administration guidelines.

**BIQ:** What has been the general response from producers and their veterinarians upon the release of the advisory statement?

**JM:** The response has been very positive. In fact, one of the major dart technology companies sent out a press release recognizing problems do exist and pledging their support and efforts to move this issue forward in a positive manner. There have been a small handful of critical comments, but even these individuals have offered some good insights into how to proceed. The most important point is that many people and interests are now engaged and that is always a positive situation. A journey of a thousand miles always begins with a single step—the statement has been successful in getting that journey started.
**BQ: Is there any additional information you would like to share with Beef Issues Quarterly readers?**

**JM:** The BQA effort has been an extremely effective tool to build quality into beef products—not just to rely on inspections at the end of the process. All across America, ranchers recognize they are producing high-quality food for consumers—not just selling calves or growing stockers. This is a huge difference between cattle producers and many other industries.

**Additional Resources**

- [BQA website](#)

**Tags:** Beef Issues Quarterly, Questions and Answers, Winter 2015
Antibiotic Stewardship is Not New to Cattle Ranchers: Update on New Regulations and What It Means for the Beef Industry

Date: December 21, 2015

Antibiotic use in food-producing animals has become a topic of interest across food-producing animal industries as well as in consumer and regulatory arenas. Over time, the guidance to industry has evolved and this article captures the current guidance from the Food and Drug Administration (FDA) and the beef industry’s producer programs.

by Josh White, Executive Director, Producer Education and Mandy Carr Johnson, Ph.D., Sr. Executive Director, Science & Product Solutions, National Cattlemen’s Beef Association, a contractor to the Beef Checkoff

Summary

Antibiotic use in food-producing animals has become a topic of interest across food-producing animal industries as well as in consumer and regulatory arenas. Over time, the guidance to industry has evolved and this article captures the current guidance from the Food and Drug Administration (FDA) and the beef industry’s producer programs.

Background

There has been a great deal of discussion lately about how antibiotics are used in raising livestock. The reality is that farmers and ranchers take antibiotic use in livestock very seriously and continuously evaluate the way they use antibiotics based on the best possible science.

In fact, for nearly 30 years, there have been quality assurance programs in place to help make sure farmers and ranchers are continuously improving the way they raise beef, including the way they use antibiotics, in order to protect human health, as well as animal health. This is often referred to as “antibiotic stewardship.” Today, cattlemen and the entire livestock community are working together to continuously improve the way antibiotics are used in animals, because they care about how their practices impact antibiotic safety and efficacy. As new FDA Guidance goes into effect, it’s important to understand what this new guidance means for the beef industry.

What is Guidance #209?

The FDA Guidance for Industry (GFI) #209, “The Judicious Use of Medically Important Antimicrobial Drugs in Food-Producing Animals,” was issued in April of 2012. This document outlines the agency’s direction for use in food animals of “medically important antimicrobial drugs” or those deemed “important for therapeutic use in humans.” The document outlines the framework for the voluntary adoption of principles to 1) limit medically important antimicrobial drugs to use in food-producing animals that are considered necessary for assuring animal health; 2) limiting such drugs to uses in food-producing animals that include veterinary oversight or consultation. These efforts are outlined to foster collaboration between the public, public health, animal health, and agriculture communities to develop and implement strategies needed to assure that the public health is protected while also assuring such strategies are feasible and that the health needs of animals are addressed. The continued availability of effective antimicrobial drugs is noted to be critically important in this guidance to help combat infectious disease in both humans and animals.

What is Guidance #213?

In December 2013, FDA issued the Guidance for Industry #213 "New Animal Drugs and New Animal Drug
Combination Products Administered in or on Medicated Feed or Drinking Water of Food-Producing Animals: Recommendations for Drug Sponsors for Voluntarily Aligning Product Use Conditions with GFI #209”. This document was intended for sponsors of approved applications for new animal drugs and new animal drug combination products containing medically important antimicrobial new animal drugs for use in or on medicated feed or water of food-producing animals. The guidance describes the voluntary changes to the conditions of use for these types of compounds consistent with GFI #209. These voluntary changes include the phasing out of production uses (growth promotion or feed efficiency) of medically important new and combination products and the need for veterinary oversight of medically important antimicrobial drugs used in feed or water of food-producing animals. Prior to 1993, most antimicrobial drugs were approved for over-the-counter (OTC) use in food-producing animals and many were administered through medicated feed or drinking water. Since 1993, new antimicrobial animal drugs for use in food-producing animals have been labeled with Rx or Veterinary Feed Directive (VFD) marketing status, with exceptions of generic copies of existing OTC and approvals of combination medicated feeds using existing OTC antimicrobial Type A medicated articles. FDA anticipated the complete implementation within 3 years of the final guidance publication, but the implementation happened in less than half that time.

What is a Veterinary Feed Directive?

A Veterinary Feed Directive (VFD) is a written (nonverbal) statement issued by a licensed veterinarian in the course of the veterinarian’s professional practice that authorizes the use of a VFD drug or combination VFD drug in or on an animal feed. This written statement authorizes the client (the owner of the animal or animals or other caretaker) to obtain and use animal feed bearing or containing a VFD drug or combination VFD drugs to treat the client’s animals only in accordance with the conditions for use approved, conditionally approved, or indexed by the FDA. All product labeling and advertising for VFD drugs, combination VFD drugs, and feeds containing VFD drugs or combination VFD drugs must prominently and conspicuously display the following cautionary statement: “Caution: Federal law restricts medicated feed containing this veterinary feed directive (VFD) drug to use by or on the order of a licensed veterinarian.” The use of a VFD feed requires the professional supervision of a licensed veterinarian. Producers must obtain a VFD order from their veterinarian, then send, or take, the VFD order to a feed manufacturer or supplier to get the VFD feed. Producers, who manufacture their own feed, must have a VFD order to get the VFD product for use in manufacturing the medicated VFD feed. Producers who also manufacture feed for others should be aware that they are acting as a distributor and additional requirements apply.

What is “extra-label use”?

“Extra-label use” is defined in FDA’s regulations as actual or intended use of a drug in an animal in a manner that is not in accordance with the approved labeling. For example, feeding the animals VFD feed for a duration of time that is different from the duration specified on the label, feeding VFD feed formulated with a drug level that is different from what is specified on the label, or feeding VFD feed to an animal species different than what is specified on the label would all be considered extra-label uses. Extra-label use of many injectable animal health products is permitted under the prescriptive guidance of a veterinarian. Extra-label use of medicated feed, including medicated feed containing a VFD drug or a combination VFD drug, is not permitted.

Producer or client responsibilities under a VFD order include:

- Only feed animals a VFD feed or combination VFD feed based on a VFD order issued by a licensed veterinarian;
- Do not feed a VFD feed or combination VFD feed to animals after the expiration date on the VFD order;
Provide a copy of the VFD order to the feed distributor if the issuing veterinarian sends the
distributor’s copy of the VFD through you, the client;
Maintain a copy of the VFD order for a minimum of 2 years; and provide VFD orders for inspection
and copying by FDA, upon request.

What producer programs exist addressing antimicrobial use?

The Beef Quality Assurance (BQA) program is a voluntary, nationally-coordinated, state-implemented
program to provide guidelines for raising cattle under optimum management and environmental
conditions. Started by the beef industry in the 1980’s, the program is guided by an Advisory Board
composed of veterinarians, animal scientists, meat scientists, cattlemen, dairymen and a state BQA
coordinator. Beef Quality Assurance is committed to continually improving training materials and
educational resources to extend relevant tools for anyone who works with cattle.

A significant part of the BQA program involves antimicrobial stewardship training about the appropriate
use and administration of pharmaceutical products, the honoring of withdrawal times, the prevention of
environmental contamination, the need for good record keeping, and the importance of a valid
Cattle highlights fourteen major considerations for using antimicrobial drugs as necessary for the health of
cattle.

Conclusion

The BQA program will update training materials to support changing regulations such as the revised
Veterinary Feed Directive, effective October of 2015, as well as FDA Guidance 209/213 which will go into
effect by December 2016.

A Producer’s Guide for Judicious Use of Antimicrobials in Cattle (BQA)

1. Prevent Problems: Emphasize appropriate husbandry and hygiene, routine health examinations, and
vaccinations.
2. Select and Use Antibiotics Carefully: Consult with your veterinarian on the selection and use of
antibiotics. Have a valid reason to use an antibiotic. Therapeutic alternatives should be considered
prior to using antimicrobial therapy.
3. Avoid Using Antibiotics Important in Human Medicine as First Line Therapy: Avoid using as
the first antibiotic those medications that are important to treating strategic human or animal
infections.
4. Use the Laboratory to Help You Select Antibiotics: Culture and sensitivity test results should be
used to aid in the selection of antimicrobials, whenever possible.
5. Combination Antibiotic Therapy is Discouraged Unless There Is Clear Evidence that the
Specific Practice Is Beneficial: Select and utilize an antibiotic to affect a cure.
6. Avoid Inappropriate Antibiotic Use: Confine therapeutic antimicrobial use to appropriate clinical
indications, avoiding inappropriate uses such as for the treatment of viral infections without bacterial
complication.
7. Treatment Programs Should Reflect Best Use Principles: Regimens for therapeutic antimicrobial
use should be optimized using current pharmacological information and principles.
8. Treat the Fewest Number of Animals Possible: Limit antibiotic use to sick or “at risk” animals.
9. Treat for the Recommended Time Period: This will minimize the potential for bacteria to become
resistant to antimicrobials.
10. Avoid Environmental Contamination with Antibiotics: Steps should be taken to minimize
antimicrobial drugs from reaching the environment through spillage, contaminated ground run off or
aerosolization.
11. Keep Records of Antibiotic Use: Accurate records of treatment and associated outcomes should be
used to evaluate therapeutic regimens and always follow proper withdrawal times.

12. **Follow Label Directions:** Follow label instructions and never use antibiotics other than as labeled without a valid veterinary prescription.

