Animal Agriculture and the Antibiotic Resistance Crisis:

How Corporate Deception and Regulatory Failure Undermine Public Health

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INTRODUCTION

Major beef suppliers have been deceiving consumers by applying Raised Without Antibiotics (RWA) labels to beef that is not, in fact, antibiotic-free. During random testing of RWA cattle carcasses performed by the United States Department of Agriculture (USDA), antibiotics were found in 1 in 5 samples, revealing that the problem of false labeling may be widespread in the industry. Consumers concerned with antibiotic use pay premiums for RWA meat and expect truthful claims. Instead, the industry profits from selling RWA beef whether or not it contains antibiotics. USDA has failed in its mandate to substantiate RWA labeling claims, allowing the industry to self-report its antibiotic usage with no requirements for empirical testing.

This is not only a story of industry deception, false labeling, and USDA failures to substantiate labeling claims. It is also a story about the existential threat of antibiotic resistance driven by the overuse and misuse of antibiotics in animal agriculture and government-wide failure to respond to this issue.

That the industrial animal sector is a primary cause of antibiotic resistance in both animals and humans is well-established.[1] The industrial animal sector administers antibiotics not only to treat acute diseases, but also in low doses as prophylactics, which enable animals to survive unsanitary, high-density farming practices that breed disease.

According to the Centers for Disease Control and Prevention (CDC), antibiotic resistance is "one of the greatest global public health challenges of our time."[2] Globally, the number of deaths associated with antibiotic resistance is 4.95 million annually, with 1.27 million deaths directly attributed to resistant bacterial infections.[3] By 2050, more than 10 million people could die worldwide each year from resistant infections.[4]

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[1] R. Bava et al, "Antimicrobial Resistance in Livestock: A Serious Threat to Public Health," *Antibiotics* 13, no. 6 (2024): 551; S. Pandey et al., "Antibiotic Resistance in Livestock, Environment and Humans: One Health Perspective," *Journal of Animal Science and Technology* 66, no. 2 (2024): 266-278; C. Xu et al., "A Review of Current Bacterial Resistance to Antibiotics in Food Animals," *Frontiers in Microbiology* 12, no. 13 (2022): 822689.

[2] Centers for Disease Control and Prevention (CDC), "Antibiotic Resistance Threats in the United States 2019."

[3] Murray, Christopher J L et al., "Global Burden of Bacterial Antimicrobial Resistance in 2019: A Systematic Analysis," *The Lancet* 399, no. 10325 (2022): 629-655.

[4] Mohsen Naghavi et al., Global Burden of Bacterial Antimicrobial Resistance 1990–2021: A Systematic Analysis with Forecasts to 2050," *The Lancet* 404, no. 10459 (2024): 1199-1226.

Consumer demand for meat raised without antibiotics has steadily increased for decades and is projected to continue this rapid growth. In 2023, the global RWA meat market was valued at $18.75 billion; it is expected to grow into a $35.6 billion industry by 2032, with North America projected to continue holding the largest market share.[5]

Consumer surveys show that concern about antibiotic resistance and the unhealthy conditions under which animals are raised drives increasing demand for antibiotic-free meat,[6] and consumers are willing to pay more for products that carry this label.[7] Meat companies and grocery retailers profit from this demand. On average, RWA meat costs at least 20 percent more than conventional meat.[8] The profits from charging a premium for RWA meat incentivize use of the RWA label regardless of whether meat is actually antibiotic-free.

So it should be no surprise that meat sold with RWA labels is not always free from antibiotics. Testing of RWA beef samples revealed that major beef companies and retail grocers are deceiving consumers by selling products under RWA labels that do, in fact, contain antibiotics.

Testing of RWA beef by Farm Forward, a research team from George Washington University, and eventually USDA, found antibiotic residues in RWA beef. In 2020, Farm Forward commissioned testing of RWA beef sold at Whole Foods under their No Antibiotics Ever promise and found an antibiotic as well as other pharmaceutical drugs.[9] In 2023, USDA conducted its own exploratory testing and detected antibiotics in 1 out of 5 samples tested (20 percent). The USDA testing revealed that the beef from Tyson, Cargill, and JBS, as well as more than a dozen beef companies supplying retailers like Whole Foods, contained antibiotics while consumers paid a premium for these products.

This testing revealed negligence not only by industry but by the government agencies responsible for truthful labeling and antibiotic oversight. USDA—the agency tasked with verifying that food labels are truthful and accurate—has failed in its mandate to protect consumers, allowing beef producers to sell meat with antibiotics under RWA labels. More broadly, there is a government-wide failure to regulate antibiotics use by the Food and Drug Administration (FDA) and other agencies, which choose not to track and report on antibiotics use, or to institute enforceable guidelines for responsible antibiotics stewardship.

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[5] Market Research Future, "Global Antibiotic-Free Meat Market Overview."
[6] Topos Partnership, "Final Report: No Plate is Safe," August 2024. Note: This report has not been made publicly available; for more information, contact info@farmforward.com.
[7] "John Zogby Strategies Poll of US Adults," January 29, 2021.
[8] Lance Price et al., "Policy Reforms for Antibiotic Use Claims In Livestock," *Science* 376, no. 6589 (2022): 130-132.
[9] Ben Goldsmith, "The Drugs Farm Forward Found Hiding In Your Meat," *Farm Forward*, April 13, 2022.

The good news is that the science is well-established and non-controversial, so the regulations that could dramatically reduce animal agriculture's contributions to the antibiotic resistance crisis are clear. The question is whether the public will exert enough pressure to force corporations and government to adopt practices less perilous to human health.

INDUSTRIAL ANIMAL AGRICULTURE IS A LEADING CAUSE OF ANTIBIOTIC RESISTANCE

Before turning to our findings on the deception in RWA beef labeling—and the failures of the federal government to prevent that deception—it is important to understand why public health experts and consumers insist that a move toward RWA meat is necessary in the first place.

Antibiotic use is a lynchpin of industrial agriculture. The production practices of industrial agriculture rely on antibiotic use to solve a problem with diseases that the industry itself created. Meat companies raise animals in confinement housing with high-density populations, overcrowding, filthy conditions, and poor ventilation, creating the perfect breeding ground for contagions. Further, selective breeding of farmed animals today leads to genetically homogenous populations of immunocompromised animals.[10] Widespread antibiotic use enables the industry to raise large populations of animals in high-confinement housing, conditions that would otherwise compromise animