

CHAIN REACTION V

How Top Restaurants Rate on Reducing Antibiotic Use in Their Beef Supplies



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The opinions expressed in this report do not necessarily reflect those of our organizations' supporters or reviewers.

Cover photo source: USDA



Executive Summary

Antibiotic-resistant bacteria, and the increasingly hard-to-treat infections they cause, are a global health crisis, risking a future in which common illnesses could once again become life-threatening on a large scale. The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) consider antibiotic-resistant bacteria a leading threat to global public health. Yet government agencies are failing to adequately address the problem with the urgency it demands. This past year, infectious disease experts published a new estimate indicating that more than 160,000 Americans die each year from antibiotic-resistant infections, making them collectively the fourth leading cause of death.¹

The overuse of antibiotics in livestock production significantly contributes to the rise and spread of antibiotic resistance.² When antibiotics are used routinely, some bacteria are able to withstand the drugs, survive and multiply, spreading resistant strains.³ These bacteria may share their resistance genes with other bacteria, even those that may not have been directly exposed to antibiotics in the first place.⁴ Nearly two-thirds of the medically important antibiotics sold in the U.S. go to food animals.^{5,6} Many meat producers routinely give drugs to animals that are not sick to help them survive the stressful, unsanitary conditions on factory farms.⁷ Despite the threat posed to public health, the U.S. lacks effective laws and policies to prevent the overuse of antibiotics in agriculture.

Four previous editions of the Chain Reaction Antibiotics Scorecard documented the way in which the nation's top restaurant chains have committed

to source chicken produced without the routine use of antibiotics.⁸ These corporate actions helped transform antibiotic use practices in the U.S. chicken industry. This fifth edition of Chain Reaction finds that a majority of the top 25 chains are serving only chicken raised without the routine use of medically important antibiotics in their restaurants. We also see some new, albeit limited, improvements in antibiotic use policies for beef, and continued lack of progress in pork and turkey. Given that in 2017 cattle accounted for 42 percent of all medically important antibiotics sales to the U.S. livestock industry — more than any other category — this slow pace of change is especially troubling.⁹ (In contrast, five percent of medically important antibiotics sales went to the chicken industry in 2017.)

Fast food restaurants, as some of America's largest meat and poultry buyers, have played an instrumental role in pushing producers to use antibiotics responsibly, and should continue to leverage their buying power in support of better practices. McDonald's, for example, is the single largest purchaser of beef in the United States.¹⁰ To protect public health and push the beef industry to eliminate the overuse of antibiotics, restaurants — especially large burger chains — should commit to sourcing beef from producers that use antibiotics only to treat animals diagnosed with an illness or, in limited circumstances, to control a verified disease outbreak. In other words, chains should choose producers whose practices align with the global recommendations made by the WHO in 2017.¹¹



This year we see some positive shifts in beef antibiotic use policies among restaurant chains, but these are in the early stages of adoption for the most part.

Long-time leaders Chipotle and Panera once again earned grades in the “A” range for their approach to responsible antibiotic use in beef supplies. And in what could represent a major transition, this year iconic brands McDonald’s and Taco Bell set new commitments that earned them a “C” and “D” respectively.

- » In 2015, Subway committed to sourcing only beef raised without antibiotics for their U.S. restaurants. This year, Subway updated their global antibiotics policy to align with the WHO Guidelines. It remains to be seen how these two pledges will relate to implementation for their beef supplies, but the company’s promise to act earned it a “C” in this year’s beef scorecard.
- » Wendy’s says it currently sources 30 percent of its beef from producers that have cut the use of one medically important antibiotic - tylosin - by 20 percent. This small step earned Wendy’s a “D+” in this year’s beef scorecard.
- » The remaining 15 of the top restaurant chains surveyed that offer beef products, including such well known chains as Burger King, Arby’s and Sonic, received failing grades for lacking any public policy to source beef raised without the routine use of antibiotics (four companies in the top 25 do not serve beef).

While restaurants and major meat producers have critical roles to play in stopping the overuse of antibiotics, urgent government action is critical to achieve the kind of lasting, industry-wide overhaul needed to fully protect public health.

Policymakers should only allow beef producers to use medically important antibiotics under the guidance of a licensed veterinarian, and to treat animals diagnosed with an illness or to control a verified disease outbreak. Policymakers should also set national goals for reduction of antibiotic use in food animals, and dramatically improve collection and disclosure of antibiotic use data. While researchers, public health experts, and the public can glean industry-level information about how antibiotics are used with currently available data, the full picture of how, when, and for what reason antibiotics are used in the livestock sector, especially for beef (and pork), remains hidden from public view. Comprehensive policy reforms would ensure that all meat producers across the U.S. meet the same responsible antibiotic use standards. These reforms are vital to preserving life-saving medicines for the future health of both animals and people.

Chain Reaction V Beef Scorecard	
A	
A-	
B+	
B	
B-	
C+	
C	 
D+	
D	
F	              

Introduction

This is the fifth publication of the Chain Reaction Antibiotics Scorecard. Despite significant progress seen in the chicken sector, the livestock industry still consumes nearly two-thirds of all medically important antibiotics sold for use in the United States.¹² The authors of this report therefore continue to call on restaurants and meat producers to adopt comprehensive policies that align with the 2017 WHO Guidelines on Use of Medically Important Antimicrobials in Food-Producing Animals which can be summarized as follows (see Appendix 8 for further information):¹³

- » *Medically important antibiotics should not be used unless animals are sick.*
- » *Medically important antibiotics may not be used for growth promotion, and/or routine disease prevention purposes.*
- » *Use must be under the direct oversight of a veterinarian and be limited to treatment of animals diagnosed with an illness, medical or surgical procedures, or to control a disease outbreak verified by a veterinarian.*

The overuse of antibiotics in food animal production contributes to the rise and spread of antibiotic-resistant bacteria and is considered one of the world's greatest public health threats. As some of the largest meat buyers in the U.S, fast food and fast casual restaurants can help encourage meat producers to change their practices by adopting sourcing policies that prioritize meat raised with responsible antibiotic use.

The first three Chain Reaction reports surveyed the top 25 U.S. fast food and fast casual restaurant chains on their antibiotics policies and practices for all meat served. In the fourth Chain Reaction, we introduced a burger scorecard, which graded the top 25 U.S. burger chains on their antibiotic policies for beef.¹⁴ Collectively, these surveys showed that though many top 25 restaurants pledged and implemented antibiotic use policies for chicken, little to no progress has been made on beef until this year. Reduction in antibiotic use in beef is especially important given that the cattle industry accounts for 42 percent of the total animal sales of medically important antibiotics, more than any other sector in the U.S.¹⁵

In this fifth Chain Reaction report, we again surveyed both the top 25 U.S. burger chain restaurants and the top 25 overall fast food and fast casual chains about their meat and poultry supply chain antibiotic use policies and practices (some companies overlap

between the two surveyed groups).^{16, 17} We saw little progress from last year among most of the top 25 burger chains. This year's report evaluates trends on antibiotic use in beef in the top 25 overall fast food and fast casual chains, where we see some evidence of positive change.

Chain Reaction V grades the overall top 25 chains on their antibiotic use policies for beef sourcing, on implementation of these policies as reflected in current beef purchasing, and on transparency around antibiotic use in their beef supply chains. We also graded these top restaurant chains on these same attributes across all of their meat and poultry supply chains. (See Appendix 5 for a summary of these key findings).

To determine grades, the authors directly surveyed companies and reviewed companies' public statements. To be considered meaningful for the purposes of this report, a company's commitment must, at a minimum, prohibit all use of medically important antibiotics for growth promotion *and* routine disease prevention purposes. Policies that only prohibit growth promotion receive zero points because such use in the U.S. was already banned by the Food and Drug Administration (FDA) in 2017. If a company pledged antibiotic use reductions but did not issue an overarching policy, they received pro-rated points based on the percent reduction in their commitment. If a company's public information does not match internal communications with the report authors, then the authors graded the company on what was publicly available. Appendix 1 contains our survey methodology and questionnaire. Our beef scorecard criteria are fully described in Appendix 2. Appendix 3 summarizes policies and survey responses for the top 25 U.S. fast food and fast casual chains. Appendix 4 is the 2019 overall company scorecard. The key findings for the overall scorecard can be found in Appendix 5, while the scoring criteria for the overall grades are in Appendix 6. Appendix 7 provides a summary of the burger chains' policies and survey responses. Appendix 8 describes the World Health Organization 2017 Guidelines in more detail.



Key Findings

Policy and Implementation Progress

The contrast between chain restaurant policies on antibiotic use in the chicken versus the beef they serve is stark. Thirteen of the top 25 fast food and fast casual restaurants now serve only chicken raised without the routine use of medically important antibiotics, and another four chains are in the process of finalizing their commitments to do the same. In contrast, only two are serving responsibly raised beef, and just four more are working on changes. One of those making progress is McDonald's, by far the nation's largest restaurant chain, potentially leading the way to better practices industry wide.

Since last year, only one company adopted a new comprehensive antibiotics policy for beef.

- » McDonald's moved from an "F" in 2018 to a solid "C" in this year's Beef Scorecard, because of its December 2018 release of a strong policy that aligns with the 2017 WHO Guidelines and specifically calls for an end to the routine use of antibiotics for prevention purposes in nearly all of its massive global beef supply, including in the U.S.^{18,19} McDonald's promises to audit suppliers and give regular reports to the public on its progress starting in 2022. The company says it will announce antibiotic use reduction targets by the end of 2020, but it has yet to offer a completion deadline for full policy implementation.
- » Two companies—Panera and Chipotle—continued their longstanding practice of serving beef raised using responsible antibiotic use practices and earned grades in the "A" range. This year a few additional companies among the top 25 have begun to follow their lead. However,

the pace of progress is slow and not in line with either the urgency of the health threat posed by antibiotic resistant bacteria or the prompt progress companies have made to remove medically important antibiotics from their chicken supply chains.

- » Subway received a "C" for having made a meaningful, time-bound commitment back in 2015 to only serve beef raised without antibiotics in its U.S. restaurants by 2025. Earlier this year, Subway released a Global Antibiotics Policy that shifts away from its original "raised without antibiotics" approach and toward one that aligns with the WHO Guidelines and allows for the treatment of sick animals (raised without antibiotics programs do not).^{20,21} Report authors consider Subway's updated policy to be meaningful. However, it is concerning that four years after making its pledge, Subway has yet to make any implementation progress.

Most top 25 U.S. restaurant chains lack a meaningful responsible antibiotic use policy for their beef supplies:

- » Out of the 21 top chains that serve beef, 15 (71 percent) received failing grades for failing to take action beyond legal compliance with FDA Guidance 213 to address this critical public health threat. Among the 15 are beef giants Burger King, Arby's, and Sonic.

Two companies earned grades in the "D" range for taking only small steps toward responsible antibiotic use in beef:

- » In July 2019, Taco Bell announced a new pledge to cut medically-important antibiotics in its vast beef supplies by 25 percent by 2025, which earned them a D.²² While we welcome any meaningful progress on antibiotic use reduction in beef, Taco Bell's announcement is not ambitious enough nor is it accompanied by an overarching policy governing antibiotic use in the company's substantial beef supplies.
- » Wendy's earned a "D+" this year. The company continues to promote minor antibiotic use reduction across a small portion of its U.S. beef supplies, and for only one medically important drug called tylosin. Although it is imperative that beef producers curtail their use of tylosin, it is not the only antibiotic important to human medicine used in large quantities by the beef industry. See page 7 for more details about the shortcomings of Wendy's approach.



Auditing and Transparency

Few Top 25 Chains Independently Verify Antibiotic Use Reduction Practices in Beef

A company's press statements or published antibiotic use policy are meaningful only if the company can demonstrate progress in sourcing beef raised without the routine use of antibiotics. This requires that suppliers are regularly audited by a third party with trained inspectors who can verify that the standards and requirements are being met. Fast food chains with antibiotics use policies for chicken routinely use third-party auditors to verify compliance with those policies. This is far less common when it comes to auditing antibiotic use in beef.

Chipotle conducts regular internal audits of their beef supplies that come with annual on-farm inspections and strict compliance standards. In 2018, more than one-third of Chipotle's beef was third-party certified either by Certified Humane or Global Animal Partnership.²³

Wendy's says it sources a portion of their beef supply from producers in the Progressive Beef program, an industry initiative that is verified by an independent third-party.²⁴ But, as noted above, Wendy's approach to reducing antibiotic use is limited to just one antibiotic (tylosin), and calls for only a 20 percent reduction in the use of this drug. Progressive Beef relies on the industry's Beef Quality Assurance (BQA) antibiotic program, which allows for routine antibiotic use to continue unabated as long as the

cattle in question are under veterinary care.²⁵ This type of self-policing does not provide a transparent, continuous improvement approach that consumers are looking for in terms of on-farm antibiotic use reduction.

Ten restaurant chains continue to keep consumers in the dark.

- » Fifteen of the top 25 overall chains returned surveys this year, indicating a commitment to transparency regarding their antibiotic use policies. The other ten companies did not. Those leaving consumers in the dark include the influential brands Starbucks, Olive Garden, and Sonic.

Only a few restaurant chains are collecting antibiotic use data from beef suppliers.

- » Thirteen restaurants of the top 25 restaurant chains that responded to our survey this year serve beef (two submitting chains only serve chicken). Of this group:
 - » Only McDonald's and Chipotle require that their beef suppliers track the type and amount of antibiotics used to produce the company's beef supplies and assess this information internally.
 - » Only McDonald's plans to publicize this information for beef in the future (along with use data for their global chicken supply).

SUPERLATIVES

“EARLY LEADERS”

Courageous, early leadership from companies such as **Chipotle and Panera** was critical to realizing the restaurant sector’s progress to date around more responsible antibiotic use. They proved from their early beginnings that a company can be a successful, thriving business while also supporting more sustainable meat and poultry production practices. Both companies earned grades in the “A” range since the first edition of the Chain Reaction scorecard in 2015.

“BEST BURGER JOINTS”

Shake Shack and BurgerFi earned high marks on the 2018 Burger Chain Scorecard for committing to only serve responsibly raised beef across all of their restaurants. The 2019 survey confirmed that these commitments have not waned. Although Shake Shack and BurgerFi were not included in this year’s official grades, it’s important to note their contributions to sourcing responsibly raised beef. These leaders of the fast-casual burger sector also posted higher year-over-year sales from 2017 to 2018, indicating that better beef can be a win for the bottom line as well as for public health.