13. **Extra-label Antibiotic Use Must Follow USDA Regulations:** Prescriptions, including extra label use of medications, must meet the Animal Medicinal Drug Use Clarification Act (AMDUCA) amendments to the Food, Drug, and Cosmetic Act and its regulations. This includes having a valid Veterinary/Client/Patient Relationship (VCPR).

14. **Subtherapeutic Antibiotic Use is Discouraged:** Antibiotic use should be limited to the treatment, prevention or control of disease.

**Additional Resources**

- [FDA’s Guidance for Industry 213](#)
- [FDA’s Guidance for Industry 209](#)
- [FDA’s Veterinary Feed Directive Producer Requirements](#)
- [BQA Materials and Resources](#)
- [BQA Cattle Care & Handling Guidelines](#)
- [Preparing Cattlemen for Changing Antibiotic Use Regulations](#)
- [Antibiotic Stewardship Is Not New to Cattle Ranchers](#)
- [Antibiotic Use in Cattle 101](#)

**Tags:**  Beef Issues Quarterly, Issues Updates, Winter 2015
Carbon Footprint of U.S. Beef vs. Global Beef and Understanding the U.S. Beef Water Footprint

Date: December 21, 2015

As a major contributor in food production, beef production provides a key service to our economy that must be maintained. However, production of beef and the associated feed crops required to produce beef also impact our environment.

by Sara E. Place, Ph.D., Oklahoma State University

Summary

As a major contributor in food production, beef production provides a key service to our economy that must be maintained. However, production of beef and the associated feed crops required to produce beef also impact our environment. Due to the complexity of beef sustainability and the issues it encompasses, partners in the beef value chain often have complex or tough questions that require balanced, objective, science-based responses. Although most of the attention has been given to carbon footprint, there are other environmental impacts that must be considered, like water use. Overall, the U.S. beef industry's dedication to improvement and innovation has lowered its environmental footprint while improving its social and economic contributions to communities across the country.

Background

Before we can begin a discussion on the carbon and water footprint of U.S. beef production, we must understand what we are referring to when we use the term “footprint.” Carbon footprints are a measure that quantify the greenhouse gas emissions resulting from production and are expressed as carbon dioxide (CO2) equivalent emissions to account for the different greenhouse gases’ potential to trap heat in the earth’s atmosphere. For beef production, a carbon footprint refers to CO2 equivalent emissions per unit of beef produced. Water use estimates, or water footprints, are defined as the amount of water used per unit of beef produced. Comparing the U.S. beef industry’s carbon footprint to other nations is challenging for two main reasons: 1) the methodologies used in different published studies to calculate carbon footprints within and across nations vary in ways that can influence their estimated carbon footprint, and 2) the efficiency of practices in how beef cattle are raised varies greatly across countries (i.e. productive use of resources to maximize the total amount of beef produced), and efficiency is a key driver of beef’s carbon footprint. To overcome these challenges, one can examine the results from individual studies that use the same methodology to estimate CO2 equivalent emissions across the wide range of beef production systems found in the world.

As with measuring the U.S. beef industry’s carbon footprint, measuring its water footprint also presents a challenge. When looking for an answer to the question, “How much water is required to produce beef?” one may find a variety of answers. Water use estimates, or water footprints, are available in the scientific literature and indicate that water footprints range from 317 (Scanlon et al., 2012) up to 23,965 (Pimentel et al., 1997) gallons per pound of boneless beef. Why is the range so large? The range in estimates is mostly due to the methodology used by researchers. For example, some have counted all precipitation that falls toward the total water use of beef while others have left out precipitation altogether. However, irrigation water use is always considered toward the total water use of beef.

Discussion

Carbon Footprint:
In two recent analyses of global livestock systems (Opio et al., 2013; Herrero et al., 2013), North American beef production systems (including the U.S.) were found to have some of the lowest carbon footprints. As seen in Figure 1, when CO2 equivalent emissions are expressed per kg of protein, the U.S. and other developed nations have lower carbon footprints (10 to 50 times lower) as compared to many nations in sub-Saharan Africa and the Indian subcontinent (Herrero et al., 2013).

The lower CO2 equivalent emissions per kg of protein for beef production systems in the developed world are driven by higher-quality (more digestible) feeds, lower impacts of climate stress (heat) on animals, improved animal genetics, advancements in reproductive performance, and the reduced time required for an animal to reach its slaughter weight as compared to regions with higher carbon footprints (Opio et al., 2013; Herrero et al., 2013). Combined, all of the above mentioned factors drive improvements in the efficiency of beef production while decreasing the use of natural resources and production of environmental emissions per unit of beef produced. Furthermore, it is these factors that are responsible for reducing the U.S. carbon footprint of beef by an estimated 9-16 percent from the 1970’s to the present day (Capper, J.L. 2011; Rotz et al., 2013). Using management techniques and technologies developed through scientific research is key to achieving improvements in beef production efficiency and further reducing beef’s carbon footprint.

**Figure 1.** Greenhouse gas emissions from beef production expressed as kg of CO2 equivalents per gram of protein

![Greenhouse gas emissions from beef production expressed as kg of CO2 equivalents per gram of protein](image)

Herrero et al., 2013 PNAS 110: 20888-20893

**Water Footprint**

Regardless of methodology, the production of feed for cattle is the single largest source of water consumption in the beef value chain (~95 percent of the water used to produce a pound of beef). The relative importance of this water use is highly dependent on location, because unlike greenhouse gas emissions, water use and access is a highly regionalized environmental issue, thus one must be cautious about generalizing water footprints for beef or any other product on a national scale.

Beef cattle can, however, play a role in water conservation. For example, in the High Plains of Texas, an integrated beef cattle and crop system used 23 percent less irrigation water than a system with crops only (Allen et al., 2005). The increase in irrigation water use efficiency was mostly due to the incorporation of perennial warm season grass into the farming system (Allen et al., 2005). Perennial grasses would not be as valuable to sustainable farming systems without cattle that have the ability to digest such grasses because humans cannot directly consume and digest grass.

Though the U.S. beef industry reduced its water use by 3 percent from 2005 to 2011 (Battagliese et al., 2013), many opportunities exist to further improve water use across the beef value chain (Figure 2). One area that is often overlooked and is important to all aspects of sustainability, not just water use, is...
reducing food waste. Reducing food waste can help reduce the water footprint of beef and all other foods.

Figure 2. Examples of opportunities to reduce the water footprint of beef throughout the beef value chain.*

*Photos by USDA, USDA NRCS, and USDA ARS

Conclusion

The U.S. beef industry has one of the lowest carbon footprints in the world due to cattle genetics, the quality of cattle feeds, animal management techniques and the use of technology. A number of studies have determined the carbon footprint of beef production, with most values ranging from 10 to 15 pound CO2e/lb BW (Rotz et al., 2013). The estimated water required for beef production greatly depends on the methodology used in scientific calculations, especially when considering whether or not precipitation water is included in water footprints. U.S. specific estimates put beef water use at 317 (Capper, J.L. 2011), 441 (Becket and Oltjen, 1993) and 808 (Rotz et al., 2013) gallons per pound of boneless beef when precipitation water is not accounted for in calculations.

As with all food production, reducing food waste and efficiently utilizing irrigation water, particularly in water-stressed regions, as well as continuing to improve production efficiency is an important aspect of beef sustainability. The production of beef results in emissions of greenhouse gases and requires consumptive water use; therefore, it is crucial that U.S. beef’s carbon and water footprint continue to be evaluated for opportunities to minimize their impact in order to increase overall beef value chain sustainability.

Additional Resources

- How does the carbon footprint of U.S. beef compare to global beef?
- Does Beef Really Use That Much Water?
Capper, J.L. 2011. The environmental impact of beef production in the United States: 1977 compared


Does Beef Really Use That Much Water?


Opio, C., P. Gerber, A. Mottet, A. Falcucci, G. Tempio, M. MacLeod, T. Vellinga, B. Henderson, and H.

International Agency for Research on Cancer Evaluates Red and Processed Meat - Backgrounder

Date: December 21, 2015

The potential relationship between red meat consumption and cancer risk continues to be a controversial topic debated in the scientific community, among authoritative bodies, and via social and traditional media channels. In November 2014, the World Health Organization’s (WHO) International Agency for Research on Cancer (IARC) announced it will be evaluating red and processed meat with regard to carcinogenicity.

by Shalene McNeill, Ph.D., R.D., Executive Director, Human Nutrition Research and Joe Hansen, Associate Director, National Cattlemen’s Beef Association, a contractor to the Beef Checkoff

Summary

The potential relationship between red meat consumption and cancer risk continues to be a controversial topic debated in the scientific community, among authoritative bodies, and via social and traditional media channels. In November 2014, the World Health Organization’s (WHO) International Agency for Research on Cancer (IARC) announced it will be evaluating red and processed meat with regard to carcinogenicity. A working group of international cancer research experts are currently reviewing the available evidence regarding any associations between red and processed meat consumption and the risk of developing various types of cancer. In October 2015, this group will convene for an eight-day meeting to come to a collective decision on the potential carcinogenicity of red and processed meat. Following this meeting, IARC will publish a final decision (referred to as an IARC monograph) regarding the classification of red and processed meats as a carcinogen and the degree of certainty (definite, probable, possible, not classifiable, probably not) supported by the evidence. The exact timing of the Monograph release is currently unknown, though anticipated to be sometime in 2016. The Beef Checkoff is working to prepare research summaries and scientific references for submission to IARC, including comprehensive, systematic evidence reviews to ensure that the balance of evidence is considered by the Working Group. Given that cancer is a topic of public interest and an issue that hits very close to home for many Americans, the Beef Checkoff is also developing education and communication resources that can provide important context and balanced perspectives on the role of diet and lifestyles in the development of cancer for both consumer influencers (registered dietitians, medical professionals and academics) as well as general consumer audiences. As IARC is a well-respected global agency, the evaluation presents an opportunity for the beef community to dispel the deep-seeded myth that red meat independently plays a role in the development of cancer.

