

# CHAIN *REACTION III*



How Top Restaurants Rate on Reducing  
Use of Antibiotics in Their Meat Supply

SEPTEMBER 2017



## Table of Contents

<b>Acknowledgements</b> .....	<b>1</b>
<b>Executive Summary</b> .....	<b>2</b>
<b>Antibiotic Resistance and Antibiotic Misuse in Livestock</b> .....	<b>5</b>
<b>Key Findings</b> .....	<b>7</b>
<b>Chain Reaction III Scorecard and Discussion</b> .....	<b>11</b>
<b>Time for Government Action</b> .....	<b>13</b>
<b>Market Trends Point the Way</b> .....	<b>15</b>
<b>Use of Other Growth-Promoting Agents</b> .....	<b>19</b>
<b>Availability of Organic and Grassfed Alternatives</b> .....	<b>21</b>
<b>Recommendations</b> .....	<b>23</b>
<b>Appendix 1: Survey Methodology &amp; Questions</b> .....	<b>25</b>
<b>Appendix 2: Scoring Criteria</b> .....	<b>28</b>
<b>Appendix 3: Summary of Company Policies &amp; Survey Responses</b> .....	<b>31</b>
<b>Endnotes</b> .....	<b>44</b>
<b>About Us</b> .....	<b>48</b>



## **Acknowledgements**

Several public interest organizations working to eliminate the routine use of antibiotics in animal agriculture co-authored this report. Jean Halloran and Meg Bohne of Consumers Union are lead authors, with significant contributions from Lena Brook and Sasha Stashwick of the Natural Resources Defense Council, Kari Hamerschlag of Friends of the Earth, Cameron Harsh of Center for Food Safety, Steve Roach of Food Animal Concerns Trust and Keep Antibiotics Working, and Matt Wellington of the U.S. Public Interest Research Group Education Fund.

The authors would like to thank Michael Hansen, Ph.D., from Consumers Union and David Wallinga, M.D. from the Natural Resources Defense Council for their valuable review of this report.

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



## Executive Summary

### Background

The declining ability of antibiotics to cure diseases they once easily vanquished is a growing public health crisis. The Centers for Disease Control and Prevention states that already, at least 23,000 people die annually from antibiotic-resistant infections, and the toll is likely to rise.<sup>1</sup>

To combat this trend and preserve the effectiveness of antibiotics, we must use them less, so that bacteria have less chance to develop immunity to them. Doctors and hospitals must use antibiotics more judiciously. However, some 70 percent of all medically important antibiotics<sup>2</sup> sold in the United States are intended for use not in human medicine, but in animal agriculture.<sup>3</sup> We must also drastically reduce use in animals, where antibiotics are often used to promote growth and prevent disease in industrial farming conditions.

The nation's fast food restaurant chains are in a unique position to address the antibiotic resistance crisis. Fast food chains are huge buyers of meat and poultry. A quarter of all chicken produced in the United States is sold through fast food restaurants, according to the National Chicken Council,<sup>4</sup> and McDonald's has been cited in the media as the

largest buyer of beef in the United States.<sup>5</sup> Fast food restaurants can demand that their suppliers reduce or eliminate antibiotic use in the production of the meat and poultry they purchase.

A coalition of organizations, including Consumers Union, Center for Food Safety, Food Animals Concerns Trust, Friends of the Earth, Natural Resources Defense Council and U.S. Public Interest Research Group Education Fund, have called on the nation's largest fast food and fast casual restaurant chains to adopt policies limiting antibiotic use in their supply chains. This third annual Chain Reaction Report assesses the restaurants' progress.

### Survey and Scorecard Results

The 2017 Chain Reaction III Report and Scorecard ranks America's 25 largest fast food and fast casual restaurant chains on their antibiotics policies.<sup>6</sup> The goal of this effort is to help consumers make educated choices about the meat they eat, and encourage the largest chains in these industries to improve their sourcing policies.

Our 2017 survey results indicate that increasingly, fast food companies are seeking to address the antibiotic resistance public health crisis by mandating changes in their supply chain. Fourteen of the top 25 companies, a clear majority, have taken at least some steps to limit use of antibiotics in all or some

of their supply chains. These fourteen, accounting for two-thirds of all fast food industry revenue,<sup>7</sup> received passing grades, up from nine last year and five the year before.<sup>8</sup> The five companies that made a commitment for the first time this year are KFC, Burger King, Starbucks, Dunkin' Donuts and Jack in the Box.

It is important to note, however, that while remarkable progress has been made to reduce or even eliminate use of medically important antibiotics, this progress has largely occurred in chicken production. With a few exceptions, companies have made little progress in reducing the use of antibiotics in their pork and beef supplies. Only two companies, Chipotle and Panera, currently serve pork and beef, as well as poultry, raised without antibiotics. Both Chipotle and Panera continue to earn an "A" grade in the Scorecard for their exemplary policies and practices with respect to antibiotic use. Subway has adopted a policy that addresses antibiotic use in meat as well as poultry, but implementation in pork and beef is on a long timeline, earning it a "B+."

KFC improved the most over last year, earning a "B-" compared to last year's "F", as a result of making a commitment to transition its entire product line, all chicken, to being raised without antibiotics important in human medicine by the end of 2018.

Chick-fil-A, Taco Bell, and Wendy's have also progressed in implementing their antibiotics commitments in chicken, earning grades in the "B" and "C" range.

McDonald's earned a "C+" this year, the same grade as in 2016, when it announced that all the chicken it served in the U.S. was raised without medically important antibiotics. It made no new commitments on beef or pork, however. In August 2017 McDonald's published a new "Vision on Antibiotic Stewardship" document that established ambitious goals for limiting use of medically important antibiotics in its entire global supply chain for all of its meats. But timebound policies for pork and beef have not been established under this new vision.

One company, Pizza Hut, received a "D+" grade because it made a token effort, i.e., setting good antibiotics use policies on chicken, and implementing them, but applying them only to a small fraction of its chicken purchases. Starbucks, which made a timebound commitment for poultry, but not for beef and pork, also earned a D+. Three more major chains—Burger King, Jack in the Box, and Dunkin' Donuts—adopted new policies limiting use of either medically important or all antibiotics in chicken for the first time this year. But they lacked

Chain Reaction III Scorecard	
A	 
B+	
B	
B-	 
C+	
C	
D+	 
D	   
F	          



implementation, transparency commitments and/ or timebound commitments for beef and pork, earning them “D”s. Papa John’s adopted a good policy, but it only applies to a portion of its chicken and is not verified by an independent auditor, so it also received a “D.”

Unfortunately, 11 of the top 25 fast food chains, including several “fast casual” restaurants like Olive Garden and Applebee’s, have taken no discernable action to reduce use of antibiotics in their supply chains. These companies, some under shareholder pressure for their lack of action, received an “F.”

No doubt, the public calls to action aimed at Subway, KFC and its parent company Yum! Brands, and others initiated by the organizations participating in this report and our allies, coupled with action by the investor community, are making a difference (see section on Market Trends). Companies are on notice that their customers and shareholders will hold them accountable for antibiotic use practices in their meat and poultry

supply chains. Nonetheless, much swifter and more widespread action is needed from top restaurant chains and leading meat producers to end routine antibiotic use in our meat supply.<sup>9</sup>

In the long run, changes in the fast food marketplace alone will not stem the rising tide of antibiotic resistance. Ensuring consumers have more choice when it comes to purchasing meat and poultry raised without routine antibiotics use will not sufficiently address the broader risk of resistance from continued misuse of antibiotics in much of the meat industry. For that, we need government to set rules across the industry that prohibit the routine use of antibiotics in food animal production for growth promotion and disease prevention purposes, and set baseline standards that limit acceptable use to treatment of sick animals and to control a verified disease outbreak. (See Recommendations section). To date, government response to this major public health threat has been woefully inadequate.



## **Antibiotic Resistance and the Role of Antibiotics Misuse in Livestock**

According to the World Health Organization (WHO),<sup>10</sup> the Food and Agriculture Organization (FAO),<sup>11</sup> the Centers for Disease Control and Prevention (CDC)<sup>12</sup> and other public health agencies, antibiotic resistance is a major global public health threat. Already, at least 2 million people in the U.S. contract antibiotic-resistant infections and at least 23,000 die as a result of those infections each year.<sup>13</sup> A 2016 report commissioned by the United Kingdom estimates that unless steps are taken to control antibiotic resistance, deaths from resistant infections will exceed cancer deaths globally by 2050.<sup>14</sup> In response to the gravity of the problem, the United Nations convened a special session of the General Assembly in September 2016. It unanimously adopted a resolution in which all nations committed themselves to taking action on the problem.<sup>15</sup>

Use and misuse of antibiotics, both in human medicine and in livestock production,<sup>16</sup> is widespread. A recent study published in the *Journal of the American Medical Association* indicates that nearly one-third of antibiotics prescriptions in human medicine are not needed.<sup>17</sup> But as of 2011, around 70 percent of antibiotics important for human medicine in the U.S. were sold for use in livestock and poultry production, not in human medicine.<sup>18</sup> The amount of medically important antibiotics sold for use in animals in the U.S. continues to rise: up 26 percent between 2009 and 2015 and up 2 percent between 2014 and 2015 alone.<sup>19</sup>

These drugs have historically been given to animals that are not sick, to accelerate weight gain and prevent disease in crowded and unsanitary industrial farming conditions. Approximately 95 percent of the antibiotics sold for animal use are added to feed and water,<sup>20</sup> the preferred way to deliver antibiotics to large flocks or herds of animals at once. This practice is a key contributor to the development of antibiotic resistant bacteria – which can escape farms and



spread into communities through air,<sup>21</sup> water,<sup>22</sup> soil,<sup>23</sup> meat,<sup>24</sup> and even workers.<sup>25</sup> Resistant superbugs can make us sick, or pass on resistance to other bacteria which can make us sick.<sup>26</sup>

The CDC, the WHO and other leading scientific bodies agree that the use of antibiotics in food animals contributes to antibiotic resistance.<sup>27</sup> In December 2015, the American Academy of Pediatrics reviewed the evidence from the perspective of children’s health 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.”<sup>28</sup> Similarly, during World Antibiotic Awareness Week in November 2015, the World Health Organization recommended that we need to “[e]nsure that antibiotics given to animals... are **only used to control or treat** infectious diseases” (emphasis theirs).<sup>29</sup>

We now face the troubling specter of a kind of “super-superbug,” resistant to every life-saving antibiotic modern medicine has available. In May 2016, a gene, easily transmissible between bacteria that enables the bacteria to withstand colistin—an antibiotic used as a last-resort when all other antibiotics fail—was found in the U.S. for the first time.<sup>30</sup> The problem gene was found in *E. coli* taken from a patient in Pennsylvania and separately from a pig killed at a slaughterhouse. (The same colistin resistance gene was later found in a second pig sample, and in a second U.S. patient.<sup>31</sup>)

Meanwhile, a February 2017 study found this gene to be virtually ubiquitous in Chinese poultry. Extensive testing in Shandong Province found that 90 percent of poultry at slaughterhouses and 87.5 percent of poultry in supermarkets tested positive for this gene.<sup>32</sup> The global emergence and spread of a colistin resistance gene underscores why curbing antibiotic use in livestock production is critical to keeping our life-saving antibiotics working.

Preserving the effectiveness of antibiotics for human medicine requires ending use of medically important antibiotics in meat and poultry production for growth promotion and routine use for disease prevention. Antibiotics for growth promotion and disease prevention are often given routinely to all animals in a herd or flock at specific times in their lives and in some cases practically the whole time they are on the farm. Animal antibiotic use should be limited to treatment of sick animals or, in very limited circumstances, on a temporary basis, to control a verified disease outbreak. As of January 2017, FDA Guidance 213 prohibits the sale of medically important antibiotics for growth promotion, but allows routine use for disease prevention if overseen by a veterinarian. Allowing prevention use permits antibiotic use to continue unabated in many cases. We are thus encouraging fast food chains, and their suppliers, to go beyond FDA’s minimum requirements in order to make significant progress in curbing antibiotic resistance.



## Key Findings

Chain Reaction III assesses restaurant industry progress on eliminating the routine use of antibiotics in meat by rating the top 25 fast food and fast casual restaurant chains in the U.S.<sup>33</sup> on their meat and poultry antibiotics policies. To evaluate restaurant policies and practices, the authors directly surveyed companies and reviewed their public statements. To score well on our scorecard, company policies must either prohibit all antibiotics use, or prohibit all use of medically important antibiotics, for growth promotion and routine disease prevention. We do not consider policies prohibiting only growth promotion to be adequate.

Based on the information collected, we created an industry scorecard that ranks companies on their antibiotics use policies, implementation of these policies as reflected in current meat and poultry purchasing, and transparency about antibiotics use in their meat and poultry supply chains. Appendix 1 contains our survey methodology and questionnaire. Our scorecard criteria are fully described in Appendix 2. Report authors made minor adjustments to points allocations within existing categories compared to Chain Reaction II. In all instances, company grades are equal to or higher than their previous results.

### **For the first time, more than half the companies surveyed have at least some good policies limiting antibiotic use**

- » As of September 2017, 14 out of the 25 largest U.S. fast food chains—more than half those surveyed— had adopted publicly available policies that phase out routine use (for growth promotion and disease prevention) of medically important antibiotics in some or all of their meat and poultry supply. The number of companies receiving passing grades continues to increase year over year, up from five companies in 2015 and nine in 2016. During the past year, KFC, Burger King, Starbucks, Jack in the Box and Dunkin’ Donuts have adopted new, meaningful antibiotics use policies, joining the ranks of Chipotle, Panera, Subway, Chick-fil-A, Taco Bell, McDonald’s, Wendy’s, Pizza Hut, and Papa John’s in earning passing grades on the scorecard.
- » As with previous commitments by other companies, these new policies range from strict prohibitions on any antibiotic use (for example, Dunkin’ Donuts new policy requires all chicken to be raised without any antibiotics), to policies that prohibit the use of antibiotics important in human medicine in chicken (including new policies from KFC and Burger King). Other

companies have adopted policies barring the routine use of medically important antibiotics, including Starbucks (for chicken and turkey) and Jack in the Box (for just chicken).

- » Eleven fast food chains have yet to make a meaningful commitment with regard to any of the meats they serve and received “F” grades.

### Defining Antibiotics Use Policies

Companies have adopted a range of different antibiotics use policies (which may sound similar but can mean very different things in practice). Here is an explanation of the terms the authors of this report use to describe those policies.

**No antibiotics ever/raised without antibiotics** No antibiotics were used at any stage in the animals’ lives.

**No medically important antibiotics ever** Animals were not given any antibiotics classified as important, highly important, or critically important to human medicine, as defined by the World Health Organization.<sup>34</sup> Animals may be treated with classes of drugs that are not used in human medicine (such as ionophores).

**No routine use of antibiotics** No antibiotics were used for growth promotion, nor any regular or repeated use for disease prevention. Use is limited to treatment of animals diagnosed with an illness or controlling a verified disease outbreak.

**No routine use of medically important antibiotics** No medically important antibiotics (as defined by the World Health Organization) were used for growth promotion or for regular or repeated use for disease prevention. Medically important antibiotics may be used to treat animals diagnosed with an illness or to control a verified disease outbreak. Animals may have been treated regularly with antibiotics not medically important to humans (such as ionophores).