“BIGGEST MOOOVER”

This year, we honor **McDonald’s** with the “Biggest Mooover Award,” given to the company that made the most impressive grade leap in beef, from 2018 (F) to 2019 (C). McDonald’s earned this award for its leadership on responsible antibiotic use in beef, stemming from the company’s December 2018 commitment to end the routine use of antibiotics for prevention purposes in most of its enormous global beef supply chain. The company plans to track antibiotic use in the production of beef sold in its restaurants and publicize reduction targets by the end of 2020.

“BIGGEST WANNA-BE”

This award goes to **Wendy’s**, which works hard to seem like a leader when it comes to strong antibiotic use policies in beef yet is not. For more than a year, Wendy’s has been publicizing what are only piecemeal changes in antibiotic use in its beef supplies. Wendy’s says that *for 30 percent of their beef, producers are cutting back on the use of just one medically important drug called tylosin and by only a mere 20 percent*. Wendy’s approach is inadequate for the following reasons:

1. It applies to just 30 percent of overall beef supplies, with no announced timeline for when Wendy’s will address the remaining 70 percent of its beef. A phased-in implementation process like Wendy’s seems to be using would be fine if the company committed to a firm completion timeline. But without this, consumers have no assurance that the company’s pledge will ever be adopted for all beef served in its restaurants.
2. Wendy’s has reduced the use of just one antibiotic, tylosin, in its beef supply chain. Tylosin is commonly used in beef cattle to address liver abscesses in cows, an entirely preventable health condition stemming from inappropriate high-grain diets common to feedlots. Given that tylosin, a macrolide antibiotic, is identified as a Highly Critically Important Antimicrobial by the WHO, this small reduction is problematic and doesn’t match the gravity or the urgency of the antibiotic resistance crisis.²⁶ The routine use of tylosin, as well as other medically important antibiotics, must be entirely phased out in order to ensure that these precious medicines are effective when they are needed the most.
3. The narrow focus on tylosin ignores the fact that the beef industry also uses other medically important drugs routinely and in high volume, particularly tetracyclines.

Since spring 2019, our groups have been calling on the company for a timebound commitment to end routine use of **all** medically important antibiotics across **all** of the beef sold in Wendy’s restaurants. U.S. PIRG published an op-ed in the *Columbus Dispatch*, the Wendy’s hometown paper, calling on the company to take further action on antibiotics. In the same outlet, Wendy’s responded with excuses.²⁷ In June 2019, 60 health, environmental, consumer, sustainable agriculture and food safety groups sent an open letter to Wendy’s CEO Todd Penegor echoing this call to action. Since then, staff from the Natural Resources Defense Council spoke directly to Mr. Penegor about the need for a strong beef antibiotics policy at the Wendy’s annual shareholder meeting.²⁸ Members of the *Antibiotics Off the Menu* coalition also delivered petitions signed by more than 125,000 people communicating the same message to Wendy’s franchises around the country in September.

2019 Chain Reaction V Beef Detailed Scorecard

Company	Policy	Implementation	Transparency	Total Points	Total Possible Points	%-age Total	Grade*
	40	32	22	94	100	94%	A
	40	32	16	88	100	88%	A-
	33	0	16	49	100	49%	C
	32	0	14	46	100	46%	C
	8	6	25	39	100	39%	D+
	13	0	6	19	100	19%	D
     	0	0	6	6	100	6%	F
        					100	0	F

* A comprehensive description of scoring methodology and criteria is provided in Appendices 1 and 2.



Consumers Favor Ending Routine Antibiotic Use

Consumers are aware that their choices at the checkout have social and environmental impacts and are increasingly willing to spend their dollars on products with sustainability attributes. The sales growth of sustainable products is now outpacing the sales growth of conventional products, and by 2021, it is expected that a quarter of all goods in stores will carry claims about sustainability.²⁹

This includes products that claim to be raised without antibiotics and hormones, which ranks as a high-priority label that shoppers look for in stores.³⁰ In fact, according to a 2019 report by the Food Marketing Institute, production claims on meat and poultry products, such as grass-fed and hormone- and antibiotic-free, pushed sales up 4.8 percent. It also reports that 52 percent of shoppers would like more products to be free from antibiotics and hormones.³¹

Consumers express these preferences when dining out as well. In a 2018 Consumer Reports survey, nearly 60 percent of respondents said they'd be more likely to eat at a restaurant that serves meat raised without antibiotics. An equal number said they'd be willing to pay more for a hamburger raised without antibiotics when dining out.³²



Restaurant Chains Should Push for Responsible Antibiotic Use in the Beef Industry

Cattle production consumes more medically important antibiotics than any other U.S. meat industry.³³ Antibiotics are often fed to herds of feedlot cattle regardless of whether any are sick, purportedly to reduce the likelihood of disease. Yet cows continue to get sick at high rates.³⁴ Given this, there is a critical need for the cattle industry to reform its use of antibiotics.

Until this year, we saw very little progress in the restaurant industry on antibiotic use reduction policies for beef. More than a decade ago, early leaders like Chipotle and Panera proved that responsible beef sourcing could be done; newer entrants into that leadership circle such as Shake Shack and BurgerFi serve millions of burgers every day with beef that is raised without antibiotics. But until last December, large, mainstream restaurant chains lagged far behind.

The tide seems to be turning. Major beef buyers in the restaurant industry, including McDonald's - the world's largest - are starting to recognize that antibiotic action on chicken alone is not enough to address the health threat posed by bacterial resistance to antibiotic drugs. In December 2018, McDonald's announced the first comprehensive antibiotic use reduction policy of any mainstream burger chain in the U.S. Its policy, which aligns with WHO Guidelines and prohibits the routine use of antibiotics for disease prevention purposes, was a gamechanger not just because McDonald's wields

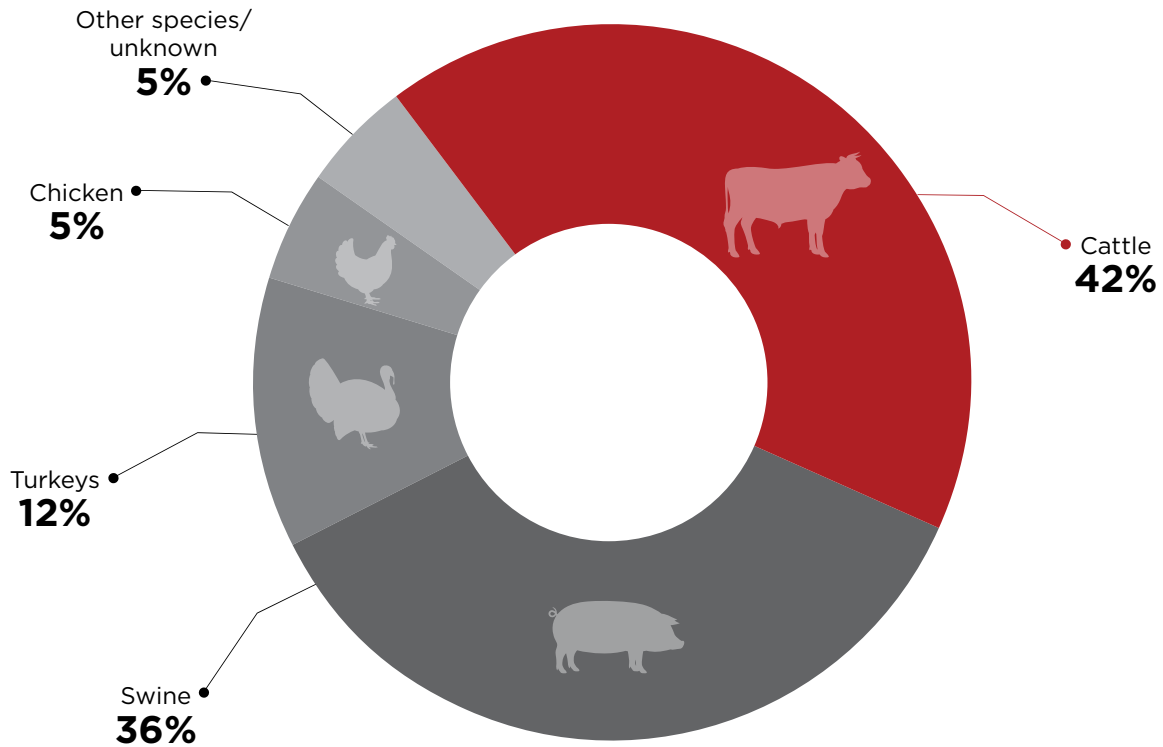
tremendous influence over the beef industry, but also because the company's important step forward could pave the way for other mainstream beef buyers to follow suit and adopt meaningful policies of their own. While at this moment restaurant chains are still in the early days of action, and it remains to be seen how effectively policies will be implemented and how timely the implementation schedule will be, restaurant chains can set off another wave of change that mirrors the impressive shifts in antibiotic use practices made in the chicken sector over the last five years.

As restaurant chains work to transform their internal policies, the market for responsibly raised beef continues to develop. Beef companies like Niman Ranch, Meyer Natural Foods, Organic Valley, Applegate, and Country Natural Beef are already offering beef raised without the routine use of antibiotics. Even beef industry heavyweight Tyson offers several lines produced without antibiotics. Grassfed beef is another important option, offering consumers meat from animals that are raised on pasture their entire lives, rather than spending months at feedlots. Grassfed cattle rarely need antibiotics to remain healthy. Retail sales of grassfed beef have been more than doubling each year, from \$17 million in 2012 to \$272 million in 2016.³⁵ The American Grassfed Association lists more than 120 U.S. beef producers that raise cattle without relying on antibiotics.³⁶ This year, Panera reported that 100 percent of its beef is pasture raised, grassfed and grass-finished. Chipotle also shared in its survey that about half of the beef served in its U.S. restaurants comes from 100 percent grassfed producers.

FIGURE 1: PERCENT OF MEDICALLY IMPORTANT ANTIMICROBIALS SOLD IN 2017 BY U.S. LIVESTOCK SECTOR

FDA estimates that in 2017, out of the total U.S. livestock sales and distribution of medically important antimicrobials, 42 percent was intended for use in cattle, 36 percent intended for use in swine, 12 percent intended for use in turkeys, 5 percent intended for use in chickens, and 5 percent intended for use in other species/unknown.

PERCENT OF MEDICALLY IMPORTANT ANTIMICROBIALS SOLD, U.S. LIVESTOCK SECTORS



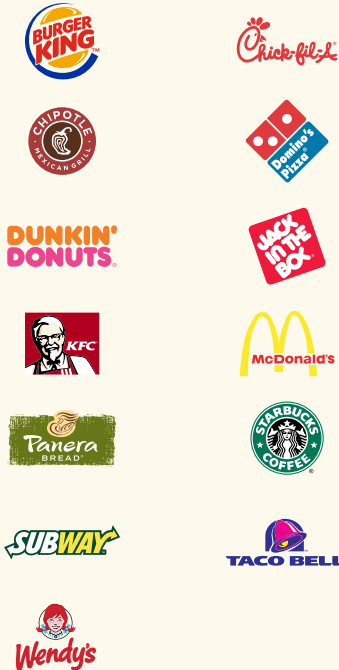
Source: U.S. Food and Drug Administration (hereinafter FDA), Center for Veterinary Medicine, 2017 Summary Report on Antimicrobials Sold or Distributed for Use in Food-Producing Animals, December 2018.



2019 Update: Antibiotics Commitments for Chicken



Commitment fully met



Commitment partially met



No policy in place



“Over the past 5 years, this market has changed tremendously.”³⁷

—Greg Rennie, Poultry Industry Consultant

What a difference a few years makes! New data indicates that in 2014, nearly half of the nine billion broiler chickens produced in the U.S. annually were raised on a full array of antibiotics, including medically important drugs.³⁸ By 2018, that number dropped to just 8 percent.³⁹ In fact, more than 90 percent of chickens were raised without the routine use of antibiotics deemed medically important by the FDA by the end of last year.⁴⁰

This wholesale transformation in chicken would not have happened without early adopters such as Chipotle and Panera, or second-generation leaders such as Chick-Fil-A, McDonald's, and Subway. Five companies received passing grades in the first Chain Reaction Scorecard in 2015, thanks in large part to

their action on chicken. That number jumped to nine in 2016, 14 in 2017, and an impressive 17 this year, as more and more restaurant chains stepped up to end routine antibiotic use in their chicken supplies.

This remarkable progress in the chicken sector should serve as proof and inspiration for the beef industry, which has not changed its production practices in response to consumer concerns thus far.

We are pleased to report that as of 2019, a majority—13 of 25—of the top restaurant chains have **fully implemented** a switch to serving only chicken raised without the routine use of medically important antibiotics. Four more chains are in the process of making this change.