Background

In an effort to reduce the incidence and healthcare cost burden associated with cancer, regulatory and risk assessment agencies commonly evaluate the available evidence regarding various agents, e.g. chemicals, pollutants and ingredients, to determine the likelihood that they may cause cancer or, in other words, if they are carcinogenic. Groups that conduct such evaluations, independently and collaboratively, include global agencies such as the World Health Organization’s (WHO) International Agency for Research on Cancer (IARC), World Cancer Research Fund International, and national agencies such as the European Food Safety Authority and American Institute for Cancer Research.

Internationally, IARC is known for its Monographs, which are a series of scientific reviews that seek to identify individual compounds and substances – such as chemicals, pollutants – and more complex exposures such as occupational hazards and foods – that can increase cancer risk. Historically and collectively, the IARC Monographs, sometimes referred to as WHO’s “Encyclopedia of Carcinogens,” have reviewed more than 900 agents. Through this process, IARC has classified 400 of these agents as “known”,
There are five possible classifications for exposures evaluated by IARC:

- Group 1 Carcinogenic to humans
- Group 2A Probably carcinogenic to humans
- Group 2B Possibly carcinogenic to humans
- Group 3 Not classifiable as to its carcinogenicity to humans
- Group 4 Probably not carcinogenic to humans

Since the Monographs began in 1972, IARC traditionally has focused its research efforts on chemicals and pollutants; however, on occasion IARC has evaluated the cancer risk of specific foods, including coffee, tea, amaranth, salted fish, pickled vegetables and, on two separate occasions, alcohol (1988, 2010). Alcoholic beverages are classified as Group 1 carcinogens, coffee is a Group 2B carcinogen, and tea has not been classifiable as to its carcinogenicity to humans (Group 3). It is difficult to use these previous food-related classifications as a baseline for potential traditional and social media coverage of a beef classification because these are not contemporary examples. One factor making it difficult to extrapolate potential media coverage is the explosive growth of social media. In 2010, Twitter was only three years old and had just 54 million active users, compared to today with more than 302 million active users. Additionally, these foods do not represent a category of foods that have long been recommended as part of a healthful diet by federal agencies, such as the U.S. Department of Agriculture. For all of these reasons, it is difficult to compare the potential impact of a beef monograph to any other food.

In November 2014, IARC announced it will be evaluating red and processed meat with regard to carcinogenicity. The Red Meat and Processed Meat Monograph (Monograph 114) marks the first time that IARC has chosen to analyze a broader food category rather than specific foods. Evidence evaluation will be completed by a Working Group of cancer research experts. IARC issued a call for experts to participate in the red and processed meat Working Group earlier this year, a public announcement of the Working Group members is expected at any time. These Working Group members are currently reviewing the available evidence regarding the risk of developing any cancer and the association with red and processed meat consumption. In October, this group will convene for an eight-day meeting to come to a collective decision on the potential carcinogenicity of red and processed meat. While the public is not invited to this meeting, a very small number of observers, selected by a nomination and review process, are allowed to attend. Observers are tasked with ensuring that all published information and scientific perspectives are considered during the meeting. The Beef Checkoff has nominated several technical experts and independent scientists to be considered as Observers. Following their meeting, IARC will publish a final decision (aka the IARC Monograph) regarding the classification of red and processed as a carcinogen and with what degree of certainty (definite, probable, possible, not classifiable, probably not) the available evidence supports this classification. The final monograph will be published in the scientific journal The Lancet sometime the following year and be made available on the IARC website.

IARC is considered an authoritative body by many regulatory agencies, meaning there is potential for significant implications if red and processed meat consumption is found to be carcinogenic to humans including the potential for “warning” labels, advisories from government agencies and possible changes to dietary guidance issued by individual countries. More information from IARC is available.

**Discussion**

The evidence base for diet and cancer relies on observational data – a type of research that reports observed associations between exposures (i.e. diet or dietary components) and outcomes (i.e. cancer) but cannot establish cause and effect relationships. In contrast, randomized controlled clinical trials are considered gold standard evidence that can be used to determine cause and effect relationships but these studies are less common in cancer research because the time period to develop cancer can be quite long.
Many cancers develop 10-20 years after exposure thus requiring prolonged research trials that are costly and prone to subject non-compliance and drop out. Understanding whether or not red meat intake is independently associated with cancer is further complicated by imprecise meat definitions and confounded by the overall dietary pattern in which red meat is consumed.

Over the last 10 years, the Beef Checkoff has extensively reviewed the research on red meat and cancer, and the independent scientists who have conducted this research have consistently concluded “the totality of the available scientific evidence is not supportive of an independent association between red meat or processed meat and cancer.”

As part of a public consultation, IARC has requested published evidence, including original epidemiological research, cancer bioassays, mechanistic data, systematic reviews, meta-analyses, and relevant, publicly-available government reports, which will be used in their evaluation of red and processed meat. The Beef Checkoff has already submitted a comprehensive overview of the observational evidence surrounding red and processed meat and cancer risk, including a recent Beef Checkoff-funded meta-analysis. This meta-analysis, published online in May in the Journal of the American College of Nutrition, analyzed the relationship between red meat intake and risk for colorectal cancer and concluded no observable relationship. The full paper can be found here.

The most recent, unrelated, example of an IARC decision has been the classification of glyphosate — a key ingredient in Round-Up — as a Class 2A carcinogen. Much of the news coverage focused on what a Class 2A carcinogen actually means to consumers, including a “whiteboard” YouTube video and NPR stating: “…IARC is saying that glyphosate probably could cause cancer in humans, but not that it probably does.” Overall, the consumer is confused as to what science they can believe and what science they can dismiss. We know from Beef Checkoff-funded research that there is a segment of “information seeking” consumers who are actively looking for information on these complex issues in order to make a decision and that they “googling” for much of this information. At the same time, they’re looking to influencers—registered dietitians, medical doctors and others—for advice. That is why it is so important to balance the conversation offering up both sides of the story and having a strong basis in science to back-up our story, thereby allowing the consumer to make the ultimate, informed decision.

As a science-based, trusted leader in nutrition research, the Beef Checkoff is working to ensure a balanced perspective on the evidence related to total diet, red meat and cancer. As such, the Beef Checkoff is working to prepare a series of research summaries and scientific references covering a broad array of topics relevant to the evidence evaluation process for submission to IARC. Information will be available to interested researchers, register dietitians and many consumer-facing resources to help put this complex topic into perspective. This will include fact sheets, background materials, videos and blog posts publically available on the Beef Checkoff-funded website, FactsAboutBeef.com.

**Conclusions**

As IARC is a well-respected global agency, their decision regarding the carcinogenicity of red and processed meat has far-reaching implications. The challenge for the beef community in this process is to dispel the deep-seeded myth that red meat plays an independent role in the development of cancer. In collaboration with other industry trade groups and associations, the Beef Checkoff is actively participating in this process by contributing quality research on the topic to the body of evidence that will be reviewed by IARC and is concurrently engaging with key thought leaders and consumer influencers to continue demonstrating the role of beef in a healthy diet.

For detailed information on the epidemiological evidence on red meat and processed meat consumption and cancer, review this technical summary.

**Additional Resources**
The International Agency for Research on Cancer (IARC) has chosen to analyze a broader food category rather than specific foods. Evidence evaluation will be conducted on a food group basis, which increases the complexity of the analysis and requires a higher level of scientific expertise to ensure comprehensive coverage. The process aims to provide a collective decision on the potential carcinogenicity of red and processed meat.

IARC has the respected status of a credible, independent and collaborative organization that conducts such evaluations. Their decision regarding the carcinogenicity of red and processed meat will set the stage for further research and public health recommendations.

The final monograph will be published in the scientific journal The Lancet sometime the following year and be made available on the IARC website. The potential relationship between red meat consumption and cancer risk continues to be a controversial topic debated in the scientific community, among authoritative bodies, and via social and traditional media.

As a science conversation offering up both sides of the story and having a strong basis in science to back up the decision (aka the IARC Monograph) regarding the classification of red and processed meat as a carcinogen, the evaluation presents an opportunity to inform the scientific community and the public with what degree of certainty (definite, probable, possible, not classifiable, probably not) the available evidence supports this classification.

The final monograph will include a technical summary, additional resources, and a comprehensive overview of the observational evidence surrounding red and processed meat and cancer risk, including a recent Beef Checkoff resource. The Beef Checkoff has already submitted a comprehensive overview of the observational evidence regarding red meat and cancer, and has been working to prepare research summaries and scientific references covering a broad array of topics relevant to the evidence evaluation process for submission to IARC.

Checkoff is also developing education and communication resources that can provide important context for consumers, including a whiteboard and_powerpoint_presentations. In an effort to reduce the incidence and healthcare cost burden associated with cancer, regulatory and funding agencies are seeking a better understanding of the potential relationship between red meat consumption and cancer risk.

As such, the Beef Checkoff is working to prepare a series of research summaries and scientific references covering a broad array of topics relevant to the evidence evaluation process for submission to IARC. Information will be made available to interested researchers, registered dietitians and many consumer-facing resources to help put this complex topic into perspective. This will include fact sheets, background materials, videos and blog posts.
The Beef Industry’s New Long Range Plan Sets Important Direction

Date: December 21, 2015

The beef industry has adopted a new long range plan (LRP) that will guide the industry from 2016-2020. Developed by a task force of industry leaders, this new plan will focus on growing demand for beef over the next five years by addressing key challenges and opportunities.

by Rick Husted, MBA, Vice President-Strategic Planning and Market Research, National Cattlemen’s Beef Association, a contractor to the Beef Checkoff

Summary

The beef industry has adopted a new long range plan (LRP) that will guide the industry from 2016-2020. Developed by a task force of industry leaders, this new plan will focus on growing demand for beef over the next five years by addressing key challenges and opportunities. The plan’s vision is simple and straightforward, “To responsibly produce the most trusted and preferred protein in the world.” The mission statement summarizes key elements the plan will focus on and states, “A beef community dedicated to growing beef demand by producing and marketing the safest, healthiest, most delicious beef that satisfies the desires of an increasing global population while responsibly managing our livestock and natural resources.”