### While restaurant policies targeting antibiotics use in chicken abound, companies are failing to make similar progress on beef and pork

- » Commitments by fourteen fast food chains are contributing to change in the chicken industry overall. Major poultry producers, including Tyson, Perdue and Pilgrim’s Pride, have expanded their “no antibiotics” product lines recently (see Market Trends Point the Way).
- » However, few chains have made commitments regarding antibiotics use beyond chicken. As

with last year, only Chipotle, Panera and Subway have timebound policies restricting use in all of their meats.

- » Starbucks is the only new chain to address responsible antibiotics use in all the meat and poultry they serve. But its pledge comes without details or a timeline for beef and pork, so cannot be considered a comprehensive policy that addresses all of the meat it sources.
- » Supplies of beef and pork raised with responsible antibiotics use practices are becoming increasingly available (see Market Trends Point the Way section). This should begin to enable more chains to establish policies restricting antibiotics use beyond just chicken.

This lack of progress on beef is particularly concerning because fast food chains like McDonald’s and Burger King are some of the largest beef buyers in the world. These companies are in an excellent position to influence producers when it comes to antibiotics use practices. McDonald’s recently revised Global Vision for Antibiotic Stewardship on Food Animals<sup>35</sup> establishes ambitious criteria that it would like its suppliers to meet globally, including in the U.S., regarding limits on antibiotic use in beef and pork. However the company has not yet indicated a timetable for comprehensively implementing its new antibiotics goals with respect to beef or pork.

### Company policies are at various stages of implementation: some at 100 percent, others just committed

- » Chipotle and Panera continue to set the bar for the industry, given their full implementation of long-standing policies prohibiting or limiting antibiotics use across nearly all of their supply chains. They remain the only companies to earn “A”s in the Scorecard.
- » Besides Chipotle and Panera, Subway is the only company with a no-antibiotics policy across its entire meat and poultry supply chain. During this past year, Subway achieved sourcing 100 percent of its chicken as raised without antibiotics and is working towards accomplishing this goal for turkey by 2019. It has a very long timeline for implementing its commitments on beef and pork, however, promising to do so by 2025. Subway earned a “B+.”
- » This past year Taco Bell completed its commitment to source chicken from birds raised without medically important antibiotics. The company joins McDonald’s and Subway

as industry leaders that have recently fully implemented new policies for chicken.

- » Other companies have partially implemented their policies. Wendy's reports that 50 percent of its chicken is raised without antibiotics important in human medicine, and that all chicken will meet this policy by the end of 2017. Chick-fil-A states that 70 percent of its chicken supply will be raised without any antibiotics by the end of 2017, and that its entire supply chain will meet this goal by 2019.
- » Newcomers KFC and Burger King have made timebound commitments on sourcing chicken raised without medically important antibiotics by the end of 2018. Dunkin' Donuts' chicken will be raised without any antibiotics, also with a stated goal of end of 2018. Jack in the Box and Starbucks say their goal of sourcing chicken raised without routine use of medically important antibiotics will be achieved by 2020.



**Most companies with good policies require independent auditing of their suppliers to verify compliance - so customers can trust their claims.**

As restaurant chains seek to eliminate medically important antibiotics from their supply chains, third-party verification of compliance should be a key element of company policies. Verification programs should be carried out by independent third-party certifiers. They should regularly audit antibiotics use practices against clear, publicly available antibiotics use standards; conduct unscheduled, on-site audits of supplying farms at least annually; and require timely correction of any established policy violations. Reliable verification programs include the USDA Process Verified Program, USDA Certified Organic, and certain independent certification regimes, such as the Global Animal Partnership.

- » Nine of the companies with policies limiting antibiotics employ independent, third-party auditors to verify that their suppliers are

adhering to the chain's requirements. These include McDonald's, Subway, Wendy's, Taco Bell, Panera, Pizza Hut, KFC, Chick-fil-A and Dunkin' Donuts. Two companies, Chipotle and Jack in the Box, received partial credit for performing their own internal audits.

- » In most cases, these companies contract with the USDA to certify their meat through the agency's Process Verified Program (PVP), which has publicly available audit standards.<sup>36</sup> A representative of the PVP program visits every production facility at least once a year to check on compliance.
- » However, Starbucks, Burger King and Papa John's do not have auditing systems in place to verify implementation of their policies.

**Companies should be open and transparent with consumers and the public about their efforts.**

- » Sixteen of the 25 companies (64 percent) responded to the Chain Reaction III survey this year (seven responded in 2015, and sixteen also responded in 2016), indicating a willingness to share information with the public about this important issue. Fourteen provided information about their policies, which we corroborated with online or public statements; they received passing grades. Dairy Queen returned a survey but does not have any policies with regard to antibiotics use so received a failing grade. Sonic returned a survey but does not have an antibiotics policy that meets our criteria (and did not respond to our attempts for clarification) so it also received an "F." Companies that failed to respond to the survey include Applebee's, Domino's, Olive Garden, Chili's, Buffalo Wild Wings, Little Caesars, Arby's, IHOP and Cracker Barrel.
- » Companies with antibiotics use policies should also keep the public informed on implementation progress. Seven companies, McDonald's, Wendy's, Subway, Taco Bell, Chick-fil-A, Panera and Chipotle, received full credit for their publicly available progress reports. Starbucks and Papa John's received partial credit for available statements that reference antibiotics use, but do not offer much detail. Burger King, Pizza Hut, Jack in the Box, Dunkin' Donuts and KFC do not yet offer any information to the public about progress in implementing their policies, nor have they made any promises to do so.

## Companies Act On Antibiotics Use In Chicken, But Lag On Beef, Pork and Turkey



*Fourteen of the top 25 restaurant chains have taken action to end routine use of medically important antibiotics in at least some of their chicken supply. But there has been much less progress in turkey, pork and beef.*

# Chain Reaction III Scorecard & Discussion

Company	Policy	Implementation	Transparency	Total Points	Total Possible Points	%-age Total	Grade*
	30	24	19	73	75	97%	<b>A</b>
	40	32	25	97	100	97%	<b>A</b>
	40	9	28	77	100	77%	<b>B+</b>
	10	2	7	19	25	76%	<b>B</b>
	10	9	14	33	50	66%	<b>B-</b>
	10	0	5	15	25	60%	<b>B-</b>
	10	8	21	39	75	52%	<b>C+</b>
	10	2	21	33	75	44%	<b>C</b>
	5	4	14	23	75	31%	<b>D+</b>
	20	0	11	31	100	31%	<b>D+</b>
	10	0	18	28	100	28%	<b>D</b>
	10	0	7	17	75	23%	<b>D</b>
	10	0	5	15	75	20%	<b>D</b>
	5	2	8	15	75	20%	<b>D</b>
	0	0	6	6	100	6%	<b>F</b>
	0	0	5	5	75	6%	<b>F</b>
      					0	0	<b>F</b>
 							

\*A comprehensive description of scoring methodology is provided in Appendix 2.



## Discussion

In Chain Reaction's third year, our priority remains to encourage companies to adopt strong policies that prohibit routine antibiotics use for growth promotion and disease prevention across all the meats they serve, even if those policies are not yet fully implemented. Our scoring reflects this priority, with 40 points out of 100 offered for good policies that include timebound commitments.

However, as more companies adopt such policies, implementation continues to be important. A total of 32 points may be earned for full implementation of good policies. In the future, we anticipate offering an even greater share of points for implementation, i.e. to companies making good on their commitments and serving meat and poultry that meets their stated antibiotics use standards.

A sound antibiotics program is also transparent with consumers and the public. A total of 28 points are offered for independent third-party verification of compliance with policies, keeping consumers regularly apprised of progress, and responding to our survey. See Appendix 2 for further discussion of scoring criteria.

### What's on Your Plate

While customers may support a company that announces plans to purchase meat and poultry raised without routine antibiotics use in the future, most are likely to be more interested in what they will find on their plates today. At Panera or Chipotle, consumers can be confident that they will find a variety of meat and poultry—chicken, turkey, pork, and beef—raised without the routine use of antibiotics. At any one of McDonald's, Taco Bell's or Subway's locations nationwide, customers can now be confident that 100 percent of the chicken ordered meets this standard. At Pizza Hut and Papa John's, any chicken used as a pizza topping is raised without routine antibiotics (but note that this policy does not apply for the chicken wings at either restaurant!). According to Wendy's, all of their chicken will be raised without medically important antibiotics by the end of 2017. And Chick-fil-A says 70 percent of their chicken will be raised without antibiotics by the year's end.



## Time for Government Action

### The federal government has failed to take adequate action on antibiotics misuse in animal agriculture

While fast food chains are playing an important role in moving poultry suppliers away from misuse of antibiotics, they are far from the only meat and poultry purchasers in the U.S. Other major buyers include grocery retailers, the foodservice industry (which provides meat and poultry to institutions such as schools, hospitals and prisons) and ordinary consumers. While market pressure seems to be causing chicken producers to shift away from excessive reliance on antibiotics, we have not yet seen similar changes in antibiotics use practices when it comes to the pork and beef industries. Voluntary company policies are unlikely to be sufficient to address the full extent of antibiotic misuse across the entire meat industry. In order to comprehensively address the problem, government intervention is needed.

Despite the clear threat to public health, however, and decades of public pressure, the U.S. government has failed to take the necessary actions to combat antibiotic misuse in the livestock industry. Legislation to phase out the meat industry's routine use of antibiotics has been stalled in Congress for years;<sup>38</sup> and action from the executive branch has been woefully inadequate.<sup>39</sup>

In 2015, the Obama Administration released a National Action Plan for Combating Antibiotic-Resistant Bacteria. On the human side of the equation, the Administration set a goal of reducing inappropriate antibiotic use in outpatient settings by half and in inpatient settings by 20 percent. It has

set numeric goals to reduce the incidence of various resistant infections, and to improve data collection in human medicine settings.<sup>40</sup>

But the Obama Administration set no national targets for reducing antibiotics use where the bulk of U.S. antibiotic sales occur—on the animal side. Instead, the Obama Administration relied on existing efforts of the Food and Drug Administration (FDA) which are embodied in the agency's Guidance 209 and 213. FDA completed these efforts at the end of 2016, after which time drug companies stopped marketing medically important antibiotics for growth promotion and producers had to have a veterinarian's order to put antibiotics in feed or water.<sup>41</sup> But FDA continues to allow medically important antibiotics use to prevent disease, so long as a veterinarian approves and FDA allows a veterinarian to write an order for all animals on a farm for up to six months.<sup>42</sup> Because antibiotic use for disease prevention can be virtually identical to use for growth promotion, this represents a giant loophole in FDA guidelines, which effectively do little to stop the misuse of antibiotics in animal agriculture.

**“This year [2017] marks the fortieth year since the FDA first acknowledged the dire threat of antibiotic-resistance and called for a reduction in the use of antibiotics in animals. All the while, the consequences have continued to grow, with the discovery last year of an antibiotic-resistant superbug in the United States that couldn't be killed by any known drug. It is beyond time for meaningful action to protect the public health and stop this in its tracks.”<sup>37</sup>**

*Congresswoman Louise Slaughter (NY-25)  
author of the Preservation of Antibiotics  
for Medical Treatment Act, which has  
stalled in Congress for 10 years*

Further, FDA is not collecting needed data on the effectiveness of its efforts. While the federal government collects information from drug companies on their sales of antibiotics for use in animals, it does not collect any data on the amount of antibiotics actually used on the farm, which may vary greatly from one producer to another, nor has



it put forward concrete proposals to collect such data. The USDA/APHIS does conduct voluntary farm surveys that include questions on antibiotic use but does not ask sufficiently specific questions to determine the amount of antibiotic used.<sup>43</sup> A recent report from the U.S. Government Accountability Office concluded that “the agencies’ 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 APHIS do not have measures to assess the impact of their actions.”<sup>44</sup>

In 2016, the FDA finally directed drug companies to estimate antibiotics sales on a species by species basis, a positive but modest step forward.<sup>45</sup>

### **States provide a policy bright spot—and could serve as a roadmap for national action**

In October 2015, California passed SB27,<sup>46</sup> making it the first state in the nation to take on the critical issue of antibiotic misuse in livestock and issue clear requirements beyond the FDA’s weak program. In May 2017, Maryland became the second state to limit antibiotics use in livestock, when the Keep Antibiotics Effective Act became law.<sup>47</sup>

Both the California and Maryland laws prohibit antibiotic use solely to speed up animal growth, or in a regular pattern for disease prevention. (Antibiotics remain available for use when animals are sick.) As a result, both state laws go beyond current federal

policy. Even for irregular preventive use, the laws require the presence of an elevated risk before medically important antibiotics can be used. These restrictions are combined with veterinary oversight.

SB27 also requires the California Department of Food and Agriculture (CDFA) to develop a monitoring program, to gather information on livestock antibiotic sales and usage, and clarifies that CDFA has the authority to collect veterinary feed directives (prescriptions for feed antibiotics) to that end. Monitoring provisions are unfortunately lacking from the Maryland law. Finally, the California law directs the CDFA to develop antibiotic stewardship guidelines and best management practices for the use of antibiotics.

Both laws are scheduled to go into effect on January 1, 2018. In California, CDFA has been working on implementation plans, but the Department needs to do much more to educate farmers about California’s new requirements, and develop clear guidance about the kinds of practices that constitute a “regular pattern” of preventive use.<sup>48</sup>

While it’s promising that these states were able to codify reform of antibiotics use in livestock production, many more states will have to act before the problem will be addressed comprehensively. Improved regulation at the national level is by far the preferable approach, although in the absence of federal action, states can have an important impact.

## Market Trends Point the Way

Consumers want information about the meat they're buying and eating. Gone are the days when it was sufficient to just know the cut of meat, grade or percent fat; today consumers increasingly want to know where the meat is from, how it was raised, what it was fed — and whether or not it was given antibiotics. Millennials and younger consumers in particular are more compelled to seek out food options that offer greater transparency about their origins and sources, whether in the grocery store or at restaurants.<sup>49</sup> A 2016 Mintel Study found that three in five consumers (59 percent) want to know the origin of beef in burgers, including 68 percent of millennials.<sup>50</sup>

While many leaders in the chicken industry have changed production practices to meet consumers' desires for chicken raised without the routine use of antibiotics, the pork, beef and turkey industries have been much slower to act.