“The thoughtless person playing with penicillin treatment is morally responsible for the death of the man who succumbs to infection with the penicillin-resistant organism.”⁴⁶

—Alexander Fleming, 1945 Nobel Prize Winner

Experts predict that without extensive action to stem bacterial resistance to antibiotics, common infections will once again kill on a large scale — global deaths from drug resistant infections could reach 10 million per year by 2050, more than current deaths from cancer.⁴⁷ In response to the worsening crisis, the United Nations unanimously adopted a resolution at its 2016 General Assembly in which all nations committed to taking action on this health threat.⁴⁸ The United Nations convened follow-up discussions about antibiotic resistance at its 2018 General Assembly and consider antimicrobial resistance (a larger class of drugs that includes antibiotics and other medicines) a priority health issue as urgent as Ebola and HIV.⁴⁹

The use and misuse of antibiotics, both in human medicine and in livestock production, is widespread.⁵⁰ In its 2018 update on antibiotic use in the U.S. health sector, the CDC concluded that at least 30 percent of antibiotic prescriptions are unnecessary and offered concrete recommendations on how doctors across all healthcare settings can improve their prescription practices.⁵¹ The CDC, the WHO, and other leading scientific bodies agree that the use and misuse of antibiotics in food animals contributes to antibiotic resistance.⁵² But our country’s 2015 National Action Plan for Combatting Antibiotic Resistant Bacteria only sets antibiotic use reduction targets for medical settings, not for livestock use.⁵³

“...the number of patients who have antibiotic-resistant bacteria infections just increases year after year after year.”⁵⁴

—Jason Burnham, MD, John T. Milliken
Department of Internal Medicine, Division
of Infectious Diseases, Washington
University School of Medicine

Meanwhile, new research is emerging that only adds to the health concerns associated with antibiotic resistant bacteria. For example:

- » University of Washington researchers found that bacterial genes conferring antibiotic resistance

Antibiotic Resistance and Antibiotic Misuse in Livestock

Antibiotic resistance has a profound and negative impact on critical aspects of modern life worldwide. The WHO and the CDC consider drug-resistant bacteria a top threat to global public health, as well as food security and development.⁴¹ Already, resistant bacteria are making common infections difficult or sometimes impossible to treat. The CDC conservatively estimated back in 2013 that at least 23,000 Americans die from antibiotic-resistant infections every year, and at least two million get sick.⁴² The agency plans to update these out-of-date assessments by the end of 2019.⁴³ Meanwhile, earlier this year, infectious disease experts published a new estimate indicating that more than 162,000 Americans die each year from antibiotic-resistant infections, making resistant infections the fourth leading cause of U.S. deaths.⁴⁴ According to a 2018 survey conducted by Consumer Reports, about one-third of Americans know someone (including themselves) who had a bacterial infection where antibiotics were ineffective at curing the illness.⁴⁵

are quite mobile in the environments inhabited by those bacteria, and that these genes move between bacteria with greater ease than was previously thought, even bacteria that are only distantly related.⁵⁵

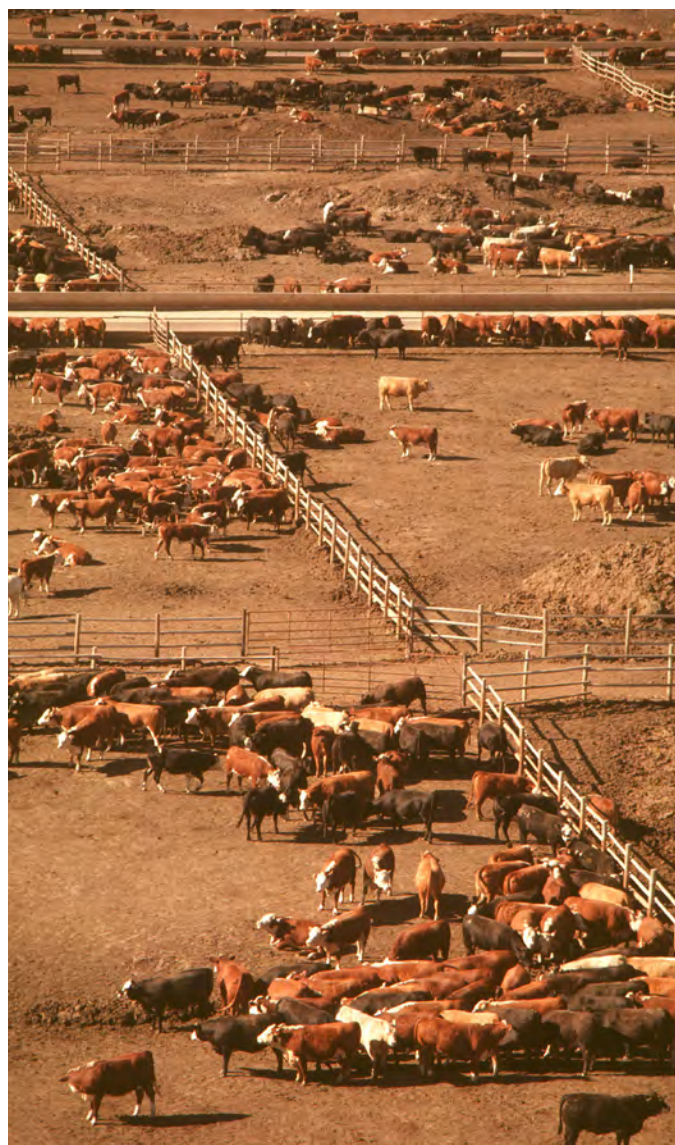
- » Another new study found that nearly 1 in 10 healthy women in Seattle carried a multi-drug resistant strain of *E. coli*, and that this strain persists in the gut, leaving them at risk for harder-to-treat urinary tract infections.⁵⁶
- » CDC researchers reported in August 2019 that the *Salmonella enterica* Newport strain implicated in several food safety outbreaks in 2018-2019 that were traced back to U.S. beef supplies (among other sources) is not susceptible to many of the drugs used to treat serious *Salmonella* infections, including the critically important macrolide antibiotic azithromycin.⁵⁷ The CDC report specifically called out the reported 41 percent rise in macrolide use in U.S. cattle from 2016-2017 as being potentially responsible for the spread of this strain among U.S. beef cows.

After years of steady increase from 2009 to 2015, the overall sales of medically important antibiotics for use in the U.S. livestock sector finally declined in 2016 and again in 2017. Yet these drops occur against a backdrop of high-level historic overuse, which continues today and contributes to the worsening spread of antibiotic resistance. Nearly two-thirds of medically important antibiotics in the U.S. are still sold for use on food animals, not people.⁵⁸ Moreover, medically important antibiotics are consumed in U.S. cattle production at much higher intensity than in leading European countries.⁵⁹

Antibiotics have historically been given to animals that are not sick to accelerate weight gain and prevent disease in overcrowded, stressful, and unsanitary industrial farming conditions.⁶⁰ Approximately 92 percent of the antibiotics sold for animal use are added to feed and water, the preferred way to deliver antibiotics to large flocks or herds of animals at once, rather than administered to individual sick animals.⁶¹ This practice is a key contributor to the development of antibiotic-resistant bacteria.⁶² Resistant bacteria can escape farms and spread into communities through air,⁶³ water,⁶⁴ soil,⁶⁵ meat,⁶⁶ and even farm workers.⁶⁷ Resistant bacteria can make us sick directly, and pass on their resistance traits to other bacteria, which can also make us sick.⁶⁸

Public health experts have unequivocally called for the need to end the overuse of antibiotics in

livestock. In December 2015, the American Academy of Pediatrics reviewed the evidence and concluded that antibiotics should be used “only to treat and control infectious diseases in livestock and not to promote growth or to prevent disease routinely.”⁶⁹ In November 2017, the WHO concurred with that idea when it called for almost a complete restriction in the use of medically important antibiotics on healthy animals to promote growth and prevent disease.⁷⁰ Yet the U.S. FDA prohibits the sale of medically important antibiotics only for growth promotion, while allowing their sale and routine use for disease prevention to continue unabated as long as it is overseen by a veterinarian.⁷¹ We therefore urge restaurant chains to require their suppliers to go beyond FDA’s minimum requirements and set comprehensive, timebound policies restricting all routine antibiotic use, in order to make significant progress in curbing antibiotic resistance.





The Beef Industry Lags Behind

While there has been some reduction in antibiotics used in food animals including cattle since 2015, FDA data from 2017 show that sales of medically important antibiotics for use in cattle remain higher than for any other food animal species.⁷² About 80 percent of these sales were for two classes of drugs, macrolides and tetracyclines.⁷³ A USDA survey of feedlots in 2011 found that these classes of antibiotics were mainly fed to cattle for routine disease prevention rather than to treat sick animals.⁷⁴ In a March 2018 news story, the *New York Times* journalist Danny Hakim recounted his experience looking into the American cattle industry's attitudes toward antibiotic use.⁷⁵ His research found that despite FDA efforts to reduce antibiotic use and warnings from health experts like the WHO, the beef industry continues to dose animals routinely with medically important antibiotics regardless of whether animals are sick.⁷⁶

Cattle are adapted to graze grass on pasture, but in the current industrial production model, cattle are often moved off the home farm, mixed together, shipped long distances, and then fed grain-based diets in crowded feedlots.⁷⁷ Antibiotics are then used to avert problems that arise from these stresses – or at least to avert them for enough time to get the animal to slaughter. Improving how cattle are raised can reduce producers' reliance on antibiotics.⁷⁸

Conventional Beef Production Practices Lead to Routine Antibiotic Use

The complex beef production system in the U.S. is highly reliant on routine antibiotic use. About 80 percent of cattle slaughtered in the United States come from feedlots, with cull cattle (dairy cows that are no longer producing milk or beef breeding cows that are no longer producing calves) making up most of the rest. Feedlot cattle are raised specifically for meat.⁷⁹ Their typical life span is about 18 months (compared to roughly two months for chickens).⁸⁰ Cows used for breeding, or in dairies live even longer.⁸¹ A cow's longer life span means that a producer is relatively more financially invested in that animal, but also increases the risk that the animal may become sick and require treatment with antibiotics. There may also be multiple changes of ownership throughout an animal's life span, which can make it difficult to implement a uniform antibiotic use protocol.⁸² In comparison, in the chicken industry – which has been more proactive about antibiotic stewardship – it is typical for a single company to own the birds from hatchery to slaughter, and the whole farm produces chicken for a single buyer.⁸³

Grassfed cattle, cattle that are fed exclusively on grass and other forage for their entire lives, account for a very small portion of the beef sold in the U.S.⁸⁴ Yet most feedlot cattle are born on farms where the cows graze on pasture for a period of time.⁸⁵ Unlike

feedlots, most of these cow-calf operations do not use antibiotics in feed to prevent disease.⁸⁶ After weaning, most calves quickly begin the journey to a feedlot, where they are kept in large uncovered pens and fattened on a grain-based diet without access to their natural grass diet.

“ We are creating this disease. We are creating liver abscesses in these animals by the way we’re raising them.”⁸⁷

—Dr. Lance B. Price, Antibiotic Resistance Action Center, Milken Institute School of Public Health, George Washington University

For feedlot cattle, the problems start when the calves leave the home farm. Moving animals causes stress and exposure to new animals, which increases the risk of illness such as bovine respiratory disease.⁸⁸ A 2017 USDA survey of feedlot operators found that upon entering the feedlot 16 percent of cattle were injected with antibiotics to control or prevent disease because they were considered high risk of becoming ill.⁸⁹ That same 2017 survey failed to distinguish between cattle that received injections after entering the feedlot at a lower weight (meaning they had spent less time on pasture), and older cattle entering the feedlot. An earlier 2011 survey of feedlots did make that distinction; it found cattle entering the feedlot at lower weights were seven times as likely to receive an injection to prevent respiratory disease compared to heavier weight cattle.⁹⁰ In addition to finding that 16 percent of entering cattle receive antibiotic injections, the 2017 survey showed that over 26 percent of feedlot

cattle are given chlortetracycline through feed, primarily for respiratory illness.⁹¹ The 2017 survey did not distinguish between using chlortetracycline to treat, control, or prevent respiratory disease but the previous USDA study in 2011 found that most feed use of chlortetracycline (74 percent of surveyed sites) was for disease prevention.⁹² Despite this routine antibiotic use, often in the absence of any disease, many cattle still become ill with respiratory disease and require additional antibiotics.⁹³ Therefore, using antibiotics as the primary tool to prevent respiratory disease is often ineffective. Cattle still routinely become ill and the massive use of antibiotics leads to antibiotic resistance.

Inappropriate diets also lead to significant health problems in feedlot cattle, including liver abscesses.⁹⁴ The 2017 USDA study found that 57 percent of feedlot cattle receive the antibiotic tylosin alone or in combination with other drugs.⁹⁵ Tylosin can be legally fed to cattle for one purpose, to reduce the incidence of liver abscesses.⁹⁶ In the feedlot this use is often continuous, with cattle receiving the drug daily throughout the feeding period.⁹⁷ Tylosin is considered to be critically important by the WHO because it is related to human drugs used to treat serious infections like campylobacteriosis, a foodborne infection that can be passed from animals to people through direct contact, environmental contamination, or food.⁹⁸ While medically important livestock antibiotic sales of most drug classes decreased in cattle, sales of the macrolide class that includes tylosin increased in 2016. The CDC considers this rise to have possibly contributed to the spread of *Salmonella* in cattle that are azithromycin-resistant and which sickened at least 255 people in 2018 and 2019, sending 60 of them to the hospital.⁹⁹



Opportunities for Change

Antibiotic use in the beef industry is related to how cattle are raised. Although there are challenges to reducing antibiotic use, it is possible – and many U.S. beef producers already raise cattle without using antibiotics routinely.

Grassfed: A Better Approach

There is a simple solution that can help drastically reduce antibiotic use in cattle production — keeping them foraging on pasture for a longer portion of their lives. Cows are ruminants, and their natural behavior consists of grazing on grasses.¹⁰⁰ Allowing beef cattle to graze on well-managed pastures from birth to slaughter (often referred to as 100 percent grassfed) prevents many of the health problems that result from feedlot cattle production.

Because grassfed cattle eat only forage, poor health that can arise from grain-intensive diets in feedlots, such as liver abscesses, is avoided. In addition, cows raised in a properly managed pasture avoid the crowded and other stressful, disease-promoting conditions of the feedlot. Finally, keeping cattle on pasture allows producers to minimize transporting the animals, which reduces stress and exposure to new animals. Healthier, less stressed animals will manifest fewer of the problems that become the rationale for the routine use of antibiotics in the first place.