The plan’s overall objective is to increase wholesale beef demand by 2 percent annually over the next five years. Taking the turnaround in supply that is underway, that will be no small task. Given that, the LRP task force is challenging industry stakeholders across the supply chain to support the plan by taking specific action on those strategic initiatives most relevant to their area of expertise.

Background

In today’s global marketplace, every successful cattle producer or other beef industry stakeholder knows the importance of planning when it comes to business success.

In fact, every decision companies and organizations make is ideally based on sound research and strategic foresight. While all beef related businesses likely have their own internal plans and objectives, the beef industry recently funded the development of a five-year beef industry long range plan to help ensure the industry, at a minimum, has the underpinnings to engage in and align to a consistent direction. More specifically, the beef checkoff will use this plan to very directly guide their efforts and funding decisions moving forward.

Developed by a task force of 16 industry leaders, the plan took about eight months to complete and was ultimately adopted by the National Cattlemen’s Beef Association, a contractor to the Beef Checkoff, and the Cattlemen’s Beef Board during July’s 2015 Cattle Industry Summer Conference in Denver.

“While the beef industry has faced many challenges, the future holds tremendous promise for the industry,” according to Don Schiefelbein, owner/operator of Schiefelbein Farms and task force co-chairman. “The task force took a research-based approach to not only determine where the industry is and how we got here, but also at the trends and issues potentially impacting the beef community so that we can be most successful moving forward.”

The task force identified increasing beef demand as the single most important strategic objective for the industry to pursue and established a specific objective to "increase the wholesale beef demand index by 2 percent annually over the next five years" through focus on four core strategies: drive growth in beef exports; protect and enhance the business and political climate for beef; grow consumer trust in beef and beef production; and promote and strengthen beef’s value proposition.
“The overall vision of the task force was straightforward,” said John Butler, CEO of Beef Marketing Group and task force co-chairman. “Recognizing the growing demand among the world’s middle class for high-quality protein, we want the U.S. beef industry to responsibly produce the most trusted and preferred protein in the world. At this pivotal point in the U.S. beef industry’s history we need to focus our energies and limited resources on those areas that can provide our industry the best results.”

Beyond these four core strategies, the task force identified specific strategic initiatives that support each. These initiatives are much more focused and at times more aggressive than direction provided by long range plans in the past. The task force clearly recognized the importance of calling out ways to address current issues facing the beef industry today.

A High Level Overview of the Long Range Plan Core Strategies and Strategic Initiatives (see the plan for more detail).

*Drive Growth in Beef Exports*
This strategy focuses on gaining access to key foreign markets, adopting an animal I.D. traceability system and promoting the unique attributes of U.S. beef to foreign consumers.

*Protect and Enhance the Business & Political Climate for Beef*
This strategy begins with motivating stakeholders to become more engaged in policy concerns to improve the industry’s effectiveness in managing political and regulatory issues that threaten the overall business climate of beef production. It must also include efforts to ensure beef’s inclusion in dietary recommendations, the exploration of new production technologies to replace ineffective or unacceptable production inputs or methods, and a crisis prevention and management plan to prepare the industry to manage key risks and vulnerabilities. Finally, strategies must be developed to attract, develop and enable the next generation of beef industry stakeholders while simultaneously becoming more proactive in supporting global food security messages and activities.

*Grow Consumer Trust in Beef & Beef Production*
This strategy includes a critical focus on antibiotic stewardship, the implementation of a certification/verification program and continued investment in beef safety initiatives. Moreover, the industry must engage the entire beef community in building consumer trust and collaborate with a broader group of industry partners and outside organizations to protect beef’s image.

*Promote and Strengthen Beef’s Value Proposition*
This strategy is designed to revolutionize beef merchandising, invest in research to communicate beef’s nutritional benefits and capitalize on media technologies to communicate beef’s value proposition and connect directly with consumers. Furthermore, the industry must effectively respond to consumer-based market signals with product improvements and increased production efficiencies while continuing an industry-wide commitment to measuring, improving and communicating progress in beef industry sustainability.

A Call to Action

Challenge yourself and your organization to help achieve the long range plan’s objectives by taking
specific action on those strategic initiatives you believe you could most positively impact. The plan will only be as good as the outcomes it achieves. Make your mark and get involved today.

**Additional Resources**

- [Beef Industry Long Range Plan](#)

**Tags: **Beef Issues Quarterly, Research Findings, Winter 2015
Farmers and Ranchers Must Raise Their Voices Louder Than Ever Before

Date: December 21, 2015

For too long, farmers and ranchers have been missing from the conversation about food and how it is grown and raised. The U.S. Farmers & Ranchers Alliance (USFRA) was founded in part to raise the profile of farmers and ranchers, and inspire them to lead the discussion by answering consumers’ toughest questions about agricultural practices.

by Randy Krotz, CEO, U.S. Farmers & Ranchers Alliance

Summary

For too long, farmers and ranchers have been missing from the conversation about food and how it is grown and raised. The U.S. Farmers & Ranchers Alliance (USFRA) was founded in part to raise the profile of farmers and ranchers, and inspire them to lead the discussion by answering consumers’ toughest questions about agricultural practices.

As an organization, USFRA has conducted a variety of research since 2011 to better understand the consumer mindset when it comes to food and agriculture. The earliest USFRA messaging research demonstrated that consumers love farmers and ranchers, but not farming and ranching. This research also found that the go-to messages outlining how we raise our food to be “safe, affordable and abundant,” fell flat. Farmers and ranchers should address consumers’ new concerns – the impact the food they eat may have on their long-term health and concerns about environmental sustainability.

Yet, while more farmers and ranchers are engaging in real dialogues about food and agriculture, more must, and can, be done. Consumers are demanding more transparency, and are often given this information – not by the people who grow and raise their food – but by special interest groups and organizations that are using fear-mongering that plays to emotional heartstrings and concerns of the average consumer. This perpetuation of myths and misinformation includes attempts at pitting one type of agriculture practice against another, thus impacting the reputation of our industry and ultimately, making consumers’ ability to make informed food choices more difficult than ever before.

Background

Google is considered the world’s largest online library, and as such is likely the first place the average consumer turns to when seeking information about food and any concerns they might have about agriculture production practices. For example, a simple search on “animal antibiotics” nets more than 43 million results, while searches on “farms and pesticides” nets more than 21 million.

Until recently, these results did not always reflect the point of view of agriculture, and more is being done every single day to present perspectives on agriculture issues that are making national news headlines from real farmers and ranchers. Although the agriculture industry as a whole has worked to develop more effective and sustainable practices, we have not spent enough time telling consumers about our efforts.

By not telling our stories, we inadvertently created the white space needed for others, including activists and other special interest groups with anti-agriculture agendas, to share their perspectives on today’s farming and ranching practices. Unfortunately, their depiction is not a true representation of agriculture. The messengers who are capturing the interest and attention of today’s consumer are not farmers and ranchers, but individuals and groups who have agendas and big budgets to create marketing campaigns that use consumers’ fear as the creative insight and myths about farming and ranching as the message.

Discussion
USFRA actively monitors news headlines as well as the online conversations that are capturing the attention of millions on social media. These activities range from simple Tweets and Facebook posts to YouTube videos and advertising campaigns that are being discussed and shared online. Since the first televised Presidential debate in 1960 to the ALS Association’s Ice Bucket Challenge viral video campaign, video continues to be the single most powerful tool to capture the attention and communicate a story to the masses. USFRA has first-hand experience of the power of visual storytelling – the documentary, FARMLAND, for example, is a powerful way of telling the story of farming and ranching in a visual and compelling format.

Yet, the FARMLAND documentary is only one example of a positive story about American agriculture, versus the thousands of videos created by anti-agriculture groups that are not founded in truth, thus causing further confusion to the consumer. Through our monitoring process, USFRA has identified multiple examples, in the past six months alone, that demonstrate how special interest groups are targeting consumers, including the coveted millennial group of 18 to 34-year-olds, with splashy events and highly-targeted online video campaigns. A few examples:

- **Only Organic’s #NewMacdonald campaign**: March 2015 campaign featured a viral video featuring school children singing a twisted version of “Old McDonald.” The video sparked a heated debate on social media with farmers and ranchers of all types and sizes responding in real-time to correct the campaign’s inaccurate video content.
- **Mercy for Animal’s Farm to Fridge tour**: The 2011 tour visited 40 different U.S. cities and featured lectures and screenings of MFA’s documentary Farm to Fridge at college campuses, festivals and busy downtown locations.
- **Chipotle’s Cultivate event**: The free, multi-city event brings together Chipotle food, micro beers, live music from well-known bands and “interactive experiences focusing on sustainable food practices” in an effort to reach the millennial audience.

**Conclusion**

We live in a world where video is the most powerful tool for communicating a story short of witnessing an event first-hand. Anti-agriculture videos that demonize farming and ranching practices and pit one production practice against another are gaining traction with consumers. The extensive and coordinated anti-agriculture movement reinforces the need for all of the agriculture industry to collaborate and be present in places and participate in activities that at times may seem unexpected, and even uncomfortable.

Last year, USFRA had the opportunity to sponsor a panel discussion at The New York Times “Food for Tomorrow” event. The event featured a number of influential speakers, many of whom do not believe large-scale, production agriculture should exist. However, by not participating in the event, farmers and ranchers would have been notably absent from one of the year’s biggest conversations about food. One particular quote that captured the essence of why USFRA became involved in that event came from Nebraska cattle feeder, Joan Ruskamp, who implored the event’s participants to, “PLEASE let us (farmers and ranchers) be involved in your conversation about our food for tomorrow!”