**“For Millennial and Gen X consumers, quality means emphasizing the story of their food – where, how and by whom it is produced. More transparency about how animals are raised, and by whom, is critical to their purchase decisions.”**

—Brian Bell, *vice president, Cargill Beef North American Sales and Marketing*

### Poultry continues to lead the way

Chicken production showed strong progress again this year in moving towards responsible antibiotics use. With recent, and significant, new commitments by KFC, Burger King, Starbucks and Dunkin' Donuts, we estimate that about half of the

chicken in the U.S. today is either produced under an antibiotics stewardship program or will be before 2020, according to available data and corporate statements.<sup>51</sup>

Notable progress within the poultry industry over the past year includes:

- » In October 2016, Perdue Farms, the fourth-largest chicken producer in the United States,<sup>52</sup> became the first major chicken producer in the U.S. to eliminate use of all antibiotics in its products sold under its label, accounting for 95 percent of its production.<sup>53</sup> The company, which began the process of phasing out antibiotics use 15 years ago, credits its successful transition to no-antibiotics use to increased cleanliness and the use of vaccines, probiotics and herbs to keep its chickens healthy.<sup>54</sup>
- » In June 2017, Tyson Foods, the largest meat company in the U.S. and by far the largest processor of chicken, announced that all chicken raised for the Tyson retail brand is now grown without using any antibiotics ever. The company states this now makes them the largest processor of no-antibiotics-ever chicken in the world. It has also announced the creation of working groups to reduce the use of antibiotics in their turkey, beef and pork supply chains.<sup>55</sup>
- » In February 2017, Cargill announced that it earned Certified Responsible Antibiotics Use (CRAU) certification for turkey products to be served in U.S. schools.<sup>56</sup> Hormel-owned Jennie-O followed soon after.<sup>57</sup> CRAU prohibits routine use of antibiotics important to human medicine.<sup>58</sup>
- » In May 2017, Butterball announced a new line of eight no-antibiotics turkey products, citing consumer interest in clean eating and transparency.<sup>59</sup>
- » In August 2017, McDonald's announced a new global policy on chicken that will prohibit use of the most valuable antibiotics—ones that the WHO calls High Priority Critically Important Antibiotics—by growers that supply the company worldwide. The policy will apply in 2018 to all its suppliers in Brazil, Japan, South Korea and Canada, as of the end of 2019 to suppliers in Europe and Russia, and by 2027 to suppliers in other countries (U.S. suppliers already meet this standard.)<sup>60</sup> McDonald's did not indicate in its announcement, however, whether use of other medically important antibiotics would be prohibited, as they are in the U.S.

## What the Cluck?

Despite tremendous progress in the U.S. chicken industry toward eliminating the routine use of antibiotics, eleven of the top 25 restaurant chains received an “F” grade on the Chain Reaction Scorecard for the third consecutive year due to lack of a meaningful antibiotics policy. The absence of progress for some of these companies may be linked to a notorious holdout in the chicken industry that continues to misuse antibiotics—Sanderson Farms. Representatives from Sanderson Farms reported this year at an industry presentation that Darden (Olive Garden’s parent company), Dairy Queen, Arby’s, and Chili’s—all of which received “F’s” in this scorecard—are Sanderson customers.<sup>61</sup>

Sanderson Farms, third largest producer of chicken in the U.S., is one of the only major chicken producers that has not taken any steps away from raising animals with the routine use of antibiotics. Last year Sanderson launched a full-fledged, multi-million dollar ad campaign to defend its antibiotic use. The ads call their competitors’ no-antibiotics claims “marketing gimmicks” that attempt to “trick” consumers into paying more money for their products. Sanderson also alleges that there is no credible science connecting the use of antibiotics in chicken production to antibiotic resistance in humans.<sup>62</sup>

The report’s authors urge Olive Garden, Dairy Queen, Arby’s, Chili’s and any other restaurant buying chicken from Sanderson Farms to take a proactive step for public health and source its chicken from a supplier that has committed or is willing to commit to a responsible antibiotics use policy.

## Slow Progress on Responsible Antibiotics Policies in Beef and Pork

In contrast to the significant progress in the chicken sector, the pork and beef industries lag seriously behind in reducing antibiotic use—so much so that demand for responsibly-raised pork and beef in the U.S. seems to be outpacing domestic supply. But certain savvy restaurant chains know that their customers increasingly want meat produced without antibiotics, and if they have to, they’ll go outside U.S. borders to get it.

For example, in recent years Chipotle faced a significant challenge sourcing raised-without-antibiotics pork that also meets their high animal welfare standards in the U.S., and ultimately decided to take their business abroad. The company’s UK-based pork producers operate under a responsible

use model where treatment of sick animals is allowed but routine administration of antibiotics in feed continues to be prohibited.<sup>63</sup> Chipotle also sources some of its pork from Canadian supplier DuBreton, which is currently expanding production to meet North America’s demand for ethically-raised pork.<sup>64</sup> Meanwhile, restaurants such as Panera<sup>65</sup>, Hardee’s, and Carl’s Jr.<sup>66</sup> are currently offering menu items made with grassfed beef (which is often raised without any antibiotics) which are sourced from Australian cattle producers rather than domestic farmers.

However, some American producers are working to re-capture a share of this outsourced demand, announcing new initiatives to increase offerings of meat and poultry raised without antibiotics. In February 2017, Smithfield, the largest pork producer in the United States (though it is owned by the Chinese company Shuangui International), introduced a new line of pork raised without antibiotics, marketed under its “Pure Farms” brand. It is unclear what percentage of Smithfield’s overall supply will be raised under this program.<sup>67</sup>

While we can currently count on one hand the number of major fast food chains in the U.S. that have made commitments to eliminate antibiotics in beef or pork, that number is certain to grow as more restaurants adapt and work with their suppliers to meet consumer desire for these products. Some of the more recent commitments and transitions by chains – both big and small – are already challenging the recalcitrant meat industry to fulfill new demands for meat raised without routine antibiotics.

- » In addition to its new policy limiting antibiotics in its poultry supply chain, Starbucks reports that it intends to apply this policy to its beef and pork supplies as well – although the company has not yet announced a timeline for the transition.
- » Subway, the third largest chain in the U.S. is working to better understand opportunities and challenges in the beef and pork supply chain, and to establish interim milestones toward their 2025 implementation goal.
- » Wendy’s states that the company will commit to specific goals for the reduction of antibiotics important to humans in pork and beef production by the end of 2017.
- » McDonald’s issued a revised “Vision for Antimicrobial Stewardship in Food Animals”<sup>68</sup> that established goals for limits on antibiotic use for all the meat and poultry it serves worldwide, including beef and pork. Among the goals are

no antibiotics at all for growth promotion, no routine use of medically important antibiotics for disease prevention, and no use at all of the most valuable last-resort antibiotics, except in the case of a sick animal where all other options prove ineffective. McDonald's has not indicated how or when these goals would apply to the beef and pork it serves.

- » Although they may not fall within the 'Top 25' list featured in this scorecard, many smaller or regional chains (many of which are not small at all!) source meat and poultry raised without antibiotics. Some companies have phased in these products over the years, while others incorporated 'no antibiotics' as a bedrock of their sourcing philosophy since the day they opened their doors. For the third year, we feature a number of these companies in our 'Honorable Mentions' section. While this year's list includes new commitments on chicken by a couple of larger chains (Boston Market and Dickey's BBQ), most of the accolades go to smaller chains serving no-antibiotics beef, pork and poultry.

## Consumers call out corporate laggards and win on antibiotics

When companies are slow to act, consumers are often quick to call them out. As one of the last major chicken chains without a commitment on antibiotics use, KFC became the focus of a concerned citizens campaign last year that urged the company to adopt a policy limiting antibiotics use within its extensive supply chain.

In January 2016, more than 80 organizations sent a letter<sup>70</sup> to the CEO of Yum! Brands—parent company to KFC, Taco Bell, and Pizza Hut—calling on the company to end the routine use of medically important antibiotics in its chicken supply and make a strong, definitive public commitment to end routine antibiotics use in all its meats. Within six months, two of Yum!'s companies—Taco Bell and Pizza Hut—established antibiotics policies for the chicken served in their restaurants (though Pizza Hut's May 2016 announcement is limited to chicken used as a pizza topping, and does not apply to their chicken wings).

In April 2017, after ongoing pressure from consumer groups, KFC customers, and Yum! Brands investors, KFC finally announced a commitment to eliminate all medically important antibiotics from its chicken supply chain by the end of 2018. "We recognize that it's a growing public health concern," said KFC U.S. President Kevin Hochman. "This is something that's important to many of our customers and it's something we need to do to show relevance and modernity within our brand."

As one of the largest buyers of chicken in the U.S., KFC contracts with more than 2,000 farms across the country.<sup>71</sup> While the company may purchase only a fraction of each flock from any given farm it works with, its antibiotics policy will require suppliers to phase out medically important antibiotics from the diets of all the birds in a flock. Therefore, KFC's announcement has far-reaching implications for the chicken industry, beyond the fried breasts and legs that wind up in their striped buckets.

## Investor pressure increases

As public concern about antibiotic overuse has intensified and campaigns targeting national and regional restaurants have ramped up, pressure from the investor community has continued to increase as well.

Since the publication of Chain Reaction II a year ago, shareholder proposals focused on changing company antibiotics policies were filed by investors in Yum! Brands, Jack in the Box, Starbucks and



**“We decided this is the right thing for us to do as a business. We’re listening more and more to customers. Wouldn’t it be great to use our scale and size for good?”<sup>69</sup>**

—Marion Gross, *McDonald's senior vice president and chief supply chain officer, North America*



Burger King's parent company Restaurant Brands International. In each case, the company announced new antibiotics policies for chicken supplies; these improvements are reflected in the stronger scores earned by this group of companies on this year's Chain Reaction Scorecard. Shareholders also brought pressure to bear on Darden Restaurants, with less success. Arguing that current practices and reporting by Darden are inadequate to safeguard public health and shareholder value — and that failure to act could expose the company to competitive and reputational risk — Green Century Capital Management has filed a shareholder proposal on antibiotics use again this year.<sup>72</sup>

In 2016, As You Sow, a non-profit corporate social responsibility organization, filed a shareholder proposal calling on Sanderson Farms—a Darden supplier— to phase out the routine use of medically important antibiotics in its chicken supply.<sup>73</sup> At the company's annual meeting in February 2017, 30 percent of Sanderson Farms investors voted in support. Not long after, in May 2017, nearly 30 percent of McDonald's investors also voted in favor of a shareholder resolution filed by As You Sow and the Interfaith Center on Corporate Responsibility calling on the restaurant chain to ban routine antibiotics use across its entire meat supply.<sup>74</sup> While neither shareholder proposal garnered enough votes to force a change in company policy, these

historically high vote counts send a powerful message that investors expect company action on this critical public health issue.

Meanwhile, investor engagement in the global restaurant sector has also grown tremendously. As of June 2017, the London-based group Farm Animal Investment Risk and Return (FAIRR)<sup>75</sup> coordinates a coalition of more than 70 investors who collectively hold over \$2 trillion in combined assets under management. As of March 2017 these investors were seeking to engage at least 10 companies—including many surveyed in this report: McDonald's, The Wendy's Company, Domino's Pizza Group, Darden (owner of Olive Garden), Brinker International Restaurants (owner of Chili's Grill and Bar), Yum! Brands (owner of Taco Bell, Pizza Hut, and KFC), and Restaurant Brands International (owner of Burger King).

**“The combined force of investor and consumer concern means restaurant and food companies run substantial risks if they don't set targets to phase out routine use of antibiotics in their supply chains.”**

—Catherine Howarth,  
Chief Executive at ShareAction<sup>76</sup>



## Use of Other Growth-Promoting Agents

The Chain Reaction Scorecard aims to address the conventional meat industry’s reliance on routine use of antibiotics to ward off disease and promote faster weight gain in livestock. As restaurant chains make progress on curbing the routine use of antibiotics, there is significant concern that producers may increase use of other growth-promoting agents, such as metal compounds, hormones, and beta agonists.

The fact that these chemicals are already in use is suggested by data filed recently in a court case brought by Friends of the Earth, Center for Food Safety and the Organic Consumers Association, objecting to Sanderson Farms calling its chicken “natural.” The complaint cites USDA National Residue Program data stating that Sanderson Farms chicken contained detectable amounts of the growth hormone melengesterol acetate, the beta agonist ractopamine, and the sedative ketamine, all of which are prohibited in chicken production, as well as the antibiotic chloramphenicol which is prohibited in all food animal production.<sup>77</sup>

Like the routine use of antibiotics, use of these other agents are unnecessary in food animal production, and carry risks to animal welfare and human health. The Chain Reaction III survey included questions about policies on other growth-promoting agents in supply chains, though responses were not scored. While covered as a topic of interest below, the survey did not include questions about the use of metals.

## Metals

Producers routinely add zinc and copper to animal feed, particularly for pigs and poultry, for growth promotion, as a nutritional supplement, and sometimes to address disease.<sup>78</sup> Because zinc and copper have antimicrobial properties, exposing the gut bacteria of farm animals to low levels has been shown to increase bacterial resistance to these metals and associated co-resistance<sup>79</sup> to certain antibiotics. While further research is needed to fully assess the risks, there is concern that misuse of zinc and copper in livestock and their elevated concentrations in manure may exacerbate antibiotic resistance that is already a health concern for humans.<sup>80</sup>

## Hormones

Hormones are widely used in U.S. animal agriculture to promote growth—in two-thirds of all cattle and 90 percent of cattle on feedlots— despite concerns about potential impacts on human health. The beef industry uses six hormones—three naturally occurring hormones (estradiol, progesterone, and testosterone) and three synthetic hormones (zeranol, melengesterol acetate, and trenbolone acetate).<sup>81</sup> Scientific research into the human health effects of hormone residues in beef has not been extensive. However, Johns Hopkins University researchers reviewed the available studies on the potential risks from the use of hormone implants and feed additives in food animals; they found that the FDA’s approval of hormones continues to rely “on studies conducted decades ago by

companies seeking approval, and [which] predate current scientific understanding of relevant human health risks, such as endocrine disruption.”<sup>82</sup>

Concern over protecting consumer health and safety is what prompted the European Commission to ban the use of these hormones in beef production in Europe, effective 1989.<sup>83</sup> In 2007, after a review of available scientific evidence, the European Food Safety Authority (EFSA) concluded there is “convincing evidence for an association between the amount of red meat consumed and certain forms of hormone-dependent cancers.”<sup>84</sup> The American Public Health Association opposes use of hormone growth promoters in beef production, and urges an end to their use in food production citing the need for precaution to protect public health amid strong evidence for scientific concern.<sup>85</sup>

### Beta-Agonists

Ractopamine and zilpaterol are synthetic beta-agonist drugs commonly given to cattle, pigs, and turkeys in feed rations at the “finishing” stage to increase muscle mass and carcass weight before slaughter. These drugs have significant adverse impacts on the health of animals that receive them, and their residues have been detected on animal products that reach consumers. Studies have shown that ractopamine contributes to increased numbers of “downer” animals, a term for animals that cannot walk or stand on their own due to illness or injury; indeed, an increase in downer pigs after ractopamine

approval for pigs led FDA, in 2002, to require a label change on Paylean (ractopamine) to state “*Caution: Pigs fed Paylean are at an increased risk for exhibiting downer pig syndrome.*”<sup>86</sup> Ractopamine is linked to significant health problems and behavioral changes in animals, such as cardiovascular stress, musculoskeletal tremors, increased aggression, hyperactivity and acute toxicity.<sup>87</sup> A 2014 study of commercial cattle operations in the U.S. concluded that on feedlots giving beta agonists (including ractopamine), 40-50 percent of cattle deaths were attributable specifically to these drugs.<sup>88</sup>