More beef suppliers are making the switch to grassfed beef and its popularity continues to grow. Certifications including USDA Organic,¹⁰¹ American Grassfed Association (AGA),¹⁰² Animal Welfare Approved,¹⁰³ Certified Grassfed by A Greener World (AGW),¹⁰⁴ Global Animal Partnership (step 4-5+),¹⁰⁵ and Food Alliance¹⁰⁶ do not allow for the routine use of antibiotics in their beef supply chains. Sales of grassfed beef soared from \$17 million in 2012 to \$480 million in supermarket sales for the year ending April 20, 2019.¹⁰⁷ Industry analysts say grassfed beef could make up 30 percent of the market within 10 years.¹⁰⁸

Changes to Conventional Production

The following are examples of management practices to reduce reliance on the routine use of antibiotics in conventional beef production:

- » Keeping cattle on pasture as long as possible to reduce the risk of poor health that is otherwise managed by antibiotics. Younger cattle are at much higher risk of disease and are more likely to receive preventive antibiotics when arriving at the feedlot.¹⁰⁹
- » Vaccinating cattle and utilizing approved non-antibiotic veterinary treatments to prevent disease.¹¹⁰

- » Avoiding mixing groups of cattle on the way to the feedlot to reduce illness and the need for antibiotics.¹¹¹
- » Increasing the level of roughage in feedlot diets and better managing feed to greatly reduce incidence of liver abscesses in cattle.¹¹²
- » Purchasing cattle from programs that certify health protocols can reduce disease.¹¹³

Current Industry Efforts Fall Short

There are several industry-led certification programs that include antibiotic use among the issues addressed. Probably the most commonly used is the National Cattlemen's Beef Association (NCBA's) Beef Quality Assurance Program (BQA).¹¹⁴ NCBA is the trade and marketing association of the beef industry. Feedlots can become BQA-certified by taking a 2-hour long online course.¹¹⁵ The BQA program recommends that certified farms keep records of antibiotic use and develop treatment protocols for antibiotic use that are consistent with broad principles of antibiotic stewardship. BQA allows routine antibiotic use for disease prevention and discourages but does not prohibit antibiotic use for growth promotion (despite this practice being disallowed for medically important drugs by the FDA).¹¹⁶

The U.S. Roundtable for Sustainable Beef (USRSB) and Progressive Beef are two additional industry-backed programs that address antibiotic use.¹¹⁷ Feedlots can meet the USRSB recommendations related to antibiotics by participating in the NCBA BQA.¹¹⁸ Despite Progressive Beef being marketed as creating more transparency in beef production practices, recent program requirements are not available on the organization's website. An older version (when the program was managed by animal drug maker Pfizer) simply includes requirements for participation in BQA.¹¹⁹

The authors of this report do not consider any of these industry-led certification programs sufficient to address antibiotic overuse in the beef industry. We therefore urge USRSB members such as McDonald's, Wendy's, Taco Bell and others to adopt antibiotic use policies that go far beyond BQA and other related programs.

The Federal Government Has Failed to Act

Despite decades of public pressure and the clear threat to public health, the U.S. government has failed to take the necessary actions to combat antibiotic overuse in the livestock industry. Legislation to phase out the routine use of medically important antibiotics in livestock production has been stalled in Congress for more than a decade. Starting in 2007, and again in each successive Congress, the Preserving Antibiotics for Medical Treatment Act (PAMTA) has been introduced in the U.S. House of Representatives. PAMTA would require FDA to phase out the routine use of medically-important antibiotics in food animals. Similar legislation has been repeatedly introduced in the Senate as well, to no avail.¹²⁰ According to the Government Accountability Office, effective agency oversight and key data provisions are critical policy gaps that need to be addressed.¹²¹

“Antimicrobial resistance could soon kill at least 10 million people per year and wipe out humanity before climate change does.”¹²²

—Professor Dame Sally Davies,
Chief Medical Officer for England

This lack of action in the U.S. is even more disappointing given that in October 2018, the European Parliament adopted a region-wide ban on the prophylactic use (including for prevention purposes) of medically important antibiotics in animal agriculture, starting in 2022.¹²³ Under this law veterinarians will be expected to track the sales and volume of antibiotics used and report this information to regulators. Both provisions are critical to solving the global antibiotic crisis and ought to be made law in the U.S. as well.

In the four years since the Obama Administration released a National Action Plan for Combating Antibiotic Resistant Bacteria, there has been very little progress on federal policy related to antibiotic use in food animals. Unlike the human medical side of the problem, where the Obama Administration set a goal of reducing inappropriate antibiotic use in outpatient settings by half, and in inpatient settings by 20 percent, there are no national targets for reducing antibiotic use where the overwhelming majority of U.S. antibiotic sales occur—in the livestock industry. Instead, the FDA has for years relied on its Guidance 213 as the sole

policy. This regulation, which went into effect in January 2017, ended the marketing of medically important antibiotics for growth promotion and requires livestock producers to have a veterinarian’s order to continue putting these antibiotics into feed or water.¹²⁴ While sales of medically important antibiotics decreased significantly after the implementation of Guidance 213, these sales continue to make up nearly two-thirds of medically important antibiotics sold in the U.S. for any purpose.¹²⁵ FDA’s approach was an important first step, but limiting growth promotion alone isn’t nearly enough to solve overuse and misuse of antibiotics in food animal production.



“The overuse of antibiotics in the livestock sector only makes this problem worse, and it is long past time we deal with the problem head-on, instead of going through the same issues over and over again.”¹²⁶

—Congresswoman Rosa DeLauro, CT-03

FDA policy continues to allow for medically important antibiotics to be used routinely in animal feed or water to prevent disease – even in healthy animals – so long as a veterinarian approves that use. FDA also allows a veterinarian’s order to be written so that farm animals could be given such antibiotics



for up to six months duration.¹²⁷ The same veterinary order could be used for ordering antibiotics for groups of animals on multiple farms, or for multiple groups of animals moving through the same farm.¹²⁸ Because antibiotic use for disease prevention can be virtually identical in dose and duration to the previously allowed use of identical drugs for growth promotion, this represents a giant loophole in FDA guidelines.¹²⁹ We fear those guidelines will not effectively curtail continued overuse of antibiotics in livestock and poultry production.

FDA is also failing to collect data about use of antibiotics on farms that are needed to demonstrate its efforts to reduce antibiotic use in livestock production have in fact been effective. FDA does collect data from drug companies on their sales of antibiotics for use in livestock. Neither the USDA nor the FDA, however, collect comprehensive data on the type and amount of antibiotics actually given to animals, which may vary greatly from one producer to another. In fact, at this time, there are no concrete proposals to collect such data. The U.S. Government Accountability Office recently concluded that “the agencies’ [FDA and USDA] actions do not address oversight gaps such as long-term and open-ended use of medically important antibiotics for disease prevention or collection of farm-specific data, and FDA and Animal and Plant Health Inspection Service do not have measures to assess the impact of their actions.”¹³⁰

In 2016, the FDA made agreements with university researchers to collect on-farm use data, but these

agreements are based on voluntary participation by a limited number of farms.¹³¹ In addition, the USDA’s Animal and Plant Health Inspection Service (APHIS) infrequently conducts surveys of farms, including beef feedlots, that include questions on antibiotic use. Yet participation in these surveys is voluntary, and they fail to ask questions with sufficient specificity for determining the actual amount of each antibiotic used.¹³² The last such surveys are from 2017 when USDA surveyed pig producers and cattle feedlots on antibiotic use.¹³³

In recent years, Trump administration officials have actively compromised global antibiotic stewardship efforts. Not only did the USDA publicly oppose the 2017 WHO Guidelines that called for an end to the use of medically important antibiotics for routine disease prevention, it also attempted to negatively influence progress being made to curtail antibiotic use for growth promotion purposes through the United Nations and the WHO’s Codex Alimentarius (“Food Code”).^{134,135} Ironically, more than 100 countries, including the United States, already prohibit the use of medically important antibiotics for growth promotion in food animals. Despite the attempt by some US officials to weaken these international efforts, there seems to be momentum in both the UN and Codex processes to adopt a global Code of Practice that prohibits use of medically important antibiotics for growth promotion worldwide.



State and Local Policies Can Create a Blueprint for Future Federal Action

In the absence of effective federal regulation, state policymakers in California and Maryland passed laws in recent years to limit antibiotic overuse in livestock. California’s S.B. 27 and the Keep Antibiotics Effective Act of 2017 in Maryland are both designed to go beyond federal law by greatly restricting preventative use of antibiotics in livestock production.¹³⁶ The key component of these laws is a ban on the routine use of medically important antibiotics. But the regulatory agencies in both states charged with implementation have been reluctant to give the new laws adequate tracking, enforcement, and reporting mechanisms.

As a result, advocates went back to the Maryland legislature in 2019 and with a diverse coalition of nurses, physicians, hospitals, public health advocates, environmental groups, farmers, and fast food restaurants passed an updated version of the law that closed regulatory loopholes. In fact, the 2019 update of Maryland’s law is the strongest in the U.S. when it comes to reining in antibiotic overuse in food animals – and it also has the most robust reporting provisions.¹³⁷ In contrast, California’s implementation of its law lags behind. The California Department of Food and Agriculture has published voluntary antibiotic stewardship and judicious use guidelines that are stronger than previous drafts but

remain less clear than Maryland’s provisions.¹³⁸ As implementation of these laws continues, consumers and lawmakers will need to remain vigilant to ensure strong controls on antibiotic use are put into practice in a meaningful way. Other states are also considering strong legislation, including New York, where bills have been introduced in both the Assembly and the Senate.¹³⁹

In the meantime, there are ways that local governments can act to ensure consumers have the information they need to seek out meat raised without the routine use of antibiotics. San Francisco passed a first-of-its-kind ordinance in October 2017 that requires large grocery chains to report on the antibiotics used to raise the meat they sell.¹⁴⁰ This ordinance is focused on increasing transparency in the livestock industry. Each year, grocery chains covered by the law will be required to notify San Francisco’s Department of the Environment about the antibiotic use policies and practices for each meat and poultry brand sold in their stores, including information about the purpose of drug use, the quantity, and on how many animals.¹⁴¹ The city’s Department of the Environment is currently reviewing the initial data it received from grocery stores. We expect the agency to publish its first report in late 2019. With limited national information on food animal antibiotic use practices, laws like San Francisco’s can provide important insights for consumers and policymakers.



Company Shareholders Are Supportive of Strong Antibiotics Policies

Shareholders in major food companies also have an important role to play. For example, investor members of the Interfaith Center on Corporate Responsibility (ICCR) and As You Sow (AYS) have urged restaurants, retailers, and meat producers to stop sourcing meat raised with routine antibiotics, to protect public health and as an essential step to mitigate financial risks for the companies and their investors.

As a result of AYS investor advocacy, last September Brinker International agreed to work with its chicken suppliers to end the routine use of antibiotics important to human medicine. In March of 2019, Chili's - a subsidiary of Brinker, announced newly updated animal welfare standards that include a commitment to work toward the elimination of medically important antibiotics in the restaurants' chicken supply chains (with exceptions for treatment and non-routine control of diagnosed illness).¹⁴² Though this does not constitute a formal policy because it lacks concrete details or implementation deadlines, it is a step in the right direction.

Last fall, a shareholder proposal calling on Darden, Olive Garden's parent company, to conduct a feasibility study for eliminating the routine use of medically important antibiotics in its meat supply chain received the support of more than 40 percent of the votes cast.¹⁴³

In March 2019, Darden committed to purchasing chicken raised without the use of medically important antibiotics by 2023 and will continue to work with suppliers on monitoring responsible

antibiotic usage in its chicken supplies. This pledge comes after three years of shareholder pressure as well as advocacy from organizations participating in the "Good Food Now" campaign.¹⁴⁴

Sanderson Farms, the third largest chicken producer in the U.S., was the last major holdout in the chicken industry to reduce antibiotic use. After several of its competitors, including Perdue Farms and Tyson Foods, eliminated the use of medically important antibiotics, Sanderson took the opposite approach. For years, the company cast doubt on the science that overusing antibiotics in chicken production could threaten human health and launched a multi-million-dollar advertising campaign to confuse consumers about the issue.

Led by AYS, responsible investors filed resolutions in 2017 and 2018 asking that Sanderson Farms no longer raise birds using medically important antibiotics for disease prevention purposes. Year over year investor support for the measure increased, and last year hit historic levels with more than 40 percent of the company's voting shareholders supporting it. Shortly after, Sanderson Farms committed to no longer using at least two medically important antibiotics for disease prevention by March 2019.

ICCR member investors also filed a proposal with McDonald's last year, requesting that the company adopt a policy to phase out the use of medically important antibiotics for disease prevention purposes in its beef and pork supply chains. This proposal was withdrawn when McDonald's announced its new antibiotic use reduction policy for its global beef supplies in December 2018.

Investors will continue to closely monitor the implementation of these and prior corporate commitments.

Recommendations

Antibiotic resistance is a health crisis that whether we realize it or not, has the potential to affect us all. To slow its spread, and limit its impact on modern medicine, we urge that broader, more urgent and more meaningful action be taken at all levels — by food companies and their shareholders, by consumers, and by local, state, and federal policymakers.

Through full implementation of meaningful commitments, top restaurant chains and chicken producers have made tremendous strides in the past four years in curtailing the routine use of medically important antibiotics in the U.S. chicken industry. Unfortunately, many of these same restaurant chains have not demonstrated leadership to compel U.S. beef producers to adopt similar responsible antibiotic use practices as their counterparts in the chicken sector. Much more could also be accomplished at the state and federal levels to adopt policies that restrict antibiotic overuse on farms. If implemented, the following actions could make a significant difference in shifting the U.S. beef industry toward responsible antibiotic use practices.

For Restaurant Chains

- » Make firm, timebound commitments to phase out the routine use of antibiotics across all meat supply chains. As recommended by the WHO, medically important antibiotics should only be used to treat sick animals that have been diagnosed by a veterinarian or to control a verified disease outbreak. Work closely with beef producers to require the phase out of all routine antibiotic use in a timely manner that matches the urgency of this public health threat.
- » Improve data collection and transparency regarding how antibiotics are being used by supplying farms, in what quantities, and for what species and purposes. Share these data with the public on an annual basis to ensure transparency and continuous improvement.
- » Provide regular progress reports and updates on company progress with policy implementation to customers and investors.
- » Use third-party certifiers and/or auditors with specific expertise in antibiotic use practices to verify progress.

For Consumers

- » When purchasing meat, seek options raised without the routine use of antibiotics. Look

for these labels that confirm responsible antibiotic use practices: USDA Certified Organic, Global Animal Partnership (GAP), American Grassfed, Certified Humane, and Animal Welfare Approved. Animal products bearing these labels are third-party certified. Labels saying “No Antibiotics Administered” or “No Antibiotics Added” or “Raised Without Antibiotics” also communicate the producer’s commitment to responsible use but may not be third-party verified.

- » When buying fast food, choose chicken at the 13 chains that sell only chicken raised without the routine use of medically important antibiotics (see list on page 12).
- » Ask restaurant managers wherever you eat about their meat sourcing policies and practices and make sure they know that you’re looking for options that are better for public health, for animals and the environment—including meat produced without the routine use of antibiotics.
- » Visit the websites and social media pages of your favorite restaurant chains and leave comments asking them to switch to meat raised without the routine use of antibiotics, i.e., no use except for treatment of sick animals or a verified disease outbreak.
- » Join our campaigns calling on top restaurant chains to commit to better meat sourcing policies. Visit the websites of the report authors for more information.