USFRA will continue to look for new opportunities to involve farmers and ranchers in the conversations about food and food production taking place at events across the country, in popular culture, in media and online. We often describe our work as a movement, and to be successful and combat the misinformation being shared by anti-agriculture groups we must work together to encourage all farmers and ranchers to raise their voices. Both the industry and consumers need this now more than ever before.

**Additional Resources**
• Organic Trade Association
• Only Organic #NewMacDonald
• Right to Know GMOJust Label It
• Slate’s coverage of New York Times Food for Tomorrow event

What defines the character of a generation and how does each generation develop its unique identity?

by Dan Coates, Ypulse

Summary

What defines the character of a generation and how does each generation develop its unique identity? We’ve all heard one or more of the current generational monikers: The G.I. Generation, The Silent Generation, Baby Boomers, Generation X and, most recently, The Millennials. Are there substantive differences between each of America’s generations, or is this all a lot of hot air?

Background

Since 2004, Ypulse has studied members of the millennial generation – a generational appellation coined in the year 1992 by Neil Howe and Bill Strauss in their book “Generations”, defining those born between 1982 and 2004 as ‘Millennials’ for the simple reason that their earliest members would graduate from high school at the turn of the Millennium.

In studying this generation, we’ve witnessed firsthand how and why generations develop the way they do. Ypulse was founded in the year that the last batch of millennials were born, studying them from the year when their youngest members were still in diapers to a time when 7,500 millennials become parents each and every day in the year 2015.

In order to understand millennials, you have to understand their parents. In order to understand the parents of millennials, you have to understand the parents of the parents of millennials. History is a powerful predictor.

Discussion

Children born in the year 1982 were mostly born to Boomer parents. As with all other stages and phases of their journey through history, the Baby Boomer generation reinvented parenting as an expression of what they didn’t like about their own childhood. Boomers were parented largely by the G.I. Generation who were strong advocates of order and hierarchy, so Boomers often heard phrases like “children should be seen but not heard” and “children should speak when they are spoken to” as they grew up. Boomers rejected this authoritative mindset and vowed that as they themselves became parents, they would ensure that their children were given central, meaningful roles within the family structure. In fact, in their attempts to create a flattened family structure, some Boomers put their kids in charge of the household, relegating themselves to the role of customer service representative dedicated to satisfying each and every whim of their precious offspring.

While the 60s and 70s represented a time of great change and upheaval in America, the 80s marked a significant shift toward stability and security. Children went from living on the periphery to being centrally important and a number of cultural moments showed that a special generation of children had made their way onto the scene. The founder of Safety 1st, Michael Lerner, was inspired in 1984 to create the ‘Baby on Board’ sign when he had to drive his baby nephew home in busy traffic and found that other vehicles were aggressively passing him. While the rapid spread of this yellow sign in the windows of cars piloted by proud Boomer parents was literally the first sign that things were changing, there were others as well: the demonic representation of children within movies from the 70s (e.g. Rosemary’s Baby, Beyond the Door, The Omen Series) ceded to an angelic representation in movies in the 80s (e.g. Three Men and a
Baby and the Look Who’s Talking series). Children were precious and to be sheltered, inspiring a multitude of laws created to protect them (e.g. Megan’s Law and Amber Alerts).

The 80s were also the beginning of a sustained economic boom that many of us wistfully remember today. Americans prospered and in their prosperity had children. While Baby Boomers had children a little behind schedule in the 80’s and 90’s, Generation X had children a little ahead of schedule in the 90’s and early 00’s, creating a generational doubling down on childbirth – everyone was doing it. This sustained 22-year period of reproductive production is what has made Millennials the largest generation in American history – currently 99 million strong.

Many of the core characteristics of the millennial generation stem from this time of great affluence: they are confident and optimistic and see their lives’ journeys as meaningful and imbued with a higher purpose. They seek out solutions that are inherently ‘win-win’ and cite the greed of a few individuals as the root cause of the Great Recession. Not since the days of President Franklin Roosevelt’s New Deal has a generation of youth been more inclined to solutions that work for everyone. They are environmentally aware, societally conscious, and expect companies and brands to reflect their values by making the world a better place as they pursue profits.

Institutions groaned under the stress of shepherding this massive generation through the system and the individualistic perspectives of Boomers and Generation Xers gave way to a much more team-oriented spirit. While Generation Xers were wary of authority figures and had uneasy relations with law enforcement, millennials were taught that society and social institutions were in their corner, looking to help and protect them. They worked in team environments throughout their academic years and bring a consensus driven approach to their relationships.

The most notable societal shift that has defined millennials is the rapid rise of digital media. Millennials soaked up new technology during their childhood, becoming proficient and savvy users of a myriad of media formats. As children, they were granted the title of Chief Technology Officer of the household, deciding what technologies and tools would best meet the family’s needs and expected to unbox the latest Xbox and connect all the cords as their parents watched in awe and amazement.

As the oldest of the millennials enter their early 30s they become the emerging parent class, with more than 70 percent of the nearly 4 million children born in 2014 having millennials as parents. It is in this newfound role that millennials become most relevant to the beef industry. While they had opinions and an influential voice when they lived with their parents, they’ll determine the fate of a number of food products as they form their own households. We’ve been diligently studying the thoughts and attitudes of millennial parents within our work with the Beef Checkoff, and the good news is that millennials are on the lookout for healthy, natural and high protein solutions, crediting beef with a number of positive attributes.

Conclusion

In addition to forming new households, more than 10,000 millennials join the workplace each day, re-shaping the way we work as well as the way we live. As they ascend the corporate ladder, millennials will supersede Boomers in their economic power by the year 2017 and already lead spending in many product categories today. By the year 2020, one-third of all American adults will be millennials and while we have already had a taste of their political power in the last two presidential elections, they will come to dominate the political landscape after the 2020 presidential election. By the year 2025, millennials will be fully in charge of the American experience, bringing with them a positive, team-oriented and family-friendly approach to solving the future challenges of our nation.

Additional Resources
Additional Resources

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Background

differences between each of America

Summary

What defines the character of a generation and how does each generation develop its unique identity?

Date: December 21, 2015

America: Millennialized


Beef Demand: Spring 2015 Optimism in the Consumer Beef Index

Date: December 21, 2015

For several years of tracking, consumers have noted a drop in the average number of times beef is eaten in a week. The March 2015 Consumer Beef Index noted an uptick in this measure.

by John Lundeen, Senior Executive Director, Market Research, National Cattlemen’s Beef Association, a contractor to the Beef Checkoff

Summary

For several years of tracking, consumers have noted a drop in the average number of times beef is eaten in a week. The March 2015 Consumer Beef Index noted an uptick in this measure. Although reductions in domestic supply are keeping a ceiling on the amount of beef consumed, any indication by consumers that beef hits their plate more often is a very positive change. On another measure, comparing the percentage of consumers who plan to eat more beef versus less beef, the “more” beef consumers won out -- 18 percent to 15 percent. It all speaks to optimism in beef consumption moving forward.

Background

The checkoff-funded Consumer Beef Index (CBI) is a semi-annual online survey begun in 2007 that is designed to identify and track key consumer perceptions of beef and to spotlight key consumption trends. One thousand and fifty respondents completed the March 2015 online study. The sample is national in scope and is tested for balance with national demographic data, including gender, ethnicity, region of the country and age (ages 13 to 65 were included in the sample). A very small minority of consumers with absolutely no food decision making authority, either at-home or in restaurants, are excluded.

Discussion

This write-up will document several positive shifts in perceptions about beef and reported usage of beef -- percentage of consumers eating beef weekly, average number of meals per week, percent of consumers eating beef 3+ times a week. It will also note how strong some of these measurements are for millennials and millennial parents, key target audiences moving forward.

Reported use of beef, and frequency of consumption data, look very promising. Ninety-one percent of consumers note eating beef monthly. Thirty-five percent note eating beef three or more times a week (Figure 1), a percentage of heavy users not seen since 2012. Thirty-six percent of millennials and 38 percent of millennial parents are in the three or more beef meals per week camp. Although not statistically significant yet, the average number of beef meals reported eaten per week ticked up slightly. This is notable after several years of supply driven declines in the total beef available to consumers, and the margin pressures encountered by retailers and restaurant operators in recent years.

![Chart A: Penetration of Heavy Users](image-url)
A rule of thumb for beef meals eaten is 1/3, 1/3, 1/3, with burgers, ground beef as an ingredient and whole muscle cuts making up the categories. When combined, the importance of ground beef to beef usage is very clear. Note that the data noted concerns meals, not pounds consumed. The exact percentages are as shown in the pie chart (Figure 2):

So, what appears to bring some consumers back to beef, and make others shy away from beef? Among the 18 percent saying they plan to eat more beef, a love for the taste of beef is the number one reason given (Figure 3).

Nutritional reasons are the four top responses given by the 15 percent who say they plan to eat less beef (Figure 4). Note that beef pricing is the fifth most common reason given by just over half of the 15 percent who say they are eating less. Concern about “factory farming” is the eighth most common reason for planning to eat less beef.
Overall, attitudes about beef are strongly similar across generations (Figure 5). Across all groups tracked, those noting the positives of beef strongly or somewhat outweigh the negatives hovers between 75 percent and 82 percent. Note also that the overall percentage of consumers with a positive attitude about beef is at a four-year high.

Twenty-six percent of consumers noted a “specific problem or concern” with beef they had heard or read about recently. Seventy-four percent consequently had not heard or read about a specific problem or concern recently. The highest percent noted since the Consumer Beef Index was initiated in 2007 (Figure 6). The industry must stay vigilant, however, in keeping beef out of the news. Millennial parents were more likely to have heard about an issue with beef, with 41 percent noting some negative type of news about using beef in their homes.
Millennial parents are honestly interested in knowing more about beef selection and preparation, and this generation consistently outscored the average in their desire for more knowledge about beef (Figure 7).