Ractopamine residues have been detected on meat products at retail: a 2012 Consumers Union study tested approximately 240 pork products for ractopamine, and found residual amounts of the drug in about one-fifth of the samples tested.<sup>89</sup> Ractopamine has also been detected in water samples downstream from swine facilities.<sup>90</sup> Although studies on the human health effects of ractopamine are limited, preliminary data reviewed by the EFSA shows that ractopamine may cause elevated heart rates and heart-pounding sensations in humans, and that the drug could be riskier for people with heart issues.<sup>91</sup> At least one study showed that human bladder, kidney, and other urinary tract cells were less likely to survive following 24 hours of exposure to ractopamine at low-level doses (10 parts per billion). The researchers concluded that “long-term effects of ractopamine in the urinary tract system were evident” from both cell and animal studies.<sup>92</sup>



## Availability of Organic and Grassfed Alternatives

Many consumers seek certified organic meat and poultry, as well as grassfed beef, because of concerns about the food safety, health, animal welfare and environmental impacts associated with meat from conventional industrial facilities.<sup>93</sup> In fact, a 2016 Mintel study found that 4 out of 5 people believe that grassfed beef is healthier and 44 percent want more grassfed burgers on the menu.<sup>94</sup> The grassfed sector of the beef industry is experiencing a current annual growth rate of 25 to 30 percent,<sup>95</sup> and certified organic meat and poultry grew by an impressive 17 percent in 2016.<sup>96</sup> Under the U.S. Department of Agriculture's organic standard, antibiotics use is highly limited; sick animals must be treated with antibiotics when necessary, but treated animals cannot be sold under the organic label. Use of hormones or other synthetic chemicals for growth promotion is prohibited under the organic standard. Some independent grassfed certification systems, such as the American Grassfed Association and Certified Pasturefed in Australia, verify that beef sold under their labels comes from cattle raised on pasture and fed a diet of grass, hay, and forage, reducing the need for antibiotics. American Grassfed Association, in fact, expressly prohibits the routine use of antibiotics and growth hormones.<sup>97</sup>



**We asked the top 25 fast food restaurant chains about their policies on other growth-promoting agents, as well as the availability of organic and grassfed beef options on their menus. We received responses from sixteen companies, summarized below:**

- » Chipotle and Panera are the only companies responding to the Chain Reaction III survey that prohibit the use of hormones and beta agonists in their meat supplies.
- » Chipotle reports that grassfed beef accounts for more than half the beef it serves. Panera states that all the beef served in sandwiches and salads is grassfed. While Chili's did not return a survey, Chili's website prominently features grassfed burger options that are advertised as being raised without antibiotics and no added hormones.<sup>98</sup>
- » None of the companies that returned the Chain Reaction III survey currently serve any organic meat items.

**“There’s a lot of conventionally raised chicken out there, and the chicken processors don’t really want to move. I understand that they have a very established business model. But consumer tastes are changing, and restaurants, from QSRs [quick service restaurants] to high-end restaurants, are going in this direction. We can do better; everyone can do better. I think you’re going to see antibiotic-free and sustainable meats everywhere five years from now.”**

—Roland Dickey Jr., *CEO of Dickey’s BBQ*

## Honorable Mentions

For consumers who are looking to grab a bite out, but want to make sure they are getting meat raised without antibiotics, promising options are ever-expanding. The 2017 Honorable Mentions list features nine restaurant chains around the country (not covered in prior reports) that source meat and poultry raised without antibiotics. Some have hundreds of locations across the nation, while others are smaller and more regional – but all are doing their part to end the overuse of antibiotics in livestock production. These restaurant chains were not surveyed, as they are not among the 25 largest chains. Unless otherwise noted, information was taken from company websites.

- » **Dickey’s BBQ** — The first barbeque chain to ever make our ‘Honorable Mentions’ list, Dickey’s came out strongly in support of meat raised without antibiotics with their “No B.S.(Bad Stuff)” Initiative this past year. Currently sourcing no-antibiotics chicken for its nearly 600 restaurants in 43 states, their CEO says this policy will carry over to its beef and pork products as supply allows.<sup>99</sup>
- » **Boston Market** — This rotisserie chicken chain with 450 locations nationwide is currently 75 percent of the way towards meeting its goal of serving raised without antibiotics, and expects to achieve 100 percent by early 2018.<sup>100</sup>
- » **Cheesecake Factory** — Operating nearly 200 restaurants around the U.S., all Cheesecake Factory beef, pork and poultry is raised without antibiotics, hormones or growth promoting drugs.<sup>101</sup>
- » **Jersey Mike’s Subs** — This deli chain is now using turkey raised without antibiotics for all of its sliced turkey subs at its 1,278 locations nationwide.<sup>102</sup>
- » **Burger Lounge** — With 23 locations (most in California, one in Las Vegas), this chain lays claim to “The Original Grassfed Burger” and was happy to offer us information about its grassfed beef, turkey and chicken suppliers, all of which raise animals without the use of antibiotics.<sup>103</sup>
- » **Modern Market** — “Eat our food, feel good” says the website of this Colorado-based chain with 29 locations in CO, TX, DC and MD. Their ‘Food for Thought’ blog offers details on the companies they use to source their beef<sup>104</sup>, pork<sup>105</sup> and chicken<sup>106</sup>, all raised without antibiotics.
- » **Luna Grill** — At its 35 locations in Southern CA and the Dallas-Fort Worth area in Texas, Luna Grill serves beef and lamb that have never been administered antibiotics or hormones.
- » **Dog Haus** — Another first for the ‘Honorable Mentions’ list, this hot dog chain (which claims to be “The Absolute Wurst”) uses beef raised without hormones or antibiotics for all of its hot dogs and burgers – and recently added the Bad Mutha Clucka chicken sandwich to its menu, also raised without antibiotics. The chain currently has 25 locations around the country, with 9 more on the way.
- » **Epic Burger** — “We don’t serve cooped up cows on drugs,” says the website of this Chicago-based ‘mindful’ burger chain with 8 locations around the city that serve beef that’s humanely-raised without antibiotics or hormones.



## Recommendations

### For Restaurant Chains

- » Make firm, timebound commitments to phase out antibiotics use except for treatment of sick animals or control of an identified disease outbreak in their meat and poultry supply. It is incumbent upon major restaurant chains to engage their producers to improve animal husbandry and find safer, healthier alternatives to routine antibiotics use.
- » Expand commitments beyond chicken to all meat, including beef, pork, and turkey.
- » Improve data collection and transparency about which antibiotics are actually being used by supplying farms, in what quantities, and for what species.
- » Provide regular progress updates for customers and investors and use third-party auditors to verify progress.
- » Multinational companies, such as McDonald's, Subway, and Yum! Brands (which owns KFC, Pizza Hut and Taco Bell) should institute global sourcing policies equal to or better than what they have in the U.S. McDonald's has taken a commendable first step in this direction by establishing goals for all its meat and poultry suppliers worldwide to limit medically important antibiotics use in its supply chain, except for treatment of sick animals. McDonald's

announced its first steps in implementing this in its chicken supply in August 2017, albeit for a small group of the highest priority drugs. But superbugs can easily cross national borders. All three companies should implement comprehensive change globally as soon as possible.

### For Consumers

- » When purchasing meat, seek options raised without routine antibiotics use.
- » Wherever you eat, ask restaurant managers about their meat sourcing policies and practices and make sure they know that you're looking for options that are healthier for you, animals and the environment—including meat produced without the routine use of antibiotics and other drugs. Appendix 3 includes a summary of company policies, as well as links to published policies where available.
- » Visit the websites and social media pages of top restaurant chains and leave comments asking them to switch to meat raised without use of antibiotics and other drugs except for treatment of sick animals or an identified disease outbreak and to provide more sustainably produced alternatives like organic and grassfed meat.
- » Visit the websites of the organizations that have authored this report and join our campaigns calling on top restaurant chains to commit to better meat and poultry sourcing policies.

### **For federal regulators and state policymakers**

- » Federal regulators should prohibit all uses of antibiotics for growth promotion and disease prevention purposes. Regulators should also put in place a comprehensive system to collect farm level data on how antibiotics are used (which is currently missing), including information on amounts used, reason for use, and livestock species receiving antibiotics; and improve monitoring of resistant bacteria in food.
- » As it has with human use of antibiotics, the federal government should set a target for the reduction of antibiotic use in livestock.
- » States should adopt strong policies that replicate or build on the standards set by California and Maryland, incorporating clear language that forbids the use of antibiotics for growth promotion and disease prevention, and establishing data collection and monitoring provisions like those in California. These new states laws should be effectively implemented to ensure responsible antibiotics use in the livestock operations within those states.

### **For institutional meat buyers, including state and city school systems, hospitals and others**

- » Insist on meat from animals raised by suppliers that do not use medically important antibiotics for growth promotion or disease prevention, and who limit antibiotic use only to treatment of sick animals and, in temporary circumstances, to control a verified disease outbreak.

### **For investors**

- » Consider policies on antibiotic use in making investment decisions in fast food and restaurant chains.
- » Submit and support shareholder resolutions requiring restaurant chains and meat and poultry processors to produce and sell meat raised without antibiotics except for treatment of sick animals or to control an identified disease outbreak



## Appendix 1: Survey Methodology & Questions

The authors of this report surveyed (via email and traditional mail) the top 25 U.S. fast food and fast casual restaurant chains, as ranked by total U.S. sales, asking a series of questions about their 1) antibiotics use policy; 2) policy implementation; and 3) transparency, including verification of policy compliance via third-party audits and reporting on progress of policy implementation. The survey in its entirety can be found below.

The survey also asked restaurant companies about their meat sourcing policies and practices in two related areas: 1) use of other growth-promoting agents in meat supply chains; and 2) availability of organic meats and grassfed beef options on company menus, as organic production disallows routine antibiotics use and grassfed production discourages it. While responses to these questions are not incorporated into scorecard rankings, a discussion of these issues, as well as a summary of the survey findings, is included in the report.

In addition to reviewing survey responses, the authors examined company websites, annual 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 clarification questions via email and phone. Appendix 3 contains a summary of surveyed company policies and survey responses.

### Survey on Restaurant Meat/Poultry Procurement Policies and Antibiotics April 2017

NAME OF COMPANY<sup>[1]</sup> \_\_\_\_\_

#### ANTIBIOTICS POLICY AND IMPLEMENTATION

1. Does your company have a publicly available written policy regarding the use of antibiotics by your meat/poultry suppliers? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, please complete the table below to describe your policy; to indicate what percentage of your company's meat/poultry is currently sourced under this policy; and when you expect this policy to be fully implemented.

If this policy is published, please provide URL: \_\_\_\_\_

If unpublished, please provide a copy.

	<b>No antibiotics ever</b>	<b>No medically important* antibiotics ever</b>	<b>No routine** use of antibiotics</b>	<b>No routine use** of medically important* antibiotics</b>	<b>% of product currently compliant with company policy</b>	<b>Date of anticipated full compliance with company policy</b>
Chicken						
Turkey						
Pork						
Beef						

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

\*\* "No routine use" means no use for growth promotion and no regular or repeated use for disease prevention. Use is limited to treatment of animals diagnosed with an illness or controlling a disease outbreak.

## Appendix 1: Survey Methodology & Questions (continued)

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

Chicken \_\_\_\_\_

Turkey \_\_\_\_\_

Pork \_\_\_\_\_

Beef \_\_\_\_\_

3. Have you established interim benchmarks towards full implementation of your policy targets? If yes, please indicate what the benchmarks are for each meat category. For example, 20% implementation of chicken by 2018, 50% of pork by 2020, etc.

### REPORTING AND VERIFICATION

4. Does your company require independent third party auditing of your suppliers to verify compliance with your antibiotics policy? Yes \_\_\_\_ No \_\_\_\_

*If yes, who is your third party auditor (i.e. USDA PVP, GAP, organic certifier)? \_\_\_\_\_*

*If no, does your company do its own auditing of suppliers? If so, please describe \_\_\_\_\_*

5. Are your auditing standards publicly available? Yes \_\_\_\_ No \_\_\_\_

If yes, please provide a copy or URL of standards.

6. As part of your auditing requirements, what is the frequency of on-site visits to supplying farms?

Frequency: \_\_\_\_\_

Not required: \_\_\_\_\_

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

## Appendix 1: Survey Methodology & Questions (continued)

8. Are you currently reporting on your progress, on your website or elsewhere, at least on an annual basis, on the implementation of your policy? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, provide URL for progress report: \_\_\_\_\_

If no, and your policy is less than one year old, have you committed to issue 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 beta-agonists (i.e. ractopamine and/or zilpaterol) in your meat and poultry supply? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, please provide the policy or a URL: \_\_\_\_\_

10. Do you have a published policy prohibiting the use of the medicated feed additive carbadox in your meat 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 (no beef served) \_\_\_\_\_

If yes, please provide the policy or the URL: \_\_\_\_\_

### ALTERNATIVE AND SUSTAINABLE MEAT OPTIONS

12. Do you serve any 100% grass-fed beef items? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, how many items do you offer? What percent of your beef supply does that constitute?

13. Do you offer any certified organic items? Yes \_\_\_\_\_ No \_\_\_\_\_

If so, how many certified organic items do you offer? What percent of your meat and poultry offerings are organic?

14. Is there anything else you would like to tell us about your efforts to improve social and environmental responsibility in your supply chain?



<sup>[1]</sup> All inquiries in this survey apply to your company's U.S. locations, either company or franchise owned.

## Appendix 2: Scoring Criteria

For restaurants offering chicken, beef, turkey and pork, the Chain Reaction III Scorecard awarded a total of 100 potential points in three key categories: 1) Policy; 2) Implementation; and 3) Transparency. If a company offers only three kinds of meat or poultry, the maximum score was 75 points; two meats, the maximum was 50 points; and only one meat, the maximum 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 purchases, we did not include that category. The authors then assigned a letter grade based on the company's score as a percentage of the maximum score 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 II, but in all instances, company grades are equal to or higher than their previous results.

GRADE SCALE	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
	<19	F

### Category #1: Policy

#### Total number of potential points available: 40

The authors defined a “good” antibiotics use policy as follows: *A publicly available company policy that prohibits the use of all antibiotics, or antibiotics in classes used in human medicine, for growth promotion or disease prevention. Treatment of sick animals and temporary use to control an identified disease outbreak are acceptable.*

We awarded 7 points for each category of meat (chicken, turkey, pork, and beef) to which the good policy applied. We then awarded 3 points for each category of meat for which a company had announced a timebound 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.

Criteria #1: Good Policy	Good policy, applying to 1-4 meat categories
Chicken	7
Turkey	7
Pork	7
Beef	7
	<b>Timebound commitment for policy implementation</b>
Chicken	3
Turkey	3
Pork	3
Beef	3

## Appendix 2: Scoring Criteria (continued)

### Category #2: Implementation

**Total number of potential points available: 32**

The authors assessed the current availability of meat and/or poultry raised without routine antibiotics 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 antibiotics 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 good antibiotics 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 antibiotics use accounts for upwards of 91 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.<sup>107</sup>

Category #2: Implementation	Estimated availability of meat and/or poultry produced according to policy
15-40% of meat and/or poultry currently served	1 point per category
41-60%	2 points per category
61-75%	4 points per category
76-90%	6 points per category
91-100%	8 points per category

### Category #3: Transparency

**Total number of potential points available: 28**

The Chain Reaction III Scorecard assigns points related to a number of transparency concerns: company responsiveness to our requests for information; whether a company works with third-party auditors or purchases from meat and poultry suppliers that have third-party audits for their entire supply chains; and whether a company publishes (or plans to publish) a regular, publicly available progress update on implementation of its policy.