For Federal Regulators and Policymakers

- » Set a national antibiotic use reduction target for the livestock sector; this goal should aim to reduce the sales of medically important drugs for food animals by at least 20 percent below 2017 levels by 2021.
- » Set policy that prohibits routine antibiotic use in food animals for all purposes, especially disease prevention.
- » Update FDA’s list of medically important antimicrobials to align with that of the WHO.
- » Establish a duration limit of 21 days for any medically important antibiotic used in food animal production.
- » Put in place a comprehensive system to require farm-level data reporting on how antibiotics are used, including information on type of antibiotic used, amounts used, reason for use, and livestock species receiving antibiotics; and improve monitoring of resistant bacteria in food.

For State and Local Regulators and Policymakers

- » Adopt and implement strong laws that build on the example set by California and Maryland, incorporating clear language that prohibits the use of antibiotics for growth promotion and disease prevention, and establishes data collection and monitoring provisions.
- » Implement state policies that have been passed. The California Department of Food and Agriculture and the Maryland Department of Agriculture should clearly and effectively implement S.B. 27 and the Keep Antibiotics Effective Act of 2019, respectively.
- » Replicate in other cities the 2017 San Francisco ordinance requiring large grocery chains to report on antibiotic use practices behind the meat they sell.

For Investors

- » Consider company policies on antibiotic use - especially for beef - when making personal and institutional investment decisions in restaurant chains.
- » Submit and support shareholder resolutions requiring major buyers and producers to adopt the responsible antibiotic use policies and practices defined throughout this report.

For Public and Private Institutional Meat Buyers, including Schools, Universities, and Hospitals

- » Insist on meat from animals raised by suppliers that do not use medically important antibiotics for routine purposes, and who use antibiotics only to treat sick animals and in temporary circumstances to control a verified disease outbreak.
- » Institutional buyers should look for these labels that confirm responsible antibiotic use practices: Certified Responsible Antibiotic Use (CRAU), USDA Certified Organic, Global Animal Partnership (GAP), American Grassfed, Certified Humane, and Animal Welfare Approved. Animal products bearing these labels are third-party certified. Labels saying “No Antibiotics Administered” or “No Antibiotics Added” or “Raised Without Antibiotics” also communicate the producer’s commitment to responsible use but may not be third-party verified.



Appendix 1: Chain Reaction Methodology and Survey Questions

The authors of this report surveyed (via email and traditional mail) the top 25 U.S. burger chains and the top 25 overall U.S. fast food and fast casual restaurant chains, as ranked by total 2018 U.S. sales, asking a series of questions about their 1) antibiotic use policies; 2) policy implementation; and 3) transparency, including verification of policy compliance via third-party audits and reporting on implementation progress. The complete survey can be found below. The top 25 overall restaurant brands received grades solely for their approach to antibiotic use in beef, as well as separate grades for their entire meat and poultry supply chain.

In addition to reviewing survey responses, the authors examined company websites, annual reports, corporate sustainability reports and other publicly available information on company policies. We sent at least two follow up emails in cases where a company did not respond to the survey. In cases where survey responses or website statements were not clear, we followed up with clarifying questions via email and phone. In instances where there was a discrepancy between the information provided on the survey and in publicly available sources, we made every effort to clarify the gaps and asked companies to align public information with internal communications. In cases where this wasn't possible, we based our analyses on publicly available information. Appendices 3 and 7 contain a summary of surveyed company policies and survey responses.

Survey on Restaurant Antibiotic Policies Related to Meat and Poultry Procurement April 2019

NAME OF COMPANY^[1] _____

ANTIBIOTICS POLICY AND IMPLEMENTATION

- Does your company have a publicly-available, written policy restricting the use of antibiotics by your meat and poultry suppliers? Yes ____ No ____

If yes, please complete the table below to describe your policy; indicate what percentage of your meat and poultry is currently sourced under this policy; and when you expect full policy implementation.

Please provide the policy URL:

For each meat category, please mark which of the three options best describes your company's policy.

Note: compliance with FDA's Guidance 213 does not count as an antibiotics policy

	No antibiotics ever (raised without antibiotics)	No medically important* antibiotics ever	No use of medically important antibiotics for routine disease prevention purposes **	% of product currently compliant with company policy	Company commits to fully implement policy by... (YEAR)
Beef					
Pork					
Turkey					
Chicken					

* Medically important includes all those antibiotics that the World Health Organization (WHO) classifies as important, highly important, or critically important.

** This is consistent with the November 2017 WHO Guidelines. Acceptable use is limited to treatment of animals diagnosed with an illness; medical or surgical procedures; or to control an identified disease outbreak.

2. What **percentage** of your total meat/poultry purchases by volume does each of the following represent?

- Beef _____%
- Pork _____%
- Turkey _____%
- Chicken _____%

ANTIBIOTICS POLICIES REPORTING AND VERIFICATION

3. Describe supplier auditing practices for your company’s antibiotics policies:

	Our suppliers use independent third-party auditors to verify compliance with our company antibiotics policy (Yes/No)	Name of third-party auditor (i.e. USDA PVP, GAP, organic certifier, etc.)	Supplier auditing standards are publicly available (Yes/No)	# of on-site visits to supplier farms conducted annually as part of antibiotic policy audit requirements
Beef				
Pork				
Turkey				
Chicken				

4. If your company does its own antibiotic policy auditing of suppliers, please describe your approach:

5. If your auditing standards are publicly available, please provide the URL or indicate that the standards are attached:

6. What is your policy regarding suppliers who are found to be non-compliant?

7. Do you require your suppliers to track the type and amount of antibiotics used to produce the meat and poultry served at your restaurants and then report the tracked information to you?

Yes _____ No _____

If yes, what metric is used for these data? (e.g. *mg of antibiotic per pound of live weight produced, number of flocks treated, or number of antibiotic doses per animal raised*)

Are your suppliers’ antibiotic use data publicly reported?

Yes _____ No _____

If yes, provide URL:

If no, please attach a copy of this information.

8. Do you publicly report progress on the implementation of your policy at least annually, or when important milestones are met, on your website or elsewhere?

Yes _____ No _____

If yes, provide URL for progress report: _____

If no, and your policy is less than one year old, have you committed to issuing a public progress report on the one-year anniversary of your antibiotics policy?

Yes _____ No _____

BEYOND ANTIBIOTICS

9. Do you have a published policy prohibiting the use of the medicated feed additive carbadox in your pork supply?

Yes _____ No _____ N/A (we don't serve pork) _____

If yes, please provide the policy or a URL: _____

10. Do you have a published policy prohibiting the use of beta-agonists (i.e. ractopamine and/or zilpaterol) in your meat and poultry supply?

Yes _____ No _____

If yes, please provide the policy or the URL: _____

11. Do you have a published policy prohibiting the use of hormone implants and hormone feed additives in your beef supply?

Yes _____ No _____ N/A (we don't serve beef) _____

If yes, please provide the policy or the URL: _____

12. Do you serve any 100% grass-fed beef items?

Yes _____ No _____ N/A (we don't serve beef) _____

If yes, what percent of your overall beef supply is grass-fed? _____%

¹³ All inquiries in this survey apply to your company's US locations, either company or franchise owned.

Appendix 2: Scoring Criteria for Beef Scorecard

Report authors adapted the typical Chain Reaction scoring rubric to capture the inherent complexities and variation in antibiotic use policies adopted by companies for their beef supplies. Our approach takes into account that some companies are using a continuous improvement approach to their commitments, with gradual reductions in antibiotic use made year to year though not across entire supply chains or all medically important drugs in some instances. It also allows for the fact that some companies do not have meaningful policies in place, though they are asking suppliers to reduce medically important antibiotic use. Like all previous scoring protocols, the beef scoring protocol awarded a total of 100 potential points to the top 25 U.S. restaurant chains, in three primary categories: 1) Policy; 2) Implementation; and 3) Transparency. The authors made minor adjustments to points allocations within existing categories compared to Burger Scorecard in Chain Reaction IV.

Category #1: Policy

Total points available: 40

The authors consider a company policy “meaningful” if it aligns with the following standard, which is consistent with the WHO Guidelines issued in 2017.

“A publicly available company policy that prohibits the use of all antibiotics, or antibiotics in classes used in human medicine, for growth promotion and disease prevention. Treatment of sick animals and use to control a verified disease outbreak or for medical or surgical procedures are acceptable.”

The policy subscore reflects whether it applies to the full beef supply, and the percent reduction in medically important antibiotic use. We considered commitments to antibiotic use reductions only a partial policy and scored accordingly. Companies can receive up to 30 points for either having a meaningful, comprehensive policy as defined above, or for committing to reducing antibiotics use in beef based on a percent reduction. Another 10 points could be earned if a policy will be fully implemented within a five-year time frame (or 3 points for policies taking up to 10 years for implementation).

GRADE SCALE: 2019 CHAIN REACTION BEEF SCORECARD	91-100	A
	84-90	A-
	77-83	B+
	67-76	B
	60-66	B-
	51-59	C+
	41-50	C
	30-40	D+
	19-29	D
	<18	F

Policy Criteria	Available Points
<i>Meaningful policy (as defined above) applied comprehensively, across entire supply chain</i> OR	30 points OR
<i>Pledge to reduce medically important antibiotics (pro-rated based on percent reduction)</i>	
15-24%	5
25-40%	10
41-60%	15
61-90%	20
91% or higher	30
<i>Completing policy implementation within 10 years</i> OR <i>Completing policy implementation within 5 years (or already completed)</i>	3 points OR 10 points

Category #2: Implementation

Total points available: 32

Companies received points based on beef policy implementation progress. For policies that apply to only a fraction of a company's supply chain, points are prorated as follows: percent of supply under policy x # of points available for appropriate implementation category.

Percent of beef supply compliant with antibiotic use policy or approach	Available Points
15-40%	6 points
41-60%	12 points
61-75%	18 points
76-90%	24 points
91-100%	32 points

Category #3: Transparency

Total points available: 28

Companies were scored on several transparency criteria: whether a company responded to the survey; if antibiotic use policy claims are being audited; and if it publicly reports on implementation progress.

Companies could receive full credit for complete survey responses, or partial credit if key information was missing. Full credit was awarded to companies that either utilized independent third-party audits to verify compliance with their antibiotic use policy or purchased from suppliers that conducted third-party audits of their own supply chains. Half credit was given to companies that showed evidence of auditing suppliers using internal resources. Additional points were awarded if audit standards are public and if the audit includes at least one on-site farm visit annually.

Full credit also went to companies that provided regular progress updates on implementation of their policies. For full credit, companies must publish updates online, at least annually. We gave full credit for various forms of update communication, including dedicated webpages, press releases, and corporate social responsibility reports. If a policy was less than a year old, and a company made a commitment to issue a progress report in the future, they received half credit.

Transparency Criteria	Available Points
Complete response to survey OR	6 points OR
Partial response to survey	3 points
Company works with independent third-party auditors; or suppliers that have third party audits for entire beef supply chain under antibiotics policy OR	6 points OR
Internal company audit	3 points
Audit standards are public	3 points
On site farm inspection annually	3 points
Public progress report on policy implementation is available online OR	10 points OR
If policy is less than a year old, commitment to issue annual online progress report	5 points

Appendix 3: Summary of Policies and Survey Responses for Overall Top 25 Restaurants

Information in this Appendix concerning company ownership, number of restaurant locations and sales of fast food restaurant companies comes from Restaurant Business “2019 Top 500 Chains” and/or company websites. Companies are listed in order of total 2018 sales, in dollars.¹⁴⁵

Information concerning companies’ antibiotics policies and other policies comes from companies’ responses to the survey, follow up emails, public statements made by the companies, and/or efforts by the report’s authors to locate such policies online. The report’s authors encourage restaurant chains to contact them directly with additional information concerning antibiotics and/or meat sourcing policies, and to make such information publicly available.

1. McDonald’s

Owned by: McDonald’s Corporation (NYSE: MCD)

Corporate headquarters: 110 N Carpenter St, Chicago, IL 60607

CEO: Steve Easterbrook

Number of U.S. Locations: 13,914

2018 U.S. Sales: \$38.52 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

Working with Suppliers to Protect Animal Health and Welfare:

<https://corporate.mcdonalds.com/corpmcd/scale-for-good/our-food/animal-health-and-welfare.html>

“By 2017: 100% of chicken served in the U.S. is free of antibiotics important to human medicine. We have achieved this goal - since 2016, no chicken served in the U.S. is treated with antibiotics important to human medicine.”¹⁴⁶

Antibiotic Use Policy for Beef and Dairy Beef:

https://corporate.mcdonalds.com/content/dam/gwscorp/scale-for-good/McDonalds_Beef_Antibiotics_Policy.pdf

“As part of our commitment to responsibly sourced beef, in 2018 we released our new Antibiotic Use Policy for Beef. Through this commitment, in partnership with our suppliers and producers, we will reduce the overall use of antibiotics important to human health, as defined with the World Health Organization, across our top 10 beef sourcing markets, representing more than 85% of our global beef supply chain.”¹⁴⁷

https://corporate.mcdonalds.com/content/dam/gwscorp/scale-for-good/McDonalds_Beef_Antibiotics_Policy.pdf

Global Vision for Antibiotic Stewardship in Food Animals (“VAS”)

<https://corporate.mcdonalds.com/content/dam/AboutMcDonalds/2.0/pdfs/sustainability/McDonalds-Global-Vision-for-Antimicrobial-Stewardship-in-Food.pdf>

“As such, McDonald’s is committed to reducing the need for Antibiotics, and has a preference for raw materials (beef, poultry, pork, dairy cows and laying hens and defined as “Food Animals”) supplied through progressive farming practices including the Responsible Use of Antibiotics. As one of the world’s largest food companies, we will seize the opportunity to use its scale for good, to influence industry change on the issue of Responsible Use of Antibiotics.”¹⁴⁸

Authors’ note: Although global commitments are valued and important, Chain Reaction grades companies on antibiotics policies that apply only to their U.S. restaurants.

Third Party Antibiotics Audits:

Chicken: audits conducted by the USDA Process Verified Program (PVP). Beef: McDonald’s is working with FAI Farms to manage the data collected during its pilot phase.¹⁴⁹

2. Starbucks

Owned by: Starbucks Corporation (NASDAQ: SBUX)

Corporate headquarters: 2401 Utah Ave S, Suite 800, Seattle, WA 98134

CEO: Kevin Johnson

Number of U.S. Locations: 14,606

2018 U.S. Sales: \$19.66 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

Animal Welfare-Friendly Practices:

<https://stories.starbucks.com/press/2018/animal-welfare-friendly-practices/>

“Similarly, Starbucks engaged with our suppliers and set a goal to serve only poultry raised without the routine use of medically important antibiotics in all company-operated U.S. stores by 2020. In 2018, we met that goal, two years ahead of schedule. The poultry we serve has been raised without the use of antibiotics.”¹⁵⁰

Third Party Antibiotics Audits:

None found.