![Interest in getting more information about how to...](image)

**Conclusions**

Despite reduced supply of beef and high market prices, the underlying interest in beef is solid. The percentage of consumers noting that the positives of beef outweigh the negatives, number of weekly meals made with beef, the ongoing power of beef taste, less awareness of negative beef news, and the desire among millennial parents to know more about beef selection and preparation puts the industry on solid ground moving forward.

**Additional Resources**

- Consumer Beef Index: March 2015

**Tags:** Beef Issues Quarterly, Research Findings, Winter 2015
• **Getting a Read on Great Beef Flavor**

Date: December 21, 2015

Beef taste is primarily made up of three components – flavor, tenderness and juiciness. Since taste is the most important factor the consumer uses in choosing a dinner entrée improvements in any one of these three variables is critical to optimizing the value of beef, and in keeping beef competitive with other proteins.

by John Lundeen, Senior Executive Director, Market Research, and Bridgett Wasser, Executive Director, Meat Science Technology, National Cattlemen’s Beef Association, a contractor to the Beef Checkoff

**Summary**

Beef taste is primarily made up of three components – flavor, tenderness and juiciness. Since taste is the most important factor the consumer uses in choosing a dinner entrée (Source: Consumer Beef Index) improvements in any one of these three variables is critical to optimizing the value of beef, and in keeping beef competitive with other proteins.

The industry has made great strides in delivering more consistent levels of tenderness and continues to keep an eye on this important beef attribute. Now, it’s pertinent to focus the same attention on beef flavor, which is much less understood. Over the last two years, the checkoff’s product quality and market research teams have been looking at the attributes of taste, and what separates a great steak dinner from a merely average one. What follows is a summary of that journey and our current understanding of where the checkoff can focus attention to drive demand based on delivering great taste.

**Background**

Can you describe the taste of a great steak? Consumers use words like mouth-watering, delicious or more savory. But how does the checkoff turn that into action and work to turn every steak experience into a great steak experience? And, how do we overcome a bad beef taste experience?

Discerning beef’s flavor makeup – or its flavor chemistry – is a complex science. Step one is exploring beef’s natural flavor chemistry and developing a library of descriptive terms (called a lexicon) that can be used to describe beef’s specific flavor notes. Step two is to document current flavor delivery and determine just how many steak experiences rate as an A or B, or fall short as a C, D or F. And, more importantly, we must determine if the consumer can tell us what happened during the beef selection or preparation process that might have caused a high or low grade.

**Discussion**

Flavor is equally as important as tenderness to consumers when measuring beef eating satisfaction. However, beef flavor is not a single attribute as it has often been viewed and measured. To better understand beef’s complex flavor equation, the product quality program has initiated checkoff research projects to examine beef’s chemical makeup for flavor-inducing compounds. Simultaneously, trained sensory panels have been engaged to develop a consistent beef lexicon to document positive and negative flavor notes that differ in beef based on cut, fat level, cooking method, degree of doneness and individual consumer preferences. For example, the flavor of marbling in beef has been described as a buttery beef fat flavor, and that flavor contributes significantly to beef’s sensory or eating experience.

Following development of the beef lexicon, research continues to understand which compounds in beef are responsible for the specific flavor notes identified in this lexicon. This information can ultimately be used to enhance or reduce specific flavor compounds to optimize beef flavor. Additionally, work is ongoing
to understand which of the flavor notes identified by trained sensory panelists in the beef lexicon are positive and negative to non-trained beef consumers. Consumer perceptions of flavor are variable – some prefer certain flavor notes more than others – which results in consumer population segments based on flavor preferences. For example, some consumers prefer the grilled or charred flavors of more well-done beef while others prefer the irony/serumy or metallic flavors of less well-done beef. And, beef flavor notes aren’t present individually; they are present in combinations that are specific to individual eating experiences based on the chemistry of the cut, how it was cooked, etc. The industry needs beef products that work for all consumers and that presents a moving target that this type of science can help us narrow in on.

Market research conducted an online survey of 1000 consumers in October 2014. Only those who noted having eaten a steak in their homes in the prior three days were qualified to participate. Each noted the process they followed in selecting the steak, preparing and then cooking. The consumer answered a battery of questions about their confidence in the cooking method they used, their preferred doneness for a steak (and actual doneness for the steak prepared), and cut purchased. A subset of consumers with the best or worst experiences were immediately routed into a dialogue with a live interviewer who captured further richness about their perceptions of that steak.

First, confidence in a cooking method really matters. In prior research, respondents noted how they had to “learn their grill” and just how to achieve a great steak outcome. Those who scored their steak an “A” were very likely to have a high level of confidence in their cooking method.

Hitting preferred doneness is critical, and the largest negative impact is related to overcooking a steak. Successful steak cookers also were more likely to understand the benefits of “resting” the steak before cutting into and eating it.

When asked to affix responsibility for a “C” to “F” outcome, 30 percent noted the cut itself. While this is a relatively small percentage, this was still the most likely answer given for the “what” behind a sub-satisfactory experience.

Is there room for improvement? Absolutely. In this first in-depth foray into measuring steak satisfaction, a very large majority noted a highly satisfactory “A” or “B” experience – backing up the discussions
encountered in research where consumers rhapsodize about the taste of beef. But industries today are striving for zero tolerances and the beef industry has a ways to go to hit that standard.

![Grade Given (n=1000)](image)

**Conclusion**

Ongoing improvements in taste delivery are likely to require a process by which the industry finds out how to minimize the outliers – the steaks that deliver a gristy or flavorless experience. It will also require learning more about the subtle nuances of a great steak – with sensory panels and flavor chemistry leading the way in unraveling the combination of beef flavors that give a diverse group of consumers just what they are looking for.

Additionally, it will require communication programs that help the consumer understand the nuances of beef cookery – getting spice levels or marinating techniques right, cooking to a preferred doneness, and understanding how to let a steak “rest” after cooking. Luckily, today’s consumer takes joy in discovering the art of great cookery and is hungry for just this type of information. Bon appetit.”

**Additional Resources**

- Steak Taste Experience Recall Report
- Consumer Beef Index
- Chemistry of Beef Flavor Research Executive Summary

**Tags:** Beef Issues Quarterly, Research Findings, Winter 2015
On a daily basis, the Issues and Reputation Management (IRM) team, on behalf of the beef checkoff, carefully surveys the landscape across traditional media, broadcast media and social media to determine which issues warrant a response.

by Season Solorio, Executive Director, Issues & Reputation Management and Amy Poague, Manager, Issues Analytics and Content, National Cattlemen’s Beef Association, contractors to the Beef Checkoff

Summary

On a daily basis, the Issues and Reputation Management (IRM) team, on behalf of the beef checkoff, carefully surveys the landscape across traditional media, broadcast media and social media to determine which issues warrant a response. Using a variety of tools, including Lexis Nexis for traditional and broadcast media analysis and NUVI for social media monitoring, the team overlays the data from both applications to create a clear picture of how an issue is playing out in the external environment.

Background

Each quarter, the team reviews traditional media coverage and a small sampling of social media coverage to determine the level of attention that an issue receives. From September 2015 through November 2015 more than 850 traditional media stories and 1,334,689 social media mentions of the beef industry were analyzed as part of the quarterly monitoring report through Lexis Nexis and NUVI. The 1.3 million social media mentions resulted in more than 1.5 billion social media impressions during the same period. The high volume of traditional and social media coverage is largely due to the report released by the International Agency for the Research on Cancer in late October. Almost every major news network in the U.S. and developed world covered the IARC announcement. Other issues that were widely covered include sustainability and antibiotics due to involvement by groups that disagree with the use of antibiotics in livestock and World Antibiotics Awareness week. This article focuses on the traditional and social media coverage around the IARC announcement.

Discussion

When monitoring an issue traditional and social media, it is important to be conscious of how the conversation is unfolding, the direction it may be heading and, perhaps most importantly, the amount of people who are reading about the issue and discussing the issue and what they are saying. Careful listening and analysis of both social and traditional media provides the information that the team uses to gain important insight, no matter how big or small of an issue. Careful listening to both mediums – traditional media and social media – provides feedback that helps effectively manage and respond to the issue.

In November 2014, the International Agency for Research on Cancer (IARC, an agency of the World Health Organization) announced it would be evaluating the carcinogenicity of red and processed meats. The IARC’s mission is to review pre-existing research on cancer to determine potential causes and to evaluate the carcinogenicity of specific substances. They group each substance into a category according to how “hazardous” they decide the substance may be.

- Group 1: Carcinogenic to humans
- Group 2A: Probably carcinogenic to humans
- Group 2B: Possibly carcinogenic to humans
- Group 3: Not classifiable as to its carcinogenicity in humans
- Group 4: Probably not carcinogenic to humans
You can read more about the IARC process in this previous article from Beef Issues Quarterly.

On the evening of Thursday, October 22, 2015, the Daily Mail UK previewed findings from IARC’s review of red and processed meat. The headline was attention-grabbing, equating red meat with smoking cigarettes, “Bacon, burgers and sausages are a cancer risk, say world health chiefs: Processed meats added to list of substances most likely to cause disease alongside cigarettes and asbestos.” The story was based on leaked information that the Daily Mail had received prior to IARC releasing the full conclusions the following Monday and suggested that processed meats would be placed in highest hazard category (Group 1, carcinogenic to humans) and red meat would be placed in the second highest category (Group 2A, probably carcinogenic to humans). The Daily Mail also carried a follow-up story of an interview with a colorectal surgeon who argued that consumers are more likely to get cancer from chocolate, than red meat.

Utilizing our traditional and social media monitoring tools, the team was able to determine that additional media stories that resulted from the Daily Mail story were primarily in international outlets and the social conversation was largely consumer disbelief with consumers standing up for their love of bacon while criticizing the comparison of eating red meat to smoking (see Chart 1 below). On Friday, October 23, IARC clarified that they did not release the findings early, nor was an embargo broken, and that they would release the conclusions on Monday. The team continued to monitor traditional and social media through the weekend to observe the trends and consistency of conversation – which largely went unchanged.

Chart 1: Friday Social Conversation

Below is a map that shows the geolocation where IARC and red and processed meats were being talked about on social media. This does not account for everyone who is engaging online, as not everyone lists their geolocation on their social properties, but it provides some insight to where the chatter is centered. In addition, there is a timeline that shows the rises and falls of social media conversation throughout the day. The coverage peaked Friday evening from 8-9 p.m. when “Before its News” tweeted their article, then continued to decrease over the weekend until the announcement on Monday.

As expected, IARC published their conclusions on Monday, October 26 at 7 a.m. EST. As the Daily Mail had previewed, IARC placed processed meats in highest hazard category (Group 1, carcinogenic to humans) and red meat in the second highest category (Group 2A, probably carcinogenic to humans). Traditional media began to quickly escalate both domestically and internationally with major media outlets reporting on the news such as Reuters, AP, Bloomberg, Washington Post, USA Today and New York Times. Through close monitoring of the breaking story, the team was able to determine that most of the initial media coverage included a quote or perspective from Shalene McNeill, PhD, RD, executive director of human nutrition at the National Cattlemen’s Beef Association on behalf of the Beef Checkoff. Dr. McNeill conducted interviews with nearly every major print and broadcast outlet in the U.S. including CBS Evening News; CNN; CNN International; Fox, Fox Business Network; NBC Nightly News; Associated Press Television, Reuters, New York Times, Fortune, The Washington Post, The Wall Street Journal, Yahoo, Mother Jones, Huffington Post and more. The North American Meat Institute was also widely quoted in traditional media coverage.

Once traditional media began to increase, the volume of social media mentions quickly followed. Very quickly, this became the number one news story in the world, with the topic trending on traditional and social media on Monday. While most of the initial traditional and social media coverage early on Monday was simply major news outlets sharing their stories through their social platforms, consumers and other healthcare professionals began to weigh in much more heavily late Monday and on Tuesday, October 27, including healthcare professionals such as Marie Spano, MS, RD, CSCS, CSSD, who published an article,
"Does Processed Meat Cause Cancer?" and Dr. Taylor Wallace who published "Meat Causes Cancer – the Counter Argument". Traditional media also began to explain the difference between “hazard” and “risk.” Some outlets criticized the media on Day 1, saying that IARC equating eating red and processed meat with smoking cigarettes was “sloppy journalism.”

Social sentiment continued similar to Day 1 with #bacon trending on Twitter, and consumers refusing to give up their beloved food items. Social analysis showed that consumer sentiment surrounding the study was critical of IARC, with consumers and media making statements such as, “everything causes cancer,” and “give me bacon or give me death.” Much of the conversation was focused on processed meats, rather than red meat. According to an independent media analysis conducted by Thompson Reuters and published in a Reuters story, negative tweets from people expressing disappointment at IARC outnumbered positive tweets of people who believed IARC by 7 to 1 and 6.5 to 1 on Monday and Tuesday, consecutively. Hashtags such as #FreeBacon #JeSuisBacon and #Bacongedon dominated social media conversations on Tuesday. These trends provided valuable information as it allowed the team to gauge how consumers were feeling about the report.

By Wednesday, October 28, social conversation had significantly declined and news satire organizations had started to pick-up the story, including The Onion, Huffington Post Comedy, The Shovel and Chicago Now. Even Stephen Colbert suggested that he wasn’t afraid of meat and smoked a bacon pipe.

By the end of the week, the World Health Organization issued a statement saying that “the latest IARC review does not ask people to stop eating processed meats.” World Health Organization spokesperson Gregory Härter told the Irish Times: that it was a “shortcoming” of IARC’s classification procedure which leads to tobacco, processed meats and arsenic being put in the same group. “We do not want to compare tobacco and meat because we know that no level of tobacco is safe,” he said. “We are not saying stop eating processed meats altogether” and “Do not cut out meats completely as it has nutrients” “Eat healthily means eating a balanced diet, too much of anything is not good.”

Based on social sentiment, as well as traditional media sentiment, it seems reasonable to conclude that consumers will continue to enjoy red and processed meat as part of their overall diet. A public poll conducted by YouGov suggests that consumers were smart enough to see beyond the headlines and that they know that eating red and processed meat is not at all in the same camp as smoking. Read more about YouGov’s poll here. The findings from this poll indicate that the findings of the checkoff’s ongoing traditional and social media analysis were accurate.

After the first day of coverage, volume declined each consecutive day. The week after IARC, social media mentions had dwindled down to fewer than 6,000 mentions, indicating that most of the attention had subsided. On Monday, November 2, the Daily Mail UK, who broke the original story, followed up with, “Why red meat can be GOOD for your health: After days of dire cancer warnings, take comfort in this expert analysis,” which reiterated that people should not give up red meat because it is a rich source of energy and essential nutrients. Based on traditional and social media analysis, we believe that consumers were smart enough to read beyond the headlines and we do not expect this report to have a long-term impact on consumer confidence or consumer demand for beef.

Chart 2: Social Conversations Week Over Week
Conclusion

Issues and Reputation Management is equal parts art and science and the beef checkoff has the tools and the team in in place to protect consumer confidence, and therefore consumer demand, in beef. The ability to serve-up a message, provide perspective or shift a strategy during an issue at the right time, is critical. The team uses all of the tools – traditional and social media monitoring, to inform on response efforts on a daily basis.

Additional Resources

- Our press response
- Scientific evidence on red meat and cancer - FactsAboutBeef.com post explaining difference between hazard and risk
- FactsAboutBeef.com post about meat consumption and health
- FactsAboutBeef.com post about cooking meat
- A video that explains the IARC process

The Evolution of Checkoff-funded Beef Flavor Research

Date: December 21, 2015

Taste is the number one palatability attribute that consumers use when deciding what entrée they would like to have for dinner. Taste, or flavor, is a top driver of eating satisfaction, and often the top reason consumers choose to eat beef.

by Dani Shubert, Associate Director, Meat Science, National Cattlemen’s Beef Association, a contractor to the Beef Checkoff

Summary

Taste is the number one palatability attribute that consumers use when deciding what entrée they would like to have for dinner. Taste, or flavor, is a top driver of eating satisfaction, and often the top reason consumers choose to eat beef. Beef flavor has been a part of checkoff-funded beef quality research for some time, but understanding this quality trait has more recently been made a high-level research priority. Increasing the industry’s knowledge of beef flavor will ultimately impact decisions within the industry pertaining to cattle production systems, processing techniques and even consumer targeted programs. Improvements in beef flavor or taste ultimately will create an improvement in overall consumer demand. A full understanding of the topic is needed before these improvements can take effect, and The Beef Checkoff is making great strides toward this goal.

Background

Eating satisfaction of beef is dependent on three attributes: tenderness, flavor and juiciness. Historically, tenderness has been the palatability trait focused on most extensively, and researchers have explored tirelessly the mechanisms that affect tenderness in order to improve tenderness and the beef eating experience for consumers. The checkoff-funded National Beef Tenderness Survey has tracked consistent improvements in tenderness over time, and the most recent survey (2010/2011) revealed that most of the steaks in retail and foodservice outlets were considered tender. Although tenderness will always be a needed area of focus for future beef quality research, researchers have begun to look into areas of palatability that are not as clearly understood. With direction of the Beef Industry Long Range Plan, checkoff committees and beef industry advisors, the checkoff and its research partners in the Product Quality Research program began a research strategy focused on flavor of beef products. The goal of this initiative is to study beef flavor to the point that it is understood as well as tenderness. Much work has been done to reach the current point of beef flavor understanding, and new questions about beef flavor surface with each new research project.

Discussion

The beef industry took the first big step in addressing beef flavor by funding the development of the beef flavor lexicon which identified major and minor beef flavor contributing components. A flavor lexicon provides a word bank to describe the flavor of a product or a category of products. Sensory evaluation, in combination with chemical identification of flavor components, has long been a powerful tool used to evaluate the quality of beef. However, prior to the creation of this checkoff-funded beef flavor lexicon, sensory studies often focused only on negative flavor attributes and differed in methodology to the point that results from different research studies could not be compared. The beef lexicon is now being used during descriptive sensory analysis to increase consistency and allow results to be compared between different research studies.

During the creation of the beef flavor lexicon, it became obvious that the industry knew very little about...
the multifaceted nature of beef flavor. It also became apparent that much more research would be needed in order to evolve the industry’s understanding of beef flavor to the point that beef flavor could be positively and consistently influenced to improve a consumer’s eating experience, as the industry has done with years of tenderness research knowledge.

Beef flavor is perceived by the senses in response to flavor compounds, often aromatic compounds called volatile compounds, which develop during the cooking process and stimulate taste and smell receptors in the mouth and nose. Flavor development of beef is a complicated equation involving precursor compounds (proteins, lipids and sugars present in raw beef), cooking method and degree of doneness. Research studies combining the evaluation of precursor compounds, various cooking methods, sensory analysis and volatile compound measurement have been conducted to help the industry identify what flavor compounds (positive and negative) will be formed through different precursor compound reaction pathways.

After identification of key flavor attributes and understanding the processes in which they are produced, the question that remains is, “which beef flavor attributes are positive and which attributes are negative for beef consumers?” While consumer perceptions are variable, it is important to understand the effect of specific beef flavor attributes on consumer attitudes so that consumers themselves can be used to guide the industry toward product improvements. Understanding how consumers react to different flavor compounds created from various muscle types, cooking methods, degree of doneness, etc. will further guide the beef industry in building guidelines or providing suggestions to positively influence beef flavor. Additionally, this research will allow the industry to more effectively market beef to maximize positive beef flavor attributes to different consumer segments.

The beef industry can also make great strides to improve beef flavor by investigating which beef production practices produce beef flavor profiles that are favorable to consumers. Variations in beef flavor have been demonstrated with different pre-harvest inputs such as genetics, days on feed, feed type and the use of growth enhancement technologies. Post-harvest beef processes such as aging time, quality grade and muscle type have also been investigated, and can have a positive or negative effect on beef flavor.

Other recent checkoff-funded studies have been focused on kinetics, heat transfer and thermodynamic properties that affect beef flavor. These projects will ultimately answer many of the “whys” in relation to cooked beef flavor, and will aid in the development of models that account for both physical and chemical traits of cooked beef, and ultimately science-based solutions for improving beef flavor consistency.

Conclusions
The understanding of beef flavor development is advancing with the funding of current checkoff research studies. These studies cover a wide variety of topics and ultimately aim to further the industry’s understanding of consumer preferences, thermodynamics, and influence of pre- and post-harvest processes, while also identifying key flavor precursor compounds. This track of research continues so the industry can successfully understand beef flavor in all of its complexity and positively influence beef flavor for the consumer.

Additional Resources

- Beef Flavor: A Review from Chemistry to Consumer

The end of a year seems to always provide a period of reflection. For beef producers, thoughts typically revolve around weather and markets, and 2015 provided a lot to consider.

by Mike Miller, Senior Vice President, Global Marketing and Research, National Cattlemen’s Beef Association, a contractor to the Beef Checkoff

The end of a year seems to always provide a period of reflection. For beef producers, thoughts typically revolve around weather and markets, and 2015 provided a lot to consider. The year began with a historically high market, strong export demand and very tight supplies. Spring moisture followed by good growing conditions led to lots of grass and a large corn harvest, providing producers with generally adequate resources. However, that good news has been offset by a cattle market that has been under pressure since the summer due to growing protein supplies and challenging export markets.

We’ve talked about the expansion of the U.S. cowherd for the past couple of years. Our reality is that the expansion has now arrived and beef supplies will continue to grow for the next several years. At the same time, pork and poultry supplies are expected to grow as well. Strong domestic demand along with robust exports will be necessary to support cattle and beef prices going forward.

It’s no secret that retail and foodservice professionals have been challenged for the past several years with high beef costs. The market change will afford them the opportunity to feature beef more regularly at retail and increase beef’s footprint on the menu. Domestic demand remains strong and we believe that opportunity abounds for beef as we remind consumers about beef’s place in healthy diet and lifestyle.

The challenges for beef exports revolve around two main issues: access and the strong U.S. dollar. Market access is always front of mind for the beef community. Headway is being made given the recent global agreements that have been reached and action taken in Washington D.C. Direct access to China remains a common goal for the beef community, and work continues to open this critical market to U.S. beef.

As we look back at 2015, we would be remiss by not thanking you. It’s through your investment in the beef checkoff that we are able to meet our challenges together and identify future opportunities. There are no shortage of difficulties that our community faces, and yet I feel ever confident that we are equipped to meet them. As we move into 2016, please take the time to reflect and read some of the Beef Issues Quarterly year in review stories that highlight the major discussions that took place in the beef industry. We hope this reminds you of both the challenging and rewarding year that we had and that it inspires confidence in you, the same way that it does us, that this is just the start of good things to come for the beef community as we move into the new year.

Tags: Beef Issues Quarterly, Letter from the Editor, Winter 2015
Export Demand Critical to Market

USDA released trade data for September, and U.S. beef export tonnage was down 25 percent compared to last year and the value of the beef exports were down 31 percent — the smallest total monthly value since April 2013. The bottom line is that U.S. beef export demand has slowed significantly this year, leaving more product on the domestic market to be consumed here in the U.S. At the same time, weekly average beef production in September and October averaged 1 percent larger than last year for the first year-over-year increases in 2015. The bigger U.S. beef production levels in September and October were largely driven by carcass weights running 25-30 pounds above a year ago.

As producers in all segments of the beef industry work to wrap their head around why the fed cattle market is trading more than $30/cwt below last year right now, the current supply and demand situation does shed light on the situation. The slowdown in the global economy is having a huge impact on beef export demand, at the same time the U.S. is producing more beef. So the only way to move more beef through a smaller demand pipeline is with lower prices. At the same time, the slower export/pull through demand, coupled with the larger front-end supply of fed cattle at record large carcass weights forced the cattle feeder to give up leverage to the packer, further impacting fed prices.

Another major factor impacting the fed market is the hide and offal value. Currently the hide and offal value is about $5/cwt ($70 per head) below last year, trading near $11/cwt according to USDA data. This is another variable that is heavily influenced by the global economy as well as energy prices. Current hide and offal values as a percentage of fed cattle values are at the lowest percentage since the recession in 2009.

**Bottom Line:** Lost leverage, bigger beef supplies and the slowdown in the global economy have clearly played an important role in why the fed market is currently $30/cwt below last year. Looking forward into 2016 and beyond, U.S. beef supplies are going to grow given the current expansion, and whether or not or how much the global situation for beef demand and hide and offal values improves will dictate how much lower prices average over the next few years in order to clear the bigger supply.

### Kansas to Iowa Fed Spread

The price spread between Kansas and Iowa has widened to some historical levels. As the chart illustrates, the percentage has been between 3.5-4.5 percent, which would be the widest levels since 2009. There is a strong seasonal for the spread to be wide during the month of September, based on a 5-year average. This is a reflection of supply, where larger fed supplies are in the North compared to the South from August to October. The larger discrepancy of price between the two regions this year can be attributed to a couple of factors.

The closure of the Tyson-Denison plant resulted in a smaller slaughter capacity in the region. Although, the Dakota City plant is expected to absorb all of the lost kill capacity from Denison, it was not something that was going to occur overnight. The incentive to feed cattle to a heavier out-weight has been in play for all regions of the country. However, the lower costs of gain in the Midwest, compared to other regions magnified the point of feeding cattle longer. The heavier out-weights resulted in a leverage shift favoring the packer. As the market was finding its lows a few weeks ago, there were a higher percentage of fed cattle in Iowa selling with a weight discount, i.e. on a negotiated grid. As the market recovered and a higher percentage traded in the cash market, the spread difference has become more apparent.

**Bottom Line:** These two factors coming together has resulted in a larger price discount in Iowa compared to Kansas. The expectation is for the price spread to narrow into the end of the year, and track a seasonal pattern into spring of 2016. This implies that Iowa will be premium to Kansas.
U.S. Corn Exports Remain Slow

We are now into the 2015/16 corn marketing year and U.S. corn exports and the ethanol production pace are the first indicators of corn usage that can be measured. Although the ethanol production pace is off to a good start relative to current projection from the USDA, corn exports are running slow. Feed and residual usage, which will be discussed in the future, is expected to be larger than current USDA estimates.

Weekly corn export shipments have averaged 22 million bushels per week through October 29th, which is below the 37 million bushels per week pace needed for the balance of the marketing year to meet the USDA’s 2015/16 market year projection of 1.850 billion bushels. From a seasonal perspective, export shipments tend to push higher from November into December, slowing in January and then surging again in February and March.

Weekly corn export sales are also lagging the pace needed to meet the USDA’s current export projection. The pace needed is based on the amount of corn already shipped plus bushels that have been sold, but not yet shipped, or total commitments. Weekly sales have averaged only 21 million bushels per week compared to the pace needed of 30 million bushels per week for the balance of the marketing year. Seasonally speaking, U.S. corn export sales are generally the strongest of the year from October through mid-February, so slow sales during the seasonal peak weighs heavily on export potential. Lower priced offerings from other key exporting countries such as Brazil, Argentina and Ukraine are keeping the demand for U.S. exports at bay. In September, Brazil exported approximately 136 million bushels of corn, exceeding U.S. exports at 133 million bushels. Compared to September 2014, Brazil exports increased 30 million bushels and U.S. exports declined 27 million bushels. For perspective, over the previous 14 marketing years Brazil has only exported more corn in the month of September than the U.S. two times, September of 2012 and September of 2013. Keep in mind that during this period the corn imports into the U.S. were record large. U.S. corn imports are expected to be elevated from the usually-minimal levels over the next few months.

Bottom Line: Early U.S. corn usage suggests that U.S. exports are at risk of being revised 25-50 million bushels lower. Considering all usage expectations, as well as the expectation for U.S. corn yield and production estimates to rise in November/January, U.S. corn stocks to use expectations remain in the 11-13% range. The practical trading range for spot corn futures remains from $3.80-$3.90 on the high side with downside risk toward $3.35 through the end of the year. Upside potential ratchets up toward the $4.00-$4.10/bu range during the January-April 2016 period – South American or U.S. crop concerns would likely need to be realized to push above this range.

Largest Corn Yield of the Year

USDA released the monthly WASDE and Crop Production reports which included a major overhaul of the U.S. corn balance sheet for the 2015/16 market year. Production and projected ending stocks were larger than expected versus pre-report trade estimates, driving the December ’15 through July ’16 futures contracts to fresh contract lows.

U.S. corn production was revised 99 million bushels higher to 13.654 billion, due to a 1.3 bu/ac increase in average yield. Average yield at 169.3 bu/ac was the highest yield estimate of the year and continues to narrow the gap versus last year’s record-large 171.0 bu/ac. The corn yield/supply are expected to rise again in January. Total supply was also revised 99 million bushels higher, but a decline in usage of 100 million bushels drove projected ending stocks 199 million bushels higher to 1.760 billion bushels. Exports were revised 50 million bushels lower, as anticipated, and feed and residual usage revised higher as anticipated (but not high enough still). A decline of 75 million bushels to 5.175 billion for ethanol usage, however, was not expected. The USDA pointed to sharply lower U.S. sorghum exports and thus an increased inclusion of sorghum for ethanol production for the decline.

Bottom Line: U.S. corn stocks to use were revised 1.5 percent higher to 12.9 percent. Expectations remain in the 11-13% range for the 2015/16 market year. The practical trading range for spot corn futures remains from $3.80-$3.90 per bushel on the high side with downside risk toward $3.35 through the end of the year. Upside potential ratchets up toward the $4.00-$4.10/bu range during the January-April 2016 period with the same downside risk.

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