We offered half credit for what we considered only partial responses to our survey (answering some but not all questions). Full credit went to companies that either utilized independent third-party audits to verify compliance with their antibiotics use policy or purchased from suppliers that conducted third-party audits of their own for their entire supply chains. We gave half credit 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 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. We gave full credit 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 adjusted to reflect this—i.e. if the company earned the maximum of 28 points but sold two types of meat, its final transparency score would be 14 points. However, a company's overall letter grade was based on points earned out of the calculated maximum points possible for that company.

## Appendix 2: Scoring Criteria (continued)

<b>Category #3: Transparency</b>	
	<b>Responded to survey</b>
Partial response to survey	3
Complete response to survey	6
	<b>Third party audits</b>
Company works with independent third party auditors; or suppliers that have third party audits for entire supply chain	6
Internal audit only	3
Audit standards are public	3
	<b>Progress report</b>
Progress update is public and available online	10
If policy less than a year old, commitment to progress report	5

## Appendix 3: Summary of Company Policies & Survey Responses

Information in this Appendix concerning company ownership, number of restaurant locations and sales of fast food restaurant companies comes from QSR Magazine, *The QSR 50*, August 2016.<sup>108</sup> Information from companies included in the survey but not in the QSR article—including Applebee’s, IHOP, Olive Garden, Chili’s, Buffalo Wild Wings, and Cracker Barrel—is from other, referenced sources. Companies are listed in order of total 2015 sales, in dollars.

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:** 1 McDonald’s Plaza, Oak Brook, IL 60523

**CEO:** Stephen J. “Steve” Easterbrook

**Number of U.S. locations:** 14,259

**2015 U.S. Sales:** \$35.8 billion

**Returned the Survey:** Yes

**Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:**<sup>109</sup>

**Published policy:**

Statement on Antibiotic Use:

<http://news.mcdonalds.com/US/Media-Statements/Response-to-Antibiotics-in-Chicken>

McDonald’s Global Vision for Antimicrobial Stewardship in Food Animals:

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

**Antibiotics:**

McDonald’s website states: “In 2016, we were proud to reach our commitment to serve broiler chicken not treated with antibiotics important to human medicine as defined by the World Health Organization (“WHO”), in all U.S. McDonald’s restaurants nearly a year ahead of schedule.”

**Third Party Audits:**

For its U.S. chicken supply, McDonald’s suppliers are audited under a USDA Process Verified Program (PVP) protocol.

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed Options:** No

---

### 2. **Starbucks**

**Owned by:** Starbucks Corporation (NASDAQ: SBUX)

**Corporate headquarters:** 2401 Utah S. Seattle, WA 98134

**CEO:** Howard Schultz

**Number of U.S. locations:** 12,521

**2015 U.S. Sales:** \$13.30 billion

**Returned the Survey:** Yes

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

**Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:<sup>10</sup>**

**Published policy:**

<https://news.starbucks.com/views/animal-welfare-friendly-practices>

**Antibiotics:** Starbucks website states: "...we are engaging our suppliers to make progress toward our goal to serve only poultry raised without the routine use of medically important antibiotics in all company operated U.S. stores by 2020." In its survey response, the company also said, "We have not shared a timeline for pork or beef but are working with our suppliers."

**Third Party Audits:** Not required

**Prohibits Hormones/Growth Promoters:** Starbucks states that "eliminating the use of artificial growth hormones, and for poultry, fast growing practices" are on its list of current areas of focus in establishing a buying preference in North America to use industry best practices for animal husbandry and processing for dairy, egg, and meat production.

**Organic/Grass-fed options:** No

---

### 3. Subway

**Owned by:** Doctor's Associates, Inc.

**Corporate headquarters:** 325 Sub Way, Milford, CT 06461

**President/CEO:** Suzanne Greco

**Number of U.S. locations:** 27,103

**2015 U.S. Sales:** \$11.5 billion

**Returned the Survey:** Yes

**Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:<sup>11</sup>**

**Published policy:**

<http://www.subway.com/en-us/aboutus/socialresponsibility/sustainablesourcing#animalWelfare>

**Antibiotics:**

"Our goal is to reduce and eliminate the use of antibiotics in the food we serve. Elimination of antibiotics use in our supply chain will take time, but we are working diligently with our suppliers to find quality solutions that also ensure our high quality and food safety standards are upheld and not compromised in any way. Our plan is to eliminate the use of antibiotics in phases with the initial focus on the poultry products that we serve in the U.S. The transition to chicken products made from chicken raised without antibiotics was completed in 2016. The transition to turkey products made from turkey raised without antibiotics was started in 2016 and is expected to take 2-3 years. Supply of pork and beef products from animals raised without antibiotics in the U.S. is extremely limited. We expect our transition to take place by 2025. That said, we recognize that antibiotics are critical tools for keeping animals healthy and that they should be used responsibly to preserve their effectiveness in veterinary and human medicine. Our policy is that antibiotics can be used to treat, control and prevent disease, but not for growth promotion of farm animals. Accordingly, we are asking our suppliers to do the following:

- » Adopt, implement and comply with the U.S. Food and Drug Administration's ("FDA's") guidance for industry 209 and 213, which requires that medically important antibiotics not be used for growth promotion. Visit the FDA site to learn more.
- » Assure that all antibiotics use is overseen, pre-approved and authorized by a licensed veterinarian before they are administered to any animal.
- » Keep accurate and complete records to track use of all antibiotics.

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

- » Adhere at all times to all legal requirements governing antibiotic withdrawal times. This assures that antibiotics have been eliminated from the animals' systems at the time of slaughter.
- » Actively encourage, support and participate in research efforts focused on improving animal health while reducing antibiotics use.”

**Third Party Audits:** Subway states that its chicken suppliers are certified through the USDA Process Verified Program, and that it is currently setting up a similar program for turkey.

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed options:** No

---

### 4. **Burger King**

**Owned by:** Restaurant Brands International (NYSE:QSR)

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

**CEO:** Daniel S. Schwartz

**Number of U.S. locations:** 7,126

**2015 U.S. Sales:** \$9.53 billion

**Returned the Survey:** Yes

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

**Published policy:**

<http://www.rbi.com/Responsible-Sourcing-Commitments/Index?keyGenPage=330067>

**Antibiotics:**

Restaurant Brands International (parent company of Burger King, Popeyes and Tim Hortons) states in its 2016 Sustainability Report, “... we are committed to using chicken that is raised without the use of antibiotics important to human medicine as defined by the World Health Organization in Critically Important Antimicrobials for Human Medicine 5th Revision 2016 and we intend to meet this commitment in U.S. and Canada by the end of 2018.”

**Third Party Audits:** No audits required

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed options:** No

---

### 5. **Wendy's**

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

**Corporate headquarters:** 1 Dave Thomas Boulevard, Dublin, OH 43017

**CEO:** Todd A. Penegor

**Number of U.S. locations:** 5,722

**2015 U.S. Sales:** \$8.8 Billion

**Returned the Survey:** Yes

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

**Published policy:** <https://www.wendys.com/en-us/about-wendys/antibiotic-use-policy-and-guidelines>

**Antibiotics:** Wendy's updated its Antibiotic Use Policy in 2016, which lays out its “Replace, Reduce and

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

Refine” protocol, which includes these stated goals:

“While we are confident, based on our audits, the animals that provide food to Wendy’s today are well cared for, it is our long-term goal to find ways to phase out the use of medically important antibiotics on the farms that our suppliers source from:

- » **Chicken:** In collaboration with our chicken suppliers, we have begun the process of eliminating all antibiotics important to human medicine from chicken production. We aim to achieve this goal in 2017.
- » **Pork:** The longer lifecycle for pigs means a longer process toward antibiotic reduction. In partnership with our pork suppliers, we are committed to reducing the use of antibiotics important to human medicine and eventually eliminating use if possible.
- » **Beef:** Cattle production is especially complex and elimination of these antibiotics is harder to accomplish without compromising animal wellbeing. In collaboration with our suppliers, we know that it will take additional research to confirm new production methods that will allow for meaningful antibiotic reductions. We are actively engaged with academics and industry experts on work that includes trials for probiotics, vaccines, feed supplements and nutrition composition.
- » In 2017, we will commit to specific goals for the reduction of antibiotics important to humans in pork and beef production.”

**Third Party Audits:** In its survey, Wendy’s states, “In addition to requiring third party audits via the USDA PVP, The Wendy’s Company Quality Assurance professionals also conduct audits of our supplier’s antibiotic policies as part of our animal welfare auditing protocol.”

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed options:** No

---

### 6. **Taco Bell**

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

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

**CEO:** Brian Niccol

**Number of U.S. locations:** 6,121

**2015 U.S. Sales:** \$8.8 billion

**Returned the Survey:** Yes

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

**Published policy:**

<https://www.tacobell.com/news/statement-regarding-antibiotics>

**Antibiotics:** In March 2017, Taco Bell completed its conversion to only serve chicken raised without the use of medically important antibiotics.

**Third Party Audits:** The company requires auditing of its suppliers through the USDA PVP program.

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed options:** No

---

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

### 7. Dunkin' Donuts

**Owned by:** Dunkin' Brands (NYSE: DNKN)

**Corporate headquarters:** 130 Royall Street, Canton, MA 02021

**CEO:** Nigel Travis

**Number of U.S. locations:** 8,431 U.S.

**2015 U.S. Sales:** \$7.6 billion

**Returned the Survey:** Yes

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

**Published policy:** [http://www.dunkinbrands.com/internal\\_redirect/cms.ipressroom.com.s3.amazonaws.com/226/files/20150/Animal%20Welfare%20Policy%20for%20website.pdf](http://www.dunkinbrands.com/internal_redirect/cms.ipressroom.com.s3.amazonaws.com/226/files/20150/Animal%20Welfare%20Policy%20for%20website.pdf)

**Antibiotics:** In its July 2017 Animal Welfare Policy, Dunkin' Brands states: "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."

**Third Party Audits:** The company states that it will be requiring auditing through the USDA PVP program.<sup>112</sup>

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed options:** No

---

### 8. Chick-fil-A

**Owned by:** Privately held company

**Corporate headquarters:** 5200 Buffington Road | Atlanta, GA 30349

**CEO:** Dan T. Cathy

**Number of U.S. locations:** 1,983

**2015 U.S. Sales:** \$6.83 billion

**Returned the Survey:** Yes

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

**Published policy:** <http://www.chick-fil-a.com/Antibiotic-Free>

**Antibiotics:** In 2015 Chick-fil-A announced a new "No Antibiotics Ever" standard for its chicken, with a goal of full completion by 2020. The company states, "This means we don't allow antibiotics to be added to the feed, water or any commercial vaccines used by our suppliers. We also don't allow ionophores (which are commonly used to prevent intestinal illnesses in animals)." Chick-fil-A expects that 70% of the chicken it serves will meet this standard by the end of 2017.

**Third Party Audits:** Chick-fil-A requires independent third-party auditing of its suppliers on an annual basis. The company participates in the USDA Process Verified Program to ensure its "No Antibiotics Ever" standard is independently verified at suppliers.

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed options:** No

---

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

### 9. **Pizza Hut**

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

**Corporate headquarters:** 7100 Corporate Drive, Plano, TX 75024

**CEO:** David Gibbs

**Number of U.S. locations:** 7,822

**2015 U.S. Sales:** \$5.7 billion

**Returned the Survey:** Yes

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

**Published policy:**

<http://blog.pizzahut.com/press-center/pizza-hut-announces-new-food-commitments-launches-microsite-dedicated-to-food-you-feel-good-about-story/>

**Antibiotics:** In March 2017, Pizza Hut eliminated all antibiotics important to human medicine from chicken used for its pizza toppings. The commitment does not include the chicken the company sources for its wings.

**Third Party Audits:** The company reports that it requires independent third party auditing of its suppliers to verify compliance with its antibiotics policy via the USDA PVP program.

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed options:** No

---

### 10. **Domino's**

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

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

**CEO:** J. Patrick Doyle

**Number of U.S. locations:** 7,822 U.S.

**2015 U.S. Sales:** \$5.70 billion

**Returned the Survey:** No

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

**Published policy:**

Corporate Stewardship Report available for download here:

<http://phx.corporate-ir.net/phoenix.zhtml?c=135383&p=irol-socialcommitment>

**Antibiotics:**

In its 2016 Corporate Stewardship Report, Domino's states: "We are pleased to say that beginning in 2018, we will be serving chicken in the U.S. that is free of antibiotics that are important for human health." However, the company did not return our survey, nor did they answer our requests for confirmation or clarification of this policy.

**Third Party Audits:** Not found

**Prohibits Hormones/Growth Promoters:** Not found

**Organic/Grassfed options:** Not found

---

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

### 11. Applebee's

**Owned by:** DineEquity, Inc. (NYSE: DIN)

**Corporate headquarters:** 450 North Brand Boulevard, Glendale, CA 91203

**CEO:** John Cywinski

**Number of U.S. locations:** 1,858<sup>113</sup>

**2015 U.S. Sales:** \$4.4 billion

**Returned the Survey:** No

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

No publicly available information about Applebee's approach to antibiotics use in its U.S. supply chain was found.

---

### 12. Panera Bread

**Owned by:** Panera Bread Company (NASDAQ: PNRA)

**Corporate headquarters:** 3630 South Geyer Rd, Suite 100, St Louis, MO 63127

**CEO:** Ronald M. Shaich

**Number of U.S. locations:** 1,972

**2015 U.S. Sales:** \$4.9 billion

**Returned the Survey:** Yes

**Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:<sup>114</sup>**

**Published policies:**

Animal Welfare Update: <https://www.panerabread.com/panerabread/documents/press/2016/animal-welfare-our-beliefs-12-20-2016.pdf>

Food Policy: <https://www.panerabread.com/content/dam/panerabread/documents/nutrition/panerabread-food-policy.pdf>

**Antibiotics:**

In the returned survey, Panera reports that 100% of its chicken and turkey are raised without the use of antibiotics, as is 91% of its pork. Regarding its beef, the company stated: "Our 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."

**Third Party Audits:** Panera requires independent third-party of its suppliers on an annual basis to verify compliance with your antibiotics policy. Panera's auditing standards are not publicly available.

**Prohibits Hormones/Growth Promoters:**

"Subtherapeutic use of growth hormones, ionophores, beta agonists, arsenic and sulfa drugs, or other medicines intended to promote growth or prevent disease are prohibited."

"Hormone implants and hormone feed additives are prohibited under our beliefs statement. That said, we are still working on implementation within our beef supply. Our beef comes from Australia where it is grass-fed and finished and our supplier has confirmed that these cattle do not receive hormone feed additives. Moreover, they confirmed that hormone implants are mainly used for animals going to feedlots, so use of implants in our grass fed beef is thought to be minimal."