3. Subway

Owned by: Doctor’s Associates Inc.

Corporate headquarters: 325 Sub Way, Millford, CT 06461

CEO: Trevor Haynes is interim CEO.

Number of U.S. Locations: 24,798

2018 U.S. Sales: \$10.41 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

Responsible Antibiotic Use Policy

<https://www.subway.com/en-US/AboutUs/SocialResponsibility/OurOverallCommitment#our-commitments>

“Our US turkey supply chain will be transitioned to only using antibiotics that are not important to human medicine by Q1 2020. The US supply of pork and beef products from animals raised with non-human relevant antibiotics is limited and we expect our transition to be completed by 2025. We will continue to serve chicken raised-without-antibiotics as part of our US menu.”¹⁵¹

Third Party Antibiotics Audits:

Chicken: audits conducted by the USDA Process Verified Program (PVP), with site visits occur 2 times per year. Turkey: audits conducted by the USDA Process Verified Program (PVP) under CRAU, with site visits occur 1-2 times per year.¹⁵²

4. Taco Bell

Owned by: Yum! Brands, Inc. (NYSE: YUM)

Corporate headquarters: 1 Glen Bell Way, Irvine, CA 92618

CEO: Mark King

Number of U.S. Locations: 6,588

2018 U.S. Sales: \$10.36 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

Reduction in Antibiotics Used In Meat:

<https://www.tacobell.com/FAQS> (scroll down to “Our Purpose - Food”)

“Building upon its commitment to making its beef more sustainable from January 2019, Taco Bell has committed to reduce antibiotics important to human health in its U.S. and Canada beef supply chain by 25% by 2025.”

“We are proud to serve chicken raised without antibiotics important to human medicine (1) in all our U.S. restaurants since the end of March 2017 from suppliers certified by the USDA Process Verified Program.”¹⁵³

Third Party Antibiotics Audits:

Chicken: audits conducted by the USDA Process Verified Program (PVP).

5. Chick-Fil-A

Owned by: Cathy Family

Corporate headquarters: 5200 Buffington Road, Atlanta, GA 30349

CEO: Dan Cathy

Number of U.S. Locations: 2,370

2018 U.S. Sales: \$10.18 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<https://www.chick-fil-a.com/About/Great-Food/Our-Animal-Wellbeing-Standards>.

“As of May 31, 2019, all Chick-fil-A suppliers will be required to source chicken raised with No Antibiotics Ever – this means that our suppliers use NO antibiotics of any kind – as defined by the US Food and Drug Administration (FDA) – starting from the egg. Currently, 100% of chicken served by Chick-fil-A meets this policy.”¹⁵⁴

Third Party Antibiotics Audits:

Chicken: audits conducted by the USDA Process Verified Program (PVP); sites visited 2x per year by third- party.¹⁵⁵

6. Burger King

Owned by: Restaurant Brands International (NYSE: QSR)

Corporate headquarters: 5505 Blue Lagoon Drive, Miami, FL 33126

CEO: Daniel Schwartz

Number of U.S. Locations: 7,330

2018 U.S. Sales: \$9.93 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

Restaurant Brands International (parent company of Burger King, Popeyes and Tim Hortons) states on its website: "As of 2018, both the Tim Hortons® and the Burger King® brands have fulfilled the commitment in North America to only source chicken raised without antibiotics important to human medicine."¹⁵⁶

Third Party Antibiotics Audits:

None found.

7. Wendy's

Owned by: The Wendy's Company (NASDAQ: WEN)

Corporate headquarters: 1 Dave Thomas Blvd, Dublin, OH 43017

CEO: Todd A. Penegor

Number of U.S. Locations: 5,810

2018 U.S. Sales: \$9.40 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

Wendy's Animal Antibiotic Use Policy:

<https://www.wendys.com/animal-antibiotic-use-policy>

Chicken: "We have completed the process of eliminating all antibiotics important to human medicine from chicken production. All chicken raised for our restaurants today meets this requirement and will be process verified by the U.S. Department of Agriculture (USDA) to ensure compliance."

Beef: "As a result, [in] 2019, Wendy's will source about 30% of its beef from this group of producers that have each committed to a 20% reduction of the only medically important antibiotic routinely fed to their cattle. Importantly, these producers will ensure that the antibiotic use in their cattle can be tracked and reduced."

Pork: "As a next step, we are working with suppliers who are progressive in their approach on this issue with an eye toward continually decreasing the use of antibiotics on the farms that supply us. We will work with our producers to quantify the reductions in antibiotic use and are committed to reporting our progress."¹⁵⁷

Third Party Antibiotics Audits:

Chicken: audits conducted by the USDA Process Verified Program (PVP)¹⁵⁸

Beef: Wendy's endorses the Progressive Beef management program that utilizes IMI Global for auditing and has certification / validation by the USDA Process Verified Program.¹⁵⁹

8. Dunkin' Donuts

Owned by: Dunkin' Brands (NYSE: DNKN)

Corporate headquarters: 130 Royall Street, Canton, MA 02021

CEO: David Hoffmann

Number of U.S. Locations: 9,419

2018 U.S. Sales: \$8.78 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

https://www.dunkinbrands.com/internal_redirect/cms.ipressroom.com.s3.amazonaws.com/226/files/20150/Animal%20Welfare%20Policy%20for%20website.pdf

“Broiler Chickens: By the end of 2018, any chicken offered in Dunkin' Donuts restaurants will be sourced from chickens raised with no antibiotics ever. Following the USDA guidelines for No Antibiotics Ever, there will be no antibiotics used from conception to consumption. Any sick animal treated will be redirected to another customer and not used in the Dunkin' Donuts supply chain.”¹⁶⁰

Third Party Antibiotics Audits:

Chicken: audits conducted by the USDA Process Verified Program (PVP)¹⁶¹

9. Domino's

Owned by: Domino's Pizza, Inc. (NASDAQ: DPZ)

Corporate headquarters: 30 Frank Lloyd Wright Dr, Ann Arbor, MI 48105

CEO: Richard E. Allison Jr.

Number of U.S. Locations: 5,876

2018 U.S. Sales: \$6.5 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<https://dominos.gcs-web.com/static-files/69cb4cce-0f9a-4faf-a9c7-ac6642e2ee9e>

Chicken: “100% of our chicken used for pizzas, sandwiches, wings, boneless chicken and pasta are free of antibiotics that are medically important to humans. We also do not purchase products from broiler chickens raised with fluoroquinolones or steroids.”

Beef and Pork: “However, we intend to transition to pork and beef raised without the routine use of medically important antibiotics for disease prevention purposes once a sufficient supply of such pork and beef is available in the U.S. market from suppliers who satisfy our food safety, quality, cost and other product standards, and who can demonstrate their ability to reliably source and distribute these products with appropriate business continuity reserves.”¹⁶²

Third Party Antibiotics Audits:

None found.

10. Panera Bread

Owned by: JAB Holding Company

Corporate headquarters: 3630 S Geyer Rd Ste #100, St Louis, MO 63127

CEO: Niren Chaudhary

Number of U.S. Locations: 2,074

2018 U.S. Sales: \$5.76 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<https://www.panerabread.com/foundation/documents/press/2018/animal-welfare-press-release-december-2018.pdf>

Chicken: "In 2018, across both Panera and Au Bon Pain, 100% of the chicken and turkey on our sandwiches and salads, equating to almost 47 million pounds, was raised without antibiotics and vegetarian fed. This is the same percentage as in 2017."

Pork: "In 2018, 100% of Panera's bacon, breakfast sausage and ham were raised without antibiotics and gestation crates for pregnant sows. This equates to almost 8.5 million pounds, or 92% of our total pork supply, up from 90% in 2017."

Beef: "Panera Bread's beef comes from Australia where it is grass-fed and finished. Our supplier has confirmed that they only use antibiotics for disease treatment, not prevention or growth promotion. Additionally, given Australia's temperate climate, the incidence of illness is low, hence our supplier estimates antibiotic usage at less than 1% in southern Australia and even less (almost negligible) in the northern cattle raising areas."¹⁶³

Third Party Antibiotics Audits:

SAI Global serves as third party auditor for Panera's chicken, turkey and pork suppliers. "The auditing firm selects a random sample of farms from each supplier equal to the square root of the total farms rounded up to the nearest five. Farm operators are not told the audit date in advance."¹⁶⁴

11. Pizza Hut

Owned by: Yum! Brands (NYSE: YUM)

Corporate headquarters: 7100 Corporate Dr, Plano, TX 75024

CEO: Artie Starrs

Number of U.S. Locations: 7,482

2018 U.S. Sales: \$5.52 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

"Completed for chicken pizza toppings as of March 2017. We have publicly committed to sourcing only chicken raised without medically important antibiotics (including wings) by 2022."¹⁶⁵

Third Party Antibiotics Audits:

Chicken: audits conducted by the USDA Process Verified Program (PVP) with annual site visits.¹⁶⁶

12. Chipotle

Owned by: Chipotle Mexican Grill, Inc. (NYSE: CMG)

Corporate headquarters: 610 Newport Center Drive, Suite 1300, Newport Beach, CA 92660

CEO: Brian Niccol

Number of U.S. Locations: 2,452

2018 U.S. Sales: \$4.80 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<https://www.chipotle.com/food-with-integrity#saying-no-to-drugs>.

Chipotle's website states: "Antibiotics and hormones are given to a majority of livestock to increase production and combat the effects of overcrowding. We buy meat from farmers and ranchers who raise their animals without subtherapeutic antibiotics and added hormones. If an animal falls sick, our protocols require that farmers bring them back to health in the most responsible manner possible."¹⁶⁷

Chipotle reports that 100% of its beef and chicken are raised with no antibiotics ever. Half of its pork is from U.S. suppliers and is raised without antibiotics; the other half comes from UK suppliers which do not use medically important antibiotics except to treat sick animals.¹⁶⁸

Third Party Antibiotics Audits:

Chipotle conducts a combination of internal and third-party audits (including Certified Humane and Global Animal Partnership) to validate on-farm practices.¹⁶⁹

13. Sonic

Owned by: Inspire Brands (NASDAQ: SONC)

Corporate headquarters: 300 Johnny Bench Dr, Oklahoma City, OK 73104

CEO: J. Clifford Hudson

Number of U.S. Locations: 3,606

2018 U.S. Sales: \$4.44 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<https://corporate.sonicdrivein.com/animal-welfare/>

"Effective January 2017, poultry suppliers should only administer antimicrobial drugs to animals for the prevention, control and treatment of disease. Animals will be treated when necessary for animal welfare. Use of antibiotics that are medically important to humans, for the sole purpose of growth promotion is strictly prohibited."¹⁷⁰

Author's note: Sonic's current antibiotic use standard essentially reiterates current FDA guidelines, and is not considered to be a meaningful antibiotic use policy.

Third Party Antibiotics Audits:

None found.

14. KFC

Owned by: Yum! Brands, Inc. (NYSE: YUM)

Corporate headquarters: 1441 Gardiner Lane, Louisville, KY 40213

CEO: Roger Eaton

Number of U.S. Locations: 4,074

2018 U.S. Sales: \$4.43 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<https://www.kfc.com/about/responsibility>

“As of January 1, 2019, all chicken purchased by KFC U.S. is raised without antibiotics important to human medicine, as defined by the World Health Organization (WHO).”¹⁷¹

Third Party Antibiotics Audits:

Chicken: audits conducted by the USDA Process Verified Program (PVP).¹⁷²

15. Applebee's

Owned by: Dine Brands Global (NYSE: DIN)

Corporate headquarters: 450 N Brand Blvd, Glendale, CA 91203

CEO: Stephen Joyce

Number of U.S. Locations: 1,693

2018 U.S. Sales: \$4.21 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<https://www.dinebrands.com/en/social-responsibility/animal-welfare>.

“We recognize that antibiotic resistance in humans and animals is a serious health concern and we fully support the action the FDA is taking to reduce the routine use of medically important antibiotics. We are asking our chicken and pork suppliers to begin to prohibit routine use of medically important antibiotics as defined by the World Health Organization (WHO), including prohibiting the use of these antibiotics for disease prevention.

We support animal production practices that reduce, and, where possible, eliminate the need for antibiotic therapies in food animals by adoption of best practices and /or new practices. Treating sick and injured animals and controlling an identified disease outbreak under veterinary supervision is important and are the only reasons for use of medically important antibiotics. We continue to work with our suppliers so that antibiotics are used judiciously, and their effectiveness maintained.”¹⁷³

Third Party Antibiotics Audits:

“We will require annual third-party auditing and are asking our chicken and pork suppliers to track and report to us their antibiotic use for meat supplied to us. We have begun annually surveying our suppliers in order to report summary information and progress towards our goal in future reporting.”¹⁷⁴

16. Olive Garden

Owned by: Darden Restaurants, Inc. (NASDAQ: DRI)

Corporate headquarters: 1000 Darden Center Dr, Orlando, FL 32837

CEO: Dan Kiernan

Number of U.S. Locations: 855

2018 U.S. Sales: \$4.08 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<https://darden.com/citizenship/plate/sourcing>

“Darden is committed to purchasing chicken raised without the use of medically important antibiotics by 2023 and will continue to work with suppliers on monitoring responsible antibiotic usage.”¹⁷⁵

Third Party Antibiotics Audits:

None found.

17. Arby's

Owned by: Inspire Brands

Corporate headquarters: 1155 Perimeter Center West, 12th Floor, Atlanta, GA 30338

CEO: Rob Lynch

Number of U.S. Locations: 3,329

2016 U.S. Sales: \$3.88 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

Corporate Responsibility: https://arbys.com/images/corporate_responsibility/Arbys_CSR.pdf.

“In 2017, we will begin transitioning to serving only chicken raised without antibiotics important to human health.”¹⁷⁶

Author's note: As Arby's did not return the Chain Reaction survey, we were unable to determine if Arby's has begun to implement this policy.

Third Party Antibiotics Audits:

None found.

18. Little Caesars Pizza

Owned by: Ilitch Holdings, Inc.

Corporate headquarters: 2211 Woodward Ave, Detroit, MI 48201

CEO: David Scrivano

Number of U.S. Locations: 4,350

2018 U.S. Sales: \$3.82 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

No published policy available.

Third Party Antibiotics Audits: None found.

19. Buffalo Wild Wings

Owned by: Inspire Brands

Corporate headquarters: 5500 Wayzata Blvd #1600, Minneapolis, MN 55416

CEO: Lyle Tick

Number of U.S. Locations: 1,208

2018 U.S. Sales: \$3.79 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

No published policy available.

Third Party Antibiotics Audits:

None found.

20. Dairy Queen

Owned by: International Dairy Queen, Inc. (owned by Berkshire Hathaway, Inc., NYSE: BRK)

Corporate headquarters: 8000 Tower, Suite 700, 8331 Norman Center Drive, Bloomington, MN 55437

CEO: Troy Bader

Number of U.S. Locations: 5,883

2016 U.S. Sales: \$3.6 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

In its survey response, Dairy Queen reported that its chicken policy is consistent with FDA Guidelines. This is not considered to be a meaningful antibiotic use policy by report authors.

Third Party Antibiotics Audits:

None found.

21. Panda Express

Owned by: Panda Restaurant Group

Corporate headquarters: 1683 Walnut Grove Avenue, Rosemead, CA 91770

Number of U.S. Locations: 2,105

2018 U.S. Sales: \$3.52 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

No published policy available.

Third Party Antibiotics Audits:

None found.

22. Chili's

Owned by: Brinker International, Inc. (NYSE: EAT)

Corporate headquarters: 6820 Lyndon B Johnson Fwy, Dallas, TX 75240

CEO: Wyman Roberts

Number of U.S. Locations: 1,251

2018 U.S. Sales: \$3.50 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

In March 2019, Chili's, a subsidiary of Brinker International, announced newly updated animal welfare standards that include a commitment to work toward the elimination of medically important antibiotics in the restaurants' chicken supply chains (with exceptions for treatment and non-routine control of diagnosed illness).¹⁷⁷ Though this does not constitute a formal policy because it lacks concrete details or implementation deadlines, it is a step in the right direction

Third Party Antibiotics Audits:

None found.

23. Jack in the Box

Owned by: Jack in the Box Inc. (NASDAQ: JACK)

Corporate headquarters: 9330 Balboa Ave, San Diego, CA 92123

CEO: Leonard A. Comma

Number of U.S. Locations: 2,237

2018 U.S. Sales: \$3.46 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<http://www.jackintheboxinc.com/assets/AW-041118.pdf>

Chicken Only: "We have engaged with our suppliers, NGOs and ESG advocates to help us better understand public health issues associated with the poultry industry's use of antibiotics important to human health. As a result, Jack in the Box does not purchase poultry that has received antibiotics important to human health for purposes of growth promotion or feed efficiency. Our poultry suppliers may use medically important antibiotics only if prescribed by a veterinarian to treat sick animals or to protect the flock from a disease outbreak."¹⁷⁸

Third Party Antibiotics Audits:

No.¹⁷⁹

24. IHOP

Owned by: Dine Brands Global, Inc (NYSE: DIN)

Corporate headquarters: 450 N Brand Blvd, 7th Floor, Glendale, CA 91203

CEO: Stephen P. Joyce

Number of U.S. Locations: 1,705

2018 U.S. Sales: \$3.23 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

<https://www.dinebrands.com/en/social-responsibility/animal-welfare>

"We recognize that antibiotic resistance in humans and animals is a serious health concern and we fully support the action the FDA is taking to reduce the routine use of medically important antibiotics. We are asking our chicken and pork suppliers to begin to prohibit routine use of medically important antibiotics as defined by the World Health Organization (WHO), including prohibiting the use of these antibiotics for disease prevention.

We support animal production practices that reduce, and, where possible, eliminate the need for antibiotic therapies in food animals by adoption of best practices and /or new practices. Treating sick and injured animals and controlling an identified disease outbreak under veterinary supervision is important and are the only reasons for use of medically important antibiotics. We continue to work with our suppliers so that antibiotics are used judiciously, and their effectiveness maintained."¹⁸⁰

Third Party Antibiotics Audits:

"We will require annual third-party auditing and are asking our chicken and pork suppliers to track and report to us their antibiotic use for meat supplied to us. We have begun annually surveying our suppliers in order to report summary information and progress towards our goal in future reporting."¹⁸¹

25. Popeye's

Owned by: Restaurant Brands International (NASDAQ: PLKI)

Corporate headquarters: 5505 Blue Lagoon Drive, Miami, FL 33126

CEO: Cheryl Bachelder

Number of U.S. Locations: 2,347

2018 U.S. Sales: \$3.22 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

No published policy available.

Third Party Antibiotics Audits:

None found.

Appendix 4: 2019 Top 25 Fast Food and Fast Casual Restaurant Chain Overall Scorecard Results

Company	Policy	Implementation	Transparency	Total Points	Total Possible Points	%-age Total	Grade*
	10	9	7	26	25	104%	A
	10	9	7	26	25	104%	A
	40	30	25	95	100	95%	A
	30	24	16.5	70.5	75	94%	A
	40	8	28	76	100	76%	B
	14.75	8	14	36.75	50	74%	B
	18.5	8	21	47.5	75	63%	B-
	14.4	9	21	44.4	75	59%	C+
	10	9	21	40	75	53%	C
	20	18	10	48	100	48%	C
	10	9	16.5	35.5	75	47%	C
	10	9	12	31	75	41%	C-
	14	2	11.75	27.75	75	37%	C-
	14	2	11.75	27.75	75	37%	C-
	10	9	7.5	26.5	75	35%	D+
	10	2	13.5	25.5	75	34%	D+
	10	0	7.5	17.5	75	23%	D
	0	0	4.5	4.5	75	6%	F
      					0	0	F

* We offer one bonus point per category for companies that have achieved 100 percent policy implementation in at least one meat category since last year. This bonus enabled some companies to earn a total of more than 100%.

Appendix 5: Key Findings of 2019 Top 25 Fast Food and Fast Casual Restaurant Chain Overall Scorecard

While the federal government has failed to effectively address antibiotic overuse in livestock production to date, consumers have been voting with their dollars to bring about needed change. As previous Chain Reaction reports have shown, fast food restaurants and producers have responded - although the bulk of progress remains on chicken.

In 2014 Chick-fil-A stepped forward as one of the first major restaurants to commit to end the use of all antibiotics in its chicken supply and set off a wave of change in the restaurant industry. This shift was amplified by calls to action by a diverse array of advocates who urged other major restaurants to shift their meat suppliers away from routine antibiotic use. In September 2019, Chick-fil-A announced that it completed implementation of its groundbreaking commitment.¹⁸⁴

The first Chain Reaction report, issued in 2015, surveyed the 25 largest fast food and fast casual restaurant chains on policies to restrict the use of medically important antibiotics in their meat supply chains. Only five reported having any such policy. Armed with this information, consumer advocates urged more restaurants to act. McDonald's, KFC, Subway, and others responded by taking meaningful steps to eliminate routine use of medically important antibiotics, primarily in chicken supplies.

In subsequent Chain Reaction reports, the number of restaurants reporting meaningful antibiotic use policies grew, with nine companies reporting having such antibiotic use policies in 2016, 14 in 2017 and 17 this year.

The survey of this year's top 25 restaurants reveals that many of these companies are making meaningful efforts to restrict antibiotic use, though primarily in chicken supply chains. As the beef scorecard featured in this report illustrates, there are some initial signs of positive progress in progress in that sector as well.

Policy Progress

- » Four companies - Panera Bread, Chipotle, Chick-fil-A, and Kentucky Fried Chicken - earned grades in the "A" range this year, the most in any Chain Reaction report. KFC announced in January 2019 that it completed its pledge to end medically important antibiotic use in its supplies.¹⁸⁵
- » Of the nation's top 25 restaurant chains, 17 have adopted policies to limit the routine use of antibiotics in at least one meat category, primarily chicken.
- » Nine companies improved their grades compared to last year.
 - » McDonald's gained new points for issuing a comprehensive antibiotic use reduction policy for its vast beef supplies. The company moved to a "B-" grade this year, up from a "C+" last year.
 - » In July 2019, Taco Bell pledged to reduce by 25 percent medically important antibiotic use across all beef supplies in its U.S. restaurants by 2025, earning the company a "B" grade.
 - » The remaining companies — including KFC, Starbucks, and Jack in the Box — gained points for progress on implementing their prior commitments on chicken (see below).
- » Eight companies received failing grades for taking no meaningful, publicly transparent actions to reduce antibiotic use in any of their meat supply chains: Dairy Queen, Sonic, Chili's, Arby's, Little Caesar's, Buffalo Wild Wings, Panda Express and Popeye's.

Implementation

- » Since the publication of Chain Reaction IV, six restaurant chains completed implementation of earlier pledges to only purchase responsibly raised chicken. These include KFC, Dunkin' Donuts, Chick-fil-A, Burger King, Jack in the Box, and Domino's.
- » Starbucks completed its pledge for both chicken and turkey sold in their restaurants.

Transparency

- » Fifteen of the top U.S. restaurant chains responded to our survey, a slight drop from last year - though there are two new company entrants into the top 25 this year that may not be familiar with this project. Increased transparency allows consumers to make more educated purchasing decisions and signals that the restaurants are taking antibiotic use in their supply chains seriously.
- » Two restaurant chains - Starbucks and Domino's - issued public progress updates on their antibiotic use policy progress, though they did not though they did not return Chain Reaction surveys in response to the authors' repeated requests.

Appendix 6: Scoring Criteria for Top 25 Fast Food and Fast Casual Chain Overall Scorecard

Though not the primary focus of this year’s Chain Reaction report, the authors also surveyed and graded the overall top 25 fast food and fast casual restaurant chains in the United States for their policies on pork, turkey and chicken, in addition to beef, as we have in prior years. For the Chain Reaction V Fast Food and Fast Casual Chain Scorecard, the score and letter grade for each restaurant chain was based on points awarded in three key categories: 1) Policy; 2) Implementation; and 3) Transparency. For restaurants offering chicken, beef, turkey and pork, the maximum number of points possible was 100 points. For restaurants that offer only three kinds of meat or poultry, the maximum number of points was 75 points; for restaurants that offer only two meats, the maximum number of points was 50 points; and for restaurants that offer only one meat, the maximum number of points was 25 points. If a company disclosed that a particular category of meat and/or poultry amounted to less than 5 percent of its total meat/poultry purchases, we did not include that meat type in our evaluation. The score and associated letter grade were based on the company’s points as a percentage of the maximum total points possible for that company. Scoring criteria for each category, as well as the total number of potential points awarded for each, are detailed below. The authors made minor adjustments to points allocations within existing categories compared to Chain Reaction IV.

Category #1: Policy

Total points available: 40 (unless pro-rated for chains serving less than four meats)

The authors consider a company policy “meaningful” if it aligns with the following standard, which is consistent with the WHO Guidelines issued in 2017.¹⁸²

“A publicly available company policy that prohibits the use of all antibiotics, or antibiotics in classes used in human medicine, for growth promotion and disease prevention. Treatment of sick animals and use to control a verified disease outbreak or for medical or surgical procedures are acceptable.”

We awarded 7 points for each category of meat (chicken, turkey, pork, and beef) to which the policy applied. We then awarded 3 points for each category of meat for which a company had announced a time-bound commitment for policy implementation. Companies that had already implemented a policy were given full credit for commitments. A company that made a partial commitment for a category (i.e. a certain subset of its chicken or beef) received half credit.

2019 CHAIN REACTION OVERALL SCORECARD	91-100	A
	84-90	A-
	77-83	B+
	67-76	B
	60-66	B-
	52-59	C+
	43-51	C
	36-42	C-
	29-35	D+
	19-28	D
<18	F	

Meaningful Antibiotic Use Policy		(maximum 28 points)
Chicken		7
Turkey		7
Pork		7
Beef		7
Timebound Commitment for Policy Implementation		(maximum 12 points)
Chicken		3
Turkey		3
Pork		3
Beef		3

Category #2: Implementation

Total number of potential points available: 32 (unless pro-rated for chains serving less than four meats)

The authors assessed the current availability of meat and/or poultry raised without routine antibiotic use at surveyed company restaurants. We awarded an increasing number of points, per category of meat and/or poultry (chicken, turkey, pork, beef), based on the percentage of a company's purchases that already comply with a good antibiotic use policy. We offered 1 point per category if a company was purchasing at least 15 percent of the meat or poultry it currently serves according to a meaningful antibiotic use policy. The greatest number of points (32 points total, 8 per category) was available for companies reporting that meat and/or poultry raised without routine antibiotic use accounts for more than 90 percent of their purchases. We offer one bonus point per category for companies that have achieved 100 percent policy implementation in at least one meat category since last year.¹⁸³

Implementation of antibiotic use policy or approach	Available Points
15-40%	1 point per meat/poultry category
41-60%	2 points per meat/poultry category
61-75%	4 points per meat/poultry category
76-90%	6 points per meat/poultry category
91-100%	8 points per meat/poultry category

Category #3: Transparency

Total number of potential points available: 28 (unless pro-rated for chains serving less than four meats)

The Chain Reaction V Fast Food and Fast Casual Chain Scorecard assigns points related to a number of transparency concerns: company response to the survey; whether a company works with third-party auditors or purchases from meat and poultry suppliers that have third-party audits assessing antibiotic use in their entire supply chains; and whether a company publishes (or plans to publish) a regular (at least annual), publicly available progress update on implementation of its policy.

Partial credit was offered for incomplete survey responses (answering some but not all questions). Full credit went to companies that either utilized independent third-party audits to verify compliance with their antibiotic use policy or purchased from suppliers that conducted third-party audits of their own for their entire supply chains. Half credit was given to companies that showed evidence of auditing suppliers using internal resources. Additional points were awarded if audit standards are public, and if the audit includes at least one on-site farm visit annually.

Full credit also went to companies that provided regular progress updates on implementation of their policies. To receive full credit, companies must publish updates online, at least annually. Full credit was given for various forms of updates including dedicated websites, press releases, and corporate social responsibility reports. If a policy was less than a year old, and a company made a commitment to issue a progress report in the future, they received half credit.

If a company offered only one, two or three types of meat and poultry, its transparency score was pro-rated to reflect this.

Transparency Criteria	Available Points
Complete response to survey OR	6 points OR
Partial response to survey	3 points
Company works with independent third-party auditors; or suppliers that have third party audits of entire supply chain under antibiotics policy OR	6 points OR
Internal company audit	3 points
Audit standards are public	3 points
On site farm inspection conducted at least annually	3 points
Public progress report on policy implementation is available online OR	10 points OR
If policy is less than a year old, commitment to issue annual online progress report	5 points

Appendix 7: Summary of Company Policies and Survey Responses For Top 25 U.S. Burger Chains

Information in this Appendix concerning company ownership, number of restaurant locations and sales of fast food restaurant companies comes from Restaurant Business “2019 Top 500 Chains” or company websites. Companies are listed in order of total 2018 sales, in dollars.¹⁸⁶

Information concerning companies’ antibiotics policies and other policies comes from companies’ responses to the survey, follow up emails, public statements made by the companies, and/or efforts by the report’s authors to locate such policies online. The report’s authors encourage restaurant chains to contact them directly with additional information concerning antibiotics and/or meat sourcing policies, and to make such information publicly available.

1. McDonald’s

Owned by: McDonald’s Corporation (NYSE: MCD)

Corporate headquarters: 110 N Carpenter St, Chicago, IL 60607

CEO: Steve Easterbrook

Number of U.S. Locations: 13,914

2018 U.S. Sales: \$38.52 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef and Dairy Beef:

https://corporate.mcdonalds.com/content/dam/gwscorp/scale-for-good/McDonalds_Beef_Antibiotics_Policy.pdf

“As part of our commitment to responsibly sourced beef, in 2018 we released our new Antibiotic Use Policy for Beef. Through this commitment, in partnership with our suppliers and producers, we will reduce the overall use of antibiotics important to human health, as defined with the World Health Organization, across our top 10 beef sourcing markets, representing more than 85% of our global beef supply chain.”¹⁸⁷

Third Party Antibiotics Audits for Beef:

Not at this time, though McDonald’s is working with FAI Farms to administer the data gathered in its pilot phase.¹⁸⁸

2. Burger King

Owned by: Restaurant Brands International (NYSE: QSR)

Corporate headquarters: 5505 Blue Lagoon Drive, Miami, FL 33126

CEO: Daniel Schwartz

Number of U.S. Locations: 7,330

2018 U.S. Sales: \$9.93 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

Burger King’s parent company Restaurant Brands International works with the US Round Table for Sustainable Beef (USRSB). As discussed earlier in this report, authors do not consider the USRSB antibiotic stewardship approach to be meaningful.¹⁸⁹

Third Party Antibiotics Audits for Beef:

None found.

3. Wendy's

Owned by: The Wendy's Company (NASDAQ: WEN)

Corporate headquarters: 1 Dave Thomas Blvd, Dublin, OH 43017

CEO: Todd A. Penegor

Number of U.S. Locations: 5,810

2018 U.S. Sales: \$9.40 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

Animal Antibiotic Use Policy: <https://www.wendys.com/animal-antibiotic-use-policy>

"As a result, 2019, Wendy's will source about 30% of its beef from this group of producers that have each committed to a 20% reduction of the only medically important antibiotic routinely fed to their cattle. Importantly, these producers will ensure that the antibiotic use in their cattle can be tracked and reduced."¹⁹⁰

Third Party Antibiotics Audits for Beef:

Wendy's endorses the Progressive Beef management program that utilizes IMI Global for auditing and has certification / validation by the USDA Process Verified Program.¹⁹¹

4. Sonic

Owned by: Inspire Brands (NASDAQ: SONC)

Corporate headquarters: 300 Johnny Bench Dr, Oklahoma City, OK 73104

CEO: J. Clifford Hudson

Number of U.S. Locations: 3,606

2018 U.S. Sales: \$4.44 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

5. Jack in the Box

Owned by: Jack in the Box Inc. (NASDAQ: JACK)

Corporate headquarters: 9330 Balboa Ave, San Diego, CA 92123

CEO: Leonard A. Comma

Number of U.S. Locations: 2,237

2018 U.S. Sales: \$3.46 billion

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

No¹⁹²

6. Whataburger

Owned by: Dobson Family

Corporate headquarters: 300 Concord Plaza Dr, San Antonio, TX 78216

CEO: Preston Atkinson

Number of U.S. Locations: 825

2018 U.S. Sales: \$2.41 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

7. Hardee's

Owned by: CKE Restaurants Holdings, Inc.

Corporate headquarters: 6700 Tower Cir, Suite 100, Franklin, TN 37067

CEO: Jason Marker

Number of U.S. Locations: 1,875

2018 U.S. Sales: \$2.12 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

8. Five Guys

Owned by: Five Guys Holdings Inc.

Corporate headquarters: 10718 Richmond Hwy, Lorton, VA 22079

CEO: Jerry Murrell

Number of U.S. Locations: 1,358

2018 U.S. Sales: \$1.61 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

9. Culver's

Owned by: Culver Franchising System, Inc.

Corporate headquarters: 1240 Water St., Prairie du Sac, WI 53578

CEO: Joe Koss

Number of U.S. Locations: 686

2018 U.S. Sales: \$1.57 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

10. Carl's Jr.

Owned by: CKE Restaurants Holdings, Inc.

Corporate headquarters: 6700 Tower Cir, Suite 1000, Franklin, TN 37067

CEO: Jason Marker

Number of U.S. Locations: 1,148

2018 U.S. Sales: \$1.41 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

11. Steak 'n Shake

Owned by: Biglari Holdings (NYSE: BH)

Corporate headquarters: 107 South Pennsylvania Street, Suite 400, Indianapolis, Indiana 46204

CEO: Sardar Biglari

Number of U.S. Locations: 413¹⁹³

2018 U.S. Sales: \$1.03 billion

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef. However, in 2017, Steak 'n Shake began offering the Prime Steakburger on its menu, which claims to be "all-natural and antibiotic-free."¹⁹⁴

Third Party Antibiotics Audits for Beef:

None found.

12. In-N-Out Burger

Owned by: The Snyder Family

Corporate headquarters: 4199 Campus Dr Ste 900, Irvine, CA 92612

CEO: Lynsi Snyder

Number of U.S. Locations: 339

2018 U.S. Sales: \$926 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

13. Checkers

Owned by: Oak Hill Capital Partners

Corporate headquarters: 4300 W Cypress St #600, Tampa, FL 33607

CEO: Enrique Silva

Number of U.S. Locations: 590

2018 U.S. Sales: \$560 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

14. White Castle

Owned by: The Ingram Family

Corporate headquarters: 555 W Goodale St, Columbus, OH 43215

CEO: E.W. Ingram III

Number of U.S. Locations: 374

2018 U.S. Sales: \$556 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

15. Freddy's Frozen Custard and Steakburgers

Owned by: Simon Bros. and Scott Redler

Corporate headquarters: 260 N Rock Road, Wichita, KS 67206

CEO: Randy Simon

Number of U.S. Locations: 328

2018 U.S. Sales: \$474 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef

None found.

16. Shake Shack

Owned by: Shake Shack Inc. (NYSE: SHAK)

Corporate headquarters: 24 Union Square East, 5th Floor, New York NY 10003

CEO: Randy Garutti

Number of U.S. Locations: 136

2018 U.S. Sales: \$459 million

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

Antibiotic Use and Animal Welfare Policy: https://cdn.shakeshack.com/wp-content/uploads/2017/01/U.S.-Animal-Welfare-Policy_Shake-Shack_1.20.17.pdf

"100% Angus beef, made from premium whole muscle cuts—no hormones or antibiotics, EVER—is the founding DNA of our menu."¹⁹⁵

Third Party Antibiotics Audits for Beef:

USDA PVP and mix of several different programs with auditor verification.¹⁹⁶

17. Krystal

Owned by: Argonne Capital Group

Corporate headquarters: 1455 Lincoln Pkwy Suite 600, Dunwoody, GA 30346

CEO: Paul Macaluso

Number of U.S. Locations: 356

2018 U.S. Sales: \$377 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

18. The Habit Burger Grill

Owned by: KarpReilly, Habit Burger LLC. (NASDAQ: HABT)

Corporate headquarters: 17320 Red Hill Ave Suite 140, Irvine, CA 92614

CEO: Russell W. Bendel

Number of U.S. Locations: 247

2018 U.S. Sales: \$436 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

19. Smashburger

Owned by: Jollibee Foods Corp.

Corporate headquarters: 3900 E Mexico Ave Suite 1100, Denver, CO 80210

CEO: Tom Ryan

Number of U.S. Locations: 322

2018 U.S. Sales: \$294 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

20. Rally's

Owned by: Oak Hill Capital Partners

Corporate headquarters: 4300 W Cypress St #600, Tampa, FL 33607

CEO: Enrique Silva

Number of U.S. Locations: 300

2018 U.S. Sales: \$289 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

21. A&W

Owned by: A Great American Brand, LLC.

Corporate headquarters: 1648 McGrathiana Pkwy, Lexington, KY 40511

CEO: Kevin M. Bazner

Number of U.S. Locations: 615

2018 U.S. Sales: \$223 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

A&W's website states: "Our ranchers only use antibiotics when medically necessary to ensure the health of the animal, in the same way that most doctors recommend the use of antibiotics for people."¹⁹⁷

Author's note: A&W did not respond to our survey to clarify which uses of antibiotics are allowed or how this policy is implemented with its suppliers. Without any additional information, this could not be considered a meaningful policy.

Third Party Antibiotics Audits for Beef:

None found.

22. Fuddruckers

Owned by: Luby's (NYSE: LUB)

Corporate headquarters: 13111 NW Freeway Suite 600, Houston, TX 77040

CEO: Peter Large

Number of U.S. Locations: 153

2018 U.S. Sales: \$197 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef. However, Fuddruckers offers a line of burgers called Fudds Exotics, which includes an American Kobe beef option, and claims to be "antibiotic free, hormone free and pasture raised."¹⁹⁸

Third Party Antibiotics Audits for Beef:

None found.

23. Jack's

Owned by: Jack's Family Restaurants, LP.

Corporate headquarters: 124 W Oxmoor Rd, Birmingham, AL

CEO: Todd Bartmess

Number of U.S. Locations: 160

2018 U.S. Sales: \$163 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef.

Third Party Antibiotics Audits for Beef:

None found.

24. Farmer Boys

Owned by: Farmer Boys Food, Inc.

Corporate headquarters: 3452 University Ave, Riverside, CA 92501

CEO: Karen Eadon

Number of U.S. Locations: 92

2018 U.S. Sales: \$152 million

Returned the Survey: No

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

No published policy available for beef. However, the Farmer Boys menu offers several variations of "The Natural" burger, which is made with "hormone-free and antibiotic-free" beef according to its website.¹⁹⁹

Third Party Antibiotics Audits for Beef:

None found.

25. BurgerFi

Owned by: BurgerFi International, LLC

Corporate headquarters: 105 US-1, North Palm Beach, FL 33408

CEO: Corey Winograd

Number of U.S. Locations: 104

2018 U.S. Sales: \$134 million

Returned the Survey: Yes

Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:

Antibiotics Policy for Beef:

In its survey response, Burger Fi states that it sources beef raised without any antibiotics. On its website, BurgerFi says: "Our beef is Never exposed to steroids, antibiotics, growth hormones, chemicals, or additives – Ever"²⁰⁰

Third Party Antibiotics Audits for Beef:

No, though suppliers provide affidavits about antibiotic use practices.

Appendix 8: WHO Guidelines on Use of Medically Important Antimicrobials in Food-Producing Animals

In November 2017, the World Health Organization formally adopted a set of guidelines on the use of medically important antibiotics in livestock and poultry production.²⁰¹ The guidelines focus on on-farm practices that can best help to preserve the future efficacy of antibiotics for treating people and animals. Approved WHO Guidelines are developed under a strict and fully transparent process; to ensure a strong scientific basis, these guidelines drew upon two separate, peer-reviewed summaries of the scientific literature.²⁰²

Key recommendations from the guidelines include:

- » Overall reduction in the use of all classes of medically important antimicrobials in food-producing animals.
- » Complete restriction of use of all classes of medically important antimicrobials in food-producing animals for growth promotion.
- » Complete restriction of use of all classes of medically important antimicrobials in food-producing animals for prevention of infectious diseases that have not yet been clinically diagnosed.

About Us



Center for Food Safety's mission is to empower people, support farmers, and protect the earth from the harmful impacts of industrial agriculture. Through groundbreaking legal, scientific, and grassroots action, we protect and promote your right to safe food and the environment. Please join our more than 900,000 advocates across the country at www.centerforfoodsafety.org. Twitter: @CFSTrueFood, @CFS_Press



Consumer Reports is a nonprofit membership organization that works side by side with consumers to create a fairer, safer, and healthier world. For 80 years, CR has provided evidence-based product testing and ratings, rigorous research, hard-hitting investigative journalism, public education, and steadfast policy action on behalf of consumers' interests. Unconstrained by advertising or other commercial influences, CR has exposed landmark public health and safety issues and strives to be a catalyst for pro-consumer changes in the marketplace.



Food Animal Concerns Trust expands safe and humanely raised food options by supporting humane farmers and advocating against antibiotic overuse and harmful drugs in farm animals. Our Humane Farming Program invests in family farmers seeking to raise their animals humanely by providing them with grants, scholarships, and webinars. Our Food Safety Program advocates for stronger corporate and federal policies that eliminate the overuse of antibiotics and veterinary drugs known to be harmful to consumers. Together they expand safe and humane practices on farms across the country.



The Antibiotic Resistance Action Center (ARAC) at the Milken Institute School of Public Health at George Washington University was created to preserve the effectiveness of antibiotics by engaging in research, advocacy, and science-based policy. ARAC is focused on finding out-of-the box solutions to antibiotic resistance, one of the greatest public health threats of our time. Visit us at battlesuperbugs.com and follow us on Twitter, Instagram and Facebook @battlesuperbugs



The Natural Resources Defense Council (NRDC) is an international nonprofit environmental organization with more than 3 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, San Francisco, Chicago, Bozeman, MT, and Beijing. Visit us at www.nrdc.org and follow us on Twitter @NRDC.



U.S. PIRG Education Fund is an independent, non-partisan group that works for consumers and the public interest. Through research, public education and outreach, we serve as counterweights to the influence of powerful special interests that threaten our health, safety or well-being.

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