**Organic/Grassfed options:**

"All of the beef in our salads and sandwiches is grass-fed and finished."

### 13. **Chipotle**

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

**Corporate headquarters:** 1401 Wynkoop Street #500, Denver, CO 80202

**CEO:** Steve Ells

**Number of U.S. locations:** 1,971

**2015 U.S. Sales:** \$4.5 billion

**Returned the Survey:** Yes

**Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:**<sup>15</sup>

**Published policy:**

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

<https://www.chipotle.com/pork-details>

**Antibiotics:**

Stated on Chipotle website: “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 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.”

**Third Party Audits:** “We have a team of in-house auditors that routinely visit farms, feed yards, and processing facilities to ensure adherence to Chipotle’s Standards. We have implemented a residue screening program on all of our beef and are in the process of implementation of screening with our pork suppliers.”

**Prohibits Hormones/Growth Promoters:** Does not allow the use of beta agonists, carbadox or added hormones.

**Organic/Grassfed options:** The company reports that more than 50% of their beef supply is grassfed.

---

### 14. **Sonic**

**Owned by:** Sonic Corp. (NASDAQ: SONC)

**Corporate headquarters:** 300 Johnny Bench Drive, Oklahoma City, OK 73104

**CEO:** J. Clifford Hudson

**Number of U.S. locations:** 3,526

**2015 U.S. Sales:** \$4.5 billion

**Returned the Survey:** Yes

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

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

**Antibiotics:** The company website states: “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.

Per FDA Guidance 209 and 213, suppliers should not use medically important antimicrobials in food animals for production purposes; suppliers are also required to bring the therapeutic uses of such

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

antimicrobials under the oversight of licensed veterinarians.”

**Third Party Audits:** No

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed options:** No

---

### 15. **KFC**

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

**Corporate headquarters:** 1441 Gardiner Lane, Louisville, KY 40213

**CEO:** Roger Eaton

**Number of U.S. locations:** 4,270

**2015 U.S. Sales:** \$4.3 billion

**Returned the Survey:** Yes

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

**Published policy:**

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

<http://chickenchattin.kfc.com/kfc-chickens-free-of-human-antibiotics/>

**Antibiotics:** In April 2017, the company announced that all chicken purchased by KFC U.S. will be raised without antibiotics important to human medicine by the end of 2018.

**Third Party Audits:** Chicken producers will be audited by the USDA PVP program.

**Prohibits Hormones/Growth Promoters:** KFC notes: “Our chicken is free of added hormones and steroids. In fact, FDA regulations prohibit the addition of hormones in poultry in the U.S.”

**Organic/Grassfed options:** No

---

### 16. **Olive Garden**

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

**Corporate headquarters:** 1000 Darden Center Drive, Orlando, FL 32837

**President:** David George; **CEO of Darden:** Gene Lee

**Number of U.S. locations:** 837<sup>116</sup>

**2015 U.S. Sales:** \$3.8 billion

**Returned the Survey:** No

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

**Published policy:**

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

**Antibiotics:** Darden Restaurants “supports the FDA guidelines which recommend that by the end of 2016, antibiotics that are medically important in human medicine be phased out from use with farm animals for growth purposes, and shared-class antibiotics (i.e., those used for both humans and animals) only be used for the treatment of disease in farm animals under the supervision of a veterinarian. All of our land-based protein supply will meet these guidelines by December 2016.”

**Third Party Audits:** Not found

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

**Prohibits Hormones/Growth Promoters:** Not found

**Organic/Grassfed options:** Not found

---

### 17. **Chili's Grill and Bar**

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

**Corporate headquarters:** 6820 LBJ Freeway, Dallas, TX 75240

**CEO:** Wyman Roberts

**Number of U.S. locations:** 1,596<sup>117</sup>

**2015 U.S. Sales:** \$2.75 billion<sup>118</sup>

**Returned the Survey:** No

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

**Published policy:**

[http://brinker.com/commitment/food\\_quality.html](http://brinker.com/commitment/food_quality.html)

**Antibiotics:** Brinker International “support[s] the action that FDA is taking to eliminate the use of medically important antibiotics for growth promotion and feed conversion” and that “antibiotics should be available as a course of treatment as long as they are prescribed by a doctor or veterinarian.” The company has promised to continue to work with our suppliers to ensure that antibiotics are used judiciously and only when necessary so that their effectiveness is maintained.”<sup>119</sup>

**Third Party Audits:** Not found

**Prohibits Hormones/Growth Promoters:** Not found

**Organic/Grass-fed options:** In 2016, Chili's Grill and Bar added a grass-fed burger option that is described as “antibiotic free and has no added hormones.”<sup>120</sup>

---

### 18. **Buffalo Wild Wings**

**Owned by:** Buffalo Wild Wings, Inc. (NASDAQ: BWLD)

**Corporate headquarters:** 5500 Wayzata Boulevard, Suite 1600, Minneapolis, Minnesota 55416

**CEO:** Sally Smith

**Number of U.S. locations:** 1,223<sup>121</sup>

**2015 U.S. Sales:** \$3.5 billion

**Returned the Survey:** No

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

No publicly available information about Buffalo Wild Wings' approach to antibiotics use in its U.S. supply chain was found.

---

### 19. **Little Caesars**

**Owned by:** Illitch Holdings, Inc.

**Corporate headquarters:** 2211 Woodward Ave, Detroit, MI 48201

**CEO:** David Scrivano

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

**Number of U.S. locations:** 4,237

**2015 U.S. Sales:** \$3.45 billion

**Returned the Survey:** No

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

No publicly available information about Little Caesars' approach to antibiotics use in its U.S. supply chain was found.

---

### 20. Dairy Queen

**Owned by:** International Dairy Queen, Inc. (owned by Berkshire Hathaway Inc. NYSE: BRKA and BRKB)

**Corporate headquarters:** 7505 Metro Boulevard, Edina, MN 55439

**CEO:** John Gainor

**Number of U.S. locations:** 4,511

**2015 U.S. Sales:** \$3.5 billion

**Returned the Survey:** Yes

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

Dairy Queen responded to our survey stating they do not have a policy on antibiotic use but that their suppliers "must have policies in place that manage use of antibiotics in the animals in their supply chain."

**Third Party Audits:** No

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grassfed options:** No

---

### 21. Arby's

**Owned by:** Roark Capital Group and The Wendy's Company

**Corporate headquarters:** 1155 Perimeter Center West, Atlanta, GA 30338

**CEO:** Paul Brown

**Number of U.S. locations:** 3,228

**2015 U.S. Sales:** \$3.5 billion

**Returned the Survey:** No

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

**Published policy:**

[http://arbys.com/desktop/images/corporate\\_responsibility/Arbys\\_CSR.pdf](http://arbys.com/desktop/images/corporate_responsibility/Arbys_CSR.pdf)

**Antibiotics:** In its 2016 Corporate Responsibility Report, Arby's stated that it would "begin transitioning to serving only chicken raised without antibiotics important to human health" in 2017. Since that time, however, there have been no additional public updates on progress towards this goal.

---

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

### 22. Jack in the Box

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

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

**CEO:** Leonard Comma

**Number of U.S. locations:** 2,249

**2015 U.S. Sales:** \$3.4 billion

**Returned the Survey:** Yes

**Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:**<sup>122</sup>

**Published policy**

<http://www.jackintheboxinc.com/assets/AW-033017-b.pdf>

**Antibiotics:**

Jack in the Box updated its policy in March 2017, stating: “Jack in the Box does not purchase poultry that has received antibiotics important to human health for purposes of growth promotion or feed efficiency. Additionally, we are working with our suppliers to eliminate other routine uses of medically important antibiotics in poultry, including disease prevention, by 2020. The use of medically important antibiotics to treat sick animals or where a heightened risk of disease mandates their prescription for the wellbeing of the flock is acceptable to us if carried out under veterinary supervision.”

**Third Party Audits:** No

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grass-fed options:** No

---

### 23. International House of Pancakes (IHOP)

**Owned by:** DineEquity (NYSE: DIN)

**Corporate headquarters:** 450 N. Brand Boulevard, 7th Floor, Glendale, California 91203

**CEO:** Julia Stewart

**Number of U.S. locations:** 1,637<sup>123</sup>

**2016 U.S. Sales:** \$2.9 billion

**Returned the Survey:** No

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

No publicly available information about IHOP’s approach to antibiotics use in its U.S. supply chain was found.

---

## Appendix 3: Summary of Company Policies & Survey Responses (cont.)

### 24. Cracker Barrel

**Owned by:** Cracker Barrel Old Country Store, Inc. (public: CBRL)

**Corporate headquarters:** 305 Hartmann Drive, Lebanon, TN 37087

**CEO:** Sandra B. Cochran

**Number of U.S. locations:** 640<sup>124</sup>

**2015 U.S. Sales:** \$2.9 billion

**Returned the Survey:** No

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

**Published policy:**

<https://www.crackerbarrel.com/about/food-with-care>

**Antibiotics:** The Cracker Barrel website states: “We use chicken and turkey raised without human grade medically important antibiotics, and the same will be true for all of our beef and pork by January 2017.” However, the company did not return our survey, nor did they answer our requests for confirmation or clarification of this policy.

**Third Party Audits:** Not found

**Hormones/Growth Promoters:** Not found

**Organic/Grass-fed options:** Not found

---

### 25. Papa John's Pizza

**Owned by:** Papa John's International, Inc. (NASDAQ: PZZA)

**Corporate headquarters:** 2002 Papa John's Boulevard, Louisville, KY 40299

**CEO:** John Schnatter

**Number of U.S. locations:** 3,388

**2015 U.S. Sales:** \$2.88 billion

**Returned the Survey:** Yes

**Information concerning meat sourcing as reported in disclosed policies, public statements, publicly available information or correspondence with the authors:<sup>125</sup>**

**Published policy:**

<http://ir.papajohns.com/releasedetail.cfm?releaseid=980393>

**Antibiotics:** Papa John's completed transition to grilled chicken pizza toppings and chicken poppers from poultry raised without human and animal antibiotics in July 2016.

**Third Party Audits:** No

**Prohibits Hormones/Growth Promoters:** No

**Organic/Grass-fed options:** No

## Endnotes

- 1 U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, "Antibiotic Resistance Threats in the United States, 2013" <https://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf#page=6>
- 2 'Medically important antibiotics' or 'antibiotics important to human medicine' refers to antibiotics that are the same as, or similar to, classes of drugs used in human medicine. For example, the antibiotic tylosin, used in livestock, is a member of the medically important macrolide class of antibiotics.
- 3 Calculated from the following: Human use of antibiotics in 2011: 3,289,176 kg (see Table 1, pg. 5 in <https://www.fda.gov/downloads/Drugs/DrugSafety/InformationbyDrugClass/UCM319435.pdf>) Animal use for medically important antibiotics in 2011: 8,255,697 kg (see Table 10, pg 42 in <https://www.fda.gov/downloads/ForIndustry/UserFees/AnimalDrugUserFeeActADUFA/UCM476258.pdf>)
- 4 National Chicken Council, "Domestic Market Segments," accessed August 24, 2017 <http://www.nationalchickencouncil.org/about-the-industry/statistics/domestic-market-segments/>
- 5 Bomkamp, S., "McDonalds, fast-food chains find antibiotic-free beef, pork hard to deliver," Chicago Tribune, April 18, 2017, <http://www.chicagotribune.com/business/ct-mcdonalds-kfc-antibiotics-0418-biz-20170417-story.html>
- 6 Appendix 2 describes the scoring and grading methodology for this Scorecard.
- 7 Calculated from: Franchise Help, "Fast Food Industry Analysis 2017 - Cost & Trends," accessed August 24, 2017 <https://www.franchisehelp.com/industry-reports/fast-food-industry-report/>
- 8 Chain Reaction (2015), [http://webiva-downton.s3.amazonaws.com/877/d8/f/6472/FOE\\_ChainReactionReport.pdf](http://webiva-downton.s3.amazonaws.com/877/d8/f/6472/FOE_ChainReactionReport.pdf) Chain Reaction II (2016), [http://webiva-downton.s3.amazonaws.com/877/d7/a/9142/1/NRDC\\_ChainReaction2\\_Report.pdf](http://webiva-downton.s3.amazonaws.com/877/d7/a/9142/1/NRDC_ChainReaction2_Report.pdf)
- 9 "Routine antibiotic use" means use for growth promotion and/or in a regular or repeated pattern for disease prevention.
- 10 "Superbugs: Why we need action now," World Health Organization, September 21, 2016, <http://www.who.int/mediacentre/commentaries/superbugs-action-now/en/>
- 11 "Antimicrobial Resistance in Food and Agriculture," Food and Agriculture Organization of the United Nations, Fact Sheet, April 2017, <http://www.fao.org/3/a-i7138e.pdf>
- 12 "Antibiotic Resistance Threats in the United States, 2013," U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, <https://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf#page=6>
- 13 Ibid.
- 14 See pg. 11 in O'Neill, J Chair. 2016. Tackling Drug-Resistant Infections Globally: Final Report and Recommendations. At: [https://amr-review.org/sites/default/files/160525\\_Final%20paper\\_with%20cover.pdf](https://amr-review.org/sites/default/files/160525_Final%20paper_with%20cover.pdf)
- 15 <http://www.un.org/pga/71/2016/09/21/press-release-hl-meeting-on-antimicrobial-resistance/>
- 16 Antibiotics misuse in animals refers to the routine use of antibiotics for growth promotion or disease prevention rather than when animals are sick.
- 17 Katherine E. Fleming-Dutra, MD, "Prevalence of Inappropriate Antibiotic Prescriptions Among U.S. Ambulatory Care Visits, 2010-2011, The Journal of the American Medical Association, May 3, 2016, <http://jama.jamanetwork.com/article.aspx?articleid=2518263>
- 18 Calculated from the following: Human use of antibiotics in 2011: 3,289,176 kg (see Table 1, pg. 5 in <https://www.fda.gov/downloads/Drugs/DrugSafety/InformationbyDrugClass/UCM319435.pdf>) Animal use for medically important antibiotics in 2011: 8,255,697 kg (see Table 10, pg 42 in <https://www.fda.gov/downloads/ForIndustry/UserFees/AnimalDrugUserFeeActADUFA/UCM476258.pdf>)
- 19 Food and Drug Administration Department of Health and Human Services, "2015 Summary Report on Antimicrobials Sold or Distributed for Use in Food Producing Animals," December 2016, <https://www.fda.gov/downloads/ForIndustry/UserFees/AnimalDrugUserFeeActADUFA/UCM534243.pdf>
- 20 See Table 11a, pg. 44 in <https://www.fda.gov/downloads/ForIndustry/UserFees/AnimalDrugUserFeeActADUFA/UCM534243.pdf>
- 21 Brooks, J. et al., "Microbial and antibiotic-resistant constituents associated with biological aerosols and poultry litter within a commercial poultry house," Science of the Total Environment, vol. 408, 2010, pp. 4770-4777. At: <https://pubag.nal.usda.gov/pubag/downloadPDF.xhtml?id=45600&content=PDF>; Gibbs, S. et al., "Isolation of antibiotic-resistant bacteria from the air plume downwind of a swine confined or concentrated animal feeding operation," Environmental Health Perspectives, vol. 114, 2006, pp. 1032-1037 At: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1513331/pdf/ehp0114-001032.pdf>; Zhong, Z. et al., "REP-PCR tracking of the origin and spread of airborne Staphylococcus aureus in and around chicken house," Indoor Air, vol. 19, 2009, pp. 511-516 At: [https://www.researchgate.net/publication/38021253\\_REP-PCR\\_tracking\\_of\\_the\\_origin\\_and\\_spread\\_of\\_airborne\\_Staphylococcus\\_aureus\\_in\\_and\\_around\\_chicken\\_house](https://www.researchgate.net/publication/38021253_REP-PCR_tracking_of_the_origin_and_spread_of_airborne_Staphylococcus_aureus_in_and_around_chicken_house); Rule, A., Evans, S., and Silbergeld, E., "Food animal transport: A potential source of community exposures to health hazards from industrial farming (CAFOs)," Journal of Infection and Public Health, vol. 1, 2008, pp. 33-39 At: <https://ehp.niehs.nih.gov/wp-content/uploads/123/4/ehp.1408555.acco.pdf>; Letourneau, V., et al., "Human pathogens and tetracycline-resistant bacteria in bioaerosols of swine confinement buildings and in nasal flora of hog producers," International Journal of Hygiene and Environmental Health, vol. 213, 2010, 444-449. At: [http://www.academia.edu/14173516/Human\\_pathogens\\_and\\_tetracycline-resistant\\_bacteria\\_in\\_bioaerosols\\_of\\_swine\\_confinement\\_buildings\\_and\\_in\\_nasal\\_flora\\_of\\_hog\\_producers](http://www.academia.edu/14173516/Human_pathogens_and_tetracycline-resistant_bacteria_in_bioaerosols_of_swine_confinement_buildings_and_in_nasal_flora_of_hog_producers)
- 22 Sanford, J. et al., "Occurrence and diversity of tetracycline resistance genes in lagoons and groundwater underlying two swine production facilities," Applied and Environmental Microbiology, vol. 67, 2001, pp. 1494-1502 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC92760/pdf/am001494.pdf>; Campagnolo, E., et al., "Antimicrobial residues in animal waste and water resources proximal to large-scale swine and poultry feeding operations," The Science of the Total Environment, vol. 299, 2002, pp. 89-95; Li, X. et al., "Antibiotic-resistant E. coli in surface water and groundwater in dairy operations in Northern California," Environmental Monitoring and Assessment, vol. 186, 2014, pp. 1253-1260 <https://link.springer.com/article/10.1007/s10661-013-3454-2>;
- 23 Wichmann, F. et al., "Diverse antibiotic resistance genes in dairy cow manure," MBio, vol. 2, 2014, pp. 1-35, At: <http://mbio.asm.org/content/5/2/e01017-13.full.pdf>; Marti, R., et al., "Safely coupling livestock and crop production systems: how rapidly do antibiotic resistance genes dissipate in soil following a commercial application of swine or dairy manure?" Applied and Environmental Microbiology, vol. 10, 2014, pp. 3258-3265. At: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4018915/pdf/zam3258.pdf>
- 24 Consumer Reports, "Making the World Safe from Superbugs," January 2016 At: <https://www.consumerreports.org/cro/health/making-the-world-safe-from-superbugs/index.htm>
- 25 Price, L. et al., "Elevated risk of carrying gentamicin-resistant Escherichia coli among U.S. poultry workers," Environmental Health Perspectives, vol. 115, 2007, pp. 1738-1742. At: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2137113/pdf/ehp0115-001738.pdf>; Rinsky, J. et al., "Livestock-associated methicillin and multidrug resistant Staphylococcus aureus is present among industrial, not antibiotic-free livestock operation workers in North Carolina," PLOS One, vol. 8, 2013, pp. e67641, doi:10.1371/journal.pone.0067641. At: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0067641&type=printable>; Huijsdens, X., et al., "Community-acquired MRSA and pig-farming," Annals of Clinical Microbiology and Antimicrobials, vol. 5, 2006, pp. 1-4. At: <https://ann-clinmicrob.biomedcentral.com/articles/10.1186/1476-0711-5-26>; Voss, A., et al., "Methicillin-resistant Staphylococcus aureus in pig farming," Emerging Infectious Diseases, vol. 11, 2005, pp. 1965-1966. At: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3367632/>

- pdf/05-0428.pdf; Denis, O., et al., "Methicillin resistant Staphylococcus aureus ST398 in swine farm personnel, Belgium" Emerging Infectious Diseases, vol 15.7, 2009, 1098-1101 [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2744256/pdf/08-0652\\_finalD.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2744256/pdf/08-0652_finalD.pdf); Gomez E. et al., "Streptococcus suis-Related Prosthetic Joint Infection and Streptococcal Toxic Shock-Like Syndrome in a Pig Farmer in the United States," Journal of Clinical Microbiology, vol. 52, 2014, pp. 2254-2258 <http://jcm.asm.org/content/52/6/2254.full.pdf>; Wertheim, H. F., et al., "Streptococcus suis: An Emerging Human Pathogen," Clinical Infectious Diseases, vol. 48, 2009, pp. 617-625. At: <https://academic.oup.com/cid/article/48/5/617/388486>
- 26 Chang, Q., et al., "Antibiotics in agriculture and the risk to human health: how worried should we be?" Evolutionary Applications, 2014, pp. 1-8. At: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4380918/pdf/eva0008-0240.pdf>
- 27 "Positions of Medical & Scientific Organizations on Antibiotic Use in Livestock Operations," NRDC Fact Sheet, February 2014, <https://www.nrdc.org/sites/default/files/saving-anitbiotics-med-quotes-FS.pdf>
- 28 Nontherapeutic Use of Antimicrobial Agents in Animal Agriculture: Implications for Pediatrics Jerome A. Paulson, Theoklis E. Zaoutis, THE COUNCIL ON ENVIRONMENTAL HEALTH, THE COMMITTEE ON INFECTIOUS DISEASES Pediatrics Dec 2015, 136 (6) e1670-e1677; DOI: 10.1542/peds.2015-3630. At: <http://pediatrics.aappublications.org/content/pediatrics/early/2015/11/11/peds.2015-3630.full.pdf>
- 29 World Health Organization, Food and Agriculture Organization of the United States, World Organisation for Animal Health, "Antibiotic Resistance What the Agriculture Sector Can Do," <http://www.who.int/mediacentre/events/2015/world-antibiotic-awareness-week/infographics-agriculture.jpg?ua=1>
- 30 Sun, Lena. "Updated: Superbug found in Illinois and South Carolina," Washington Post, June 15 2016, <https://www.washingtonpost.com/news/to-your-health/wp/2016/06/14/superbug-found-in-second-pig-sample-in-u-s/>
- 31 Steenhuyzen, Julie. "Researchers may have found second 'superbug' gene in U.S. Patient," Reuters, June 27, 2016, <http://www.reuters.com/article/us-health-antibiotic-resistance-idUSKCN0ZD28W>
- 32 Wang, Y., et al., "Comprehensive resistome analysis reveals the prevalence of NDM and MCR-1 in Chinese poultry production," Nature Microbiology, vol. 2, article 16260. At: <http://www.cfsa.net.cn:8033/UploadFiles/news/upload/2017/2017-02/18088d0f-e0ba-4789-88de-fb01db72a14a.pdf>
- 33 Largest 25 companies are determined by U.S. sales volume based on "2016 Top 100: U.S. Chain Systemwide Sales" from Nation's Restaurant News. This year Denny's dropped below our cutoff and was replaced by Cracker Barrel.. See: <http://www.nrn.com/us-top-100/2016-top-100-restaurant-chain-countdown/gallery?slide=1> (accessed August 4, 2017)
- 34 World Health Organization, Critically Important Antimicrobials for Human Medicine, 2016, <http://www.who.int/foodsafety/publications/antimicrobials-fourth/en/>
- 35 See: <http://corporate.mcdonalds.com/content/dam/AboutMcDonalds/2.0/pdfs/sustainability/McDonalds-Global-Vision-for-Antimicrobial-Stewardship-in-Food.pdf>
- 36 See: <https://www.ams.usda.gov/services/auditing/process-verified-programs>
- 37 Press release, "Rep. Slaughter, Only Microbiologist in Congress, Introduces Legislation to Save Antibiotics," March 15, 2017, <https://louise.house.gov/media-center/press-releases/rep-slaughter-only-microbiologist-congress-introduces-legislation-save>
- 38 Starting in 2007, the Preserving Antibiotics for Medical Treatment Act (PAMTA) has been introduced in the U.S. House of Representatives in each successive Congress. PAMTA would require FDA to phase out the routine use of medically important antibiotics in food animals unless the drug maker could show a specific use was safe with respect to resistance. Similar legislation has been introduced in the Senate as well.
- 39 Carmen Cordova and Avinash Kar, "FDA's Efforts Fail to End Misuse of Livestock Antibiotics," NRDC Fact Sheet, <https://www.nrdc.org/sites/default/files/fda-guidance-213.pdf>
- 40 See: <https://www.hhs.gov/ash/advisory-committees/paccarb/index.html>
- 41 See: <https://www.fda.gov/animalveterinary/newsevents/cvmupdates/ucm535154.htm>
- 42 FDA Guidance for Industry #209 <https://www.fda.gov/downloads/AnimalVeterinary/GuidanceComplianceEnforcement/GuidanceforIndustry/UCM216936.pdf>; FDA Guidance for Industry #213 <https://www.fda.gov/downloads/AnimalVeterinary/GuidanceComplianceEnforcement/GuidanceforIndustry/UCM299624.pdf>
- 43 USDA. Antimicrobial Resistance Action Plan June 2014. (Appendix 5). See:<https://www.usda.gov/sites/default/files/documents/usda-antimicrobial-resistance-action-plan.pdf>
- 44 <https://www.gao.gov/assets/690/683130.pdf>
- 45 Food and Drug Administration Final Rule, "Antimicrobial Animal Drug Sales and Distribution Reporting," Federal Register, May 11, 2015, <https://www.federalregister.gov/articles/2016/05/11/2016-11082/antimicrobial-animal-drug-sales-and-distribution-reporting>
- 46 California Legislative Information, SB-27 Livestock: use of antimicrobial drugs. (2015-2016), [http://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=201520160SB27](http://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB27)
- 47 Keep Antibiotics Effective Act of 2017 <http://mgaleg.maryland.gov/webmg/frmMain.aspx?id=sb0422&stab=01&pid=billpage&tab=subject3&ys=2017rs>
- 48 See: <https://www.cdfa.ca.gov/ahfss/AUS/AnimalHealth.html>
- 49 Gazdziak, S., "2016 Consumer Trends Report: Searching for a Story," The National Provisioner, Nov. 13, 2015, <http://www.provisioneronline.com/articles/102563-consumer-trends-report-searching-for-a-story>
- 50 Mintel: Three in five consumers love burgers on the menu, Refrigerated and Frozen Foods, May 19th, 2016, <http://www.refrigeratedfrozenfood.com/articles/90922-mintel-three-in-five-consumers-love-burgers-on-the-menu>
- 51 WATT PoultryUSA's 2017 top broiler companies, WATT PoultryUSA survey, 2016 <http://www.wattpoultryusa-digital.com/201703/index.php#/18> (subscription needed)
- 52 Thornton, G., "Top 10 U.S. Chicken Producers Grown in New Directions,," Watt Poultry USA, March 2016, <http://www.wattpoultryusa-digital.com/201603/index.php?pageSet=9#/>
- 53 Perdue Farms, "First Major Poultry Company to Eliminate Routine Use of All Antibiotics," Perdue Farms Newsroom, October 7, 2016, <http://www.perdufarm.com/news/press-releases/first-major-poultry-company-to-eliminate-routine-use-of-all-antibiotics/>
- 54 Kowitz, B., "Why Perdue is the Biggest User of Baby Wipes," Fortune, October 6, 2016. <http://fortune.com/2016/10/06/perdue-biggest-baby-wipes-user/>
- 55 Tyson Foods, "Antibiotic Use," Tyson Foods Position Statements. Accessed August 10, 2017 <http://www.tysonfoods.com/media/position-statements/antibiotic-use>
- 56 "Shady Brook Farms becomes first turkey brand to meet Certified Responsible Antibiotics Use (CRAU) standards" <https://www.cargill.com/2017/shady-brook-farms-becomes-first-turkey-brand-to-meet-crau>
- 57 USDA AMS Official Listing of Approved Certified Responsible Antibiotic Use Programs: <https://www.ams.usda.gov/sites/default/files/media/>

Official%20Listing%20of%20Approved%20Certified%20Responsible%20Antibiotic%20Use%20FOCUS.pdf

- 58 See: <https://www.ams.usda.gov/services/auditing/crau>
- 59 "Butterball Foodservice Launches Line of No-Antibiotics-Ever Turkey," Butterball press release, May 16, 2017 <http://www.butterballfoodservice.com/press-release/butterball-foodservice-launches-line-of-no-antibiotics-ever-turkey/>
- 60 See: <http://news.mcdonalds.com/us/media-statements/response-to-antibiotics-in-chicken>
- 61 Sanderson Farms, presentation to Jefferies Consumer Conference, June 20, 2017, [http://files.shareholder.com/downloads/ABEA-6BBVPE/5219981059x0x946726/59191FA3-626E-47D4-978A-FB06D778254B/Jefferies\\_-\\_20170620.pdf](http://files.shareholder.com/downloads/ABEA-6BBVPE/5219981059x0x946726/59191FA3-626E-47D4-978A-FB06D778254B/Jefferies_-_20170620.pdf)
- 62 Strom, S., "Poultry Producer Sanderson Farms Stands Its Ground: It's Proud to Use Antibiotics," New York Times, August 1, 2016, <https://www.nytimes.com/2016/08/02/business/poultry-producer-sanderson-farms-stands-its-ground-its-proud-to-use-antibiotics.html?mcubz=1>
- 63 "Carnitas is Back," Online statement by Chipotle, accessed August 11, 2017, <https://www.chipotle.com/pork-details>
- 64 Lammers-Herps, H., "DuBreton Porks bets on organic and Certified Humane niche markets," Ontario Hog Farmer, January 18, 2017, accessed via DuBreton News, <http://www.dubreton.com/en/news/they-talk-about-us-1/dubreton-porks-bets-on-organic-and-certified-humane-niche-markets>
- 65 Information provided to authors by Panera in 2017 Survey on Restaurant Meat/Poultry Procurement Policies & Antibiotics
- 66 Matsumoto, N., "The Grassfed Burger Gap," Civil Eats, June 14, 2016, <http://civileats.com/2016/06/14/the-grassfed-burger-gap/>
- 67 See: <http://www.smithfieldfoods.com/newsroom/press-releases-and-news/smithfield-foods-introduces-pure-farms8482-antibiotic-free-product-line>
- 68 See: <http://corporate.mcdonalds.com/content/dam/AboutMcDonalds/2.0/pdfs/sustainability/McDonalds-Global-Vision-for-Antimicrobial-Stewardship-in-Food.pdf>
- 69 <https://www.usatoday.com/story/money/business/2017/05/01/poultry-giant-tyson-boot-antibiotics-chicken/100970854/>
- 70 Letter to Greg Creed, CEO of Yum! Brands, sent January 28, 2016, [https://www.nrdc.org/sites/default/files/hea\\_16012701a.pdf](https://www.nrdc.org/sites/default/files/hea_16012701a.pdf)
- 71 Baertlein, L., "Exclusive: Yum's KFC to curb antibiotic use in the chickens it buys," Reuters, April 7, 2017, <http://www.reuters.com/article/us-yumbrands-kfc-antibiotics-exclusive-idUSKBN1790EE>
- 72 Green Century Funds, Darden Restaurants, Inc Proposal 5: Phase t Routine Uses of Antibiotics in Meat Supply Chain, <http://greencentury.com/wp-content/uploads/pdf/DRIproxymemo.pdf>
- 73 See: <http://www.asyousow.org/wp-content/uploads/2016/09/Sanderson-Farms-Resolution-20160914.pdf>
- 74 Interfaith Center on Corporate Responsibility, "High Vote at McDonald's Annual Meeting," May 24, 2017 See: <http://www.iccr.org/high-vote-mcdonalds-annual-meeting-underscores-need-curb-antibiotics-use>
- 75 See: <http://mailchi.mp/fairr/fairr-news-june-263611>
- 76 "Responding to the Antibiotic Crisis: Investors Push Food Giants to Path of Less Resistance," FAIRR Press Release, March 20, 2017, <http://www.fairr.org/news-item/responding-antibiotic-crisis-investors-push-food-giants-path-less-resistance/>
- 77 Friends of the Earth news release, June 22, 2017, "Nonprofits Sue Third-Largest Poultry Co. for False Advertising of Drug-Contaminated Chicken." See: <http://www.foe.org/news/news-releases/2017-06-nonprofits-sue-third-largest-poultry-co-for-false-advertising>
- 78 Wales, A. D., & Davies, R. H. (2015). Co-Selection of Resistance to Antibiotics, Biocides and Heavy Metals, and Its Relevance to Foodborne Pathogens. *Antibiotics*, 4(4), 567–604. <http://doi.org/10.3390/antibiotics4040567>; Yazdankhah, S., Rudi, K., & Bernhoft, A. (2014). Zinc and copper in animal feed - development of resistance and co-resistance to antimicrobial agents in bacteria of animal origin. *Microbial Ecology in Health and Disease*, 25, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4179321/pdf/MEHD-25-25862.pdf>; Norwegian Scientific Committee for Food Safety (VKM): Opinion of the Panel on Animal Feed. Zinc and copper in pig and poultry production - fate and effects in the food chain and the environment. Dated May 19, 2014. Accessed 15 June 2016 at <http://www.english.vkm.no/dav/3b1b6769dd.pdf>.
- 79 Bacteria can transfer bits of genetic material to other bacteria, and when genetic information coding for several unrelated resistance mechanisms is transferred in a single event and expressed in the new bacterial host it is referred to as "co-resistance".
- 80 VKM. 2014. *Op cit*.
- 81 Johnson, R. (2015, January 14). The U.S.-EU Beef Hormone Dispute. Congressional Research Service. Retrieved 8 June 2015 from <http://www.fas.org/sgp/crs/row/R40449.pdf>
- 82 Nachman, K.E. & Smith, T.J.S. (2015). Hormone Use in Food Animal Production: Assessing Potential Dietary Exposures and Breast Cancer Risk, *Curr Envir Health Rpt*, DOI 10.1007/s40572-014-0042-8.
- 83 Johnson. 2015. *Op cit*.
- 84 European Food Safety Authority. (2007). Opinion of the scientific panel on contaminants in the food chain on a request from the European Commission related to hormone residues in bovine meat and meat product. The EFSA Journal, 510, 1-62. At: <http://onlinelibrary.wiley.com/doi/10.2903/j.efsa.2007.510/epdf>.
- 85 American Public Health Association. (2009, November 10). Opposition to the use of hormone growth promoters in beef and dairy cattle production. Retrieved 21 June 2015 from <http://www.apha.org/policies-and-advocacy/public-health-policy-statements/policydatabase/2014/07/09/13/42/opposition-to-the-use-ofhormone-growth-promoters-in-beef-and-dairy-cattleproduction>.
- 86 AVMA. 2014. Literature review on the welfare implication of the use of beta-adrenoreceptor agonists. At: <https://www.avma.org/KB/Resources/LiteratureReviews/Documents/Welfare%20Implications%20of%20the%20Use%20of%20B-Adrenoreceptor%20Agonists.pdf>
- 87 Poletto, R. Cheng, H.W., Meisel, R.L., Garner, J.P., Richert, B.T., Marchant-Forde, J.N. (2010). Aggressiveness and Brain Amine Concentration in Dominant and Subordinate Finishing Pigs Fed the  $\beta$ -Adrenoreceptor Agonist Ractopamine. *Journal of Animal Science*. 88(3), 3107- 20.[http://www.prairieswine.com/wp-content/uploads/2011/08/1184.full\\_.pdf](http://www.prairieswine.com/wp-content/uploads/2011/08/1184.full_.pdf); Poletto, R., Meisel, R.L., Richert, B.T., Cheng, H.W., Marchant-Forde, J.N. . (2009). Behavior and Peripheral Amine Concentrations in Relation to Ractopamine Feeding, Sex, and Social Rank of Finishing Pigs. *Journal of Animal Science*, 88(3), 1184-94.<https://naldc.nal.usda.gov/download/41673/PDF>; Consumers International. (2012). "Comments on the Discussion Paper of the Electronic Working Group on Issues Related to Standards Held at Step 8." ("[P]igs taking ractopamine were reported to have suffered adverse effects—hyperactivity, trembling, broken limbs, inability to walk and death."); James, B. W.; Tokach, M. D.; Goodband, R. D.; Nelssen, J. L.; Dritz, S. S.; Owen, K. Q.; Woodworth, J. C.; Sulabo, R. C. (2013). Effects of dietary L-carnitine and ractopamine HCl on the metabolic response to handling in finishing pigs. *Journal of Animal Science*, 91(9):4426-39. At: <https://www.asi.k-state.edu/doc/swine-day-2004/p158handlingxpayleanxcarnitine.pdf>. (stating that "Ractopamine fed pigs are leaner than counterparts not fed RAC. Increased muscling or leanness is likely to predispose the pig to greater physiological effects of stress."); Food and Drug Administration, Center for Veterinary Medicine. Adverse Drug Effects Comprehensive Clinical Detail Listing 1/1/1987 thru 3/31/2011, Drug Listing: N thru S: 177-84. Retrieved on 15 July 2015 from <http://web.archive.org/web/20110426003851/http://www.fda.gov/downloads/AnimalVeterinary/SafetyHealth/ProductSafetyInformation/UCM055411.pdf> (last visited Dec. 17, 2012) (listing adverse drug effects for horses, pigs, cattle, turkeys, dogs, and humans).
- 88 G.H. Lonergan, D.U. Thomson, & H.M. Scott. 2014. "Increased Mortality in Groups of Cattle Administered the  $\beta$ -Adrenergic Agonists Ractopamine Hydrochloride and Zilpaterol Hydrochloride," *PLoS ONE*, 9(3): e91177. At: <http://journals.plos.org/plosone/article/file?id=10.1371/journal>.

pone.0091177&type=printable

- 89 Consumer Reports. (2012, November 27). "Consumer Reports Investigation of Pork Products Finds Potentially Harmful Bacteria Most of Which Show Resistance to Important Antibiotics" [Press release]. Retrieved 10 July 2015 from <http://pressroom.consumerreports.org/pressroom/2012/11/my-entry-4.html> .
- 90 S. Bartelt-Hunt, D. Snow, & T. Damon-Powell. *Occurrence of Steroid Hormones and Antibiotics in Groundwater Impacted by Livestock Waste Control Facilities*, World Environmental and Water Resources Congress, 1052 (2010). At: [https://www.researchgate.net/publication/49794395\\_Occurrence\\_of\\_Steroid\\_Hormones\\_and\\_Antibiotics\\_in\\_Groundwater\\_Impacted\\_by\\_Livestock\\_Waste\\_Control\\_Facilities](https://www.researchgate.net/publication/49794395_Occurrence_of_Steroid_Hormones_and_Antibiotics_in_Groundwater_Impacted_by_Livestock_Waste_Control_Facilities)
- 91 Bories, G., Brantom, P., de Barbera, et al. Scientific (2009). Opinion: Safety evaluation of ractopamine. The EFSA Journal 1041: 1-52. At: <http://onlinelibrary.wiley.com/doi/10.2903/j.efsa.2009.1041/epdf>
- 92 W-C Chen, et al. (2015). Potential Genitourinary Toxicity and Lithogenic Effect of Ractopamine. Journal of Food and Nutrition Research, 3(10): 670-674. At: <http://pubs.sciepub.com/jfnr/3/10/9/>
- 93 Shafie, F., & Rennie, D. (2009). Consumer perceptions towards organic food. Procedia - Social And Behavioral Sciences, 49, 360-367. doi:10.1016/j.sbspro.2012.07.034; Harrison, R., Gillespie, J., Scaglia, G., & Lin, B. (2014, Fall). Consumer preferences for forage-fed beef. Louisiana Agriculture Magazine, 57(4). Retrieved on 15 July 2015 from <http://www.lsuagcenter.com/en/communications/publications/agmag/Archive/2014/Fall/Consumer-Preferences-for-ForageFed-Beef.htm> .
- 94 Mintel: Three in five consumers love burgers on the menu, Refrigerated and Frozen Foods, May 19th, 2016, <http://www.refrigeratedfrozenfood.com/articles/90922-mintel-three-in-five-consumers-love-burgers-on-the-menu>
- 95 Bussard, J., "Grass-fed growth brings challenges, opportunity and a few fringe benefits," Beef Magazine, February 4, 2016, <http://www.beefmagazine.com/pasture-range/grass-fed-growth-brings-challenges-opportunity-and-few-fringe-benefits>
- 96 <http://www.capitalpress.com/Organic/20170702/organic-food-sales-jump-84-percent-in-2016>
- 97 See: <http://www.americangrassfed.org/about-us/our-standards/>
- 98 See: <https://www.chilis.com/menu/craft-burgers/grass-fed-sunrise-burger>
- 99 Gaszdzik, S., "2017 Consumer Trends Report: Knowing what they don't want," National Provisioner, Nov. 22, 2016, <http://www.provisioneronline.com/articles/104042-consumer-trends-report-knowing-what-they-dont-want>
- 100 Press release, "Boston Market Commits to Serving 100 Percent Antibiotic-Free Rotisserie Chicken," Boston Market newsroom, March 1, 2017.
- 101 "Sustainable Sourcing," Cheesecake Factory website, accessed August 22, 2017 <https://www.thecheesecakefactory.com/corporate-social-responsibility/sustainable-sourcing>
- 102 Press release, "Jersey Mike's Introduces Antibiotic-Free Turkey," QSR Magazine, April 20, 2017, <https://www.qsrmagazine.com/news/jersey-mike-s-introduces-antibiotic-free-turkey>
- 103 Email communication with Alexandra Hart, Marketing Manager, Burger Lounge Restaurants, Aug. 4 & 7, 2017
- 104 <http://www.modernmarket.com/blog/we-care-a-lot-about-the-meat-we-serve>
- 105 <http://www.modernmarket.com/blog/we-prefer-to-act-like-pigs>
- 106 <http://www.modernmarket.com/blog/winner-winner-chicken-dinner>
- 107 In cases where a company has only adopted a good antibiotics use policy for a subset of a meat and/or poultry category (e.g. chicken on pizza), we did not award any bonus implementation points in the absence of additional information regarding the overall share of purchasing in that category that this commitment represents.
- 108 <https://www.qsrmagazine.com/reports/qsr50-2016-top-50-chart>
- 109 Unless otherwise noted, information obtained from company survey responses.
- 110 Unless otherwise noted, information obtained from company survey responses.
- 111 Unless otherwise noted, information obtained from company survey responses.
- 112 Confirmed via email communication with Anne Fajon, Manager of Corporate Social Responsibility, July 27, 2017
- 113 DineEquity SEC 10-K Filing for Fiscal Year Ending December 31, 2016 <https://www.sec.gov/Archives/edgar/data/49754/000004975417000003/din-12312016x10k.htm>
- 114 Unless otherwise noted, information was obtained from company survey responses.
- 115 Unless otherwise noted, information was obtained from company survey responses.
- 116 Per Darden Restaurants 10-K filings, July 25, 2016 (<https://www.sec.gov/Archives/edgar/data/940944/000094094416000116/dri-201610xk.htm>)
- 117 Per Brinker Restaurants 10-K filings, June 29, 2016 <https://www.sec.gov/Archives/edgar/data/703351/000070335116000098/eat201662910k.htm>
- 118 Brinker 2016 Annual Shareholder Report: <http://www.brinker.com/company/Brinker2015/annualreport2016.pdf>
- 119 [http://brinker.com/commitment/food\\_quality.html](http://brinker.com/commitment/food_quality.html)
- 120 <http://www.brinker.com/company/chilis.html>
- 121 Number of 2016 company-owned and franchise locations, Buffalo Wild Wings Annual 10-K SEC <https://www.sec.gov/Archives/edgar/data/1062449/000106244917000013/bwld2016122510-k.htm>
- 122 Unless otherwise noted, information obtained from company survey responses.
- 123 DineEquity SEC 10-K Filing for Fiscal Year Ending December 31, 2016 <https://www.sec.gov/Archives/edgar/data/49754/000004975417000003/din-12312016x10k.htm>
- 124 Total U.S. restaurants, owned and franchised, per Cracker Barrel's 10-K Filings for the fiscal year end December 31, 2016, <https://www.sec.gov/Archives/edgar/data/1067294/000114036116080733/form10k.htm>
- 125 Unless otherwise noted, information obtained from company survey responses.

## 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](http://www.centerforfoodsafety.org). Twitter: @CFSTrueFood, @CFS\_Press



**Consumers Union** is the policy and mobilization division of Consumer Reports. Consumers Union works for health reform, food and product safety, financial reform, and other consumer issues in Washington, D.C., the states, and in the marketplace. Consumer Reports is the world's largest independent product-testing organization. Using its more than 50 labs, auto test center, and survey research center, the nonprofit rates thousands of products and services annually. Founded in 1936, Consumer Reports has over 8 million subscribers to its magazine, website, and other publications. Visit us at [www.consumerreports.org](http://www.consumerreports.org) and [www.consumersunion.org](http://www.consumersunion.org).



**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. Visit us at [www.foodanimalconcernstrust.org](http://www.foodanimalconcernstrust.org).



**Friends of the Earth** fights to create a more healthy and just world. Our current campaigns focus on promoting clean energy and solutions to climate change, ensuring the food we eat and products we use are safe and sustainable, and protecting marine ecosystems and the people who live and work near them. Visit us at: [www.foe.org](http://www.foe.org).



**The Natural Resources Defense Council (NRDC)** is an international nonprofit environmental organization with more than 2 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, Montana, and Beijing. Visit us at [www.nrdc.org](http://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. Visit us at [www.uspirgedfund.org](http://www.uspirgedfund.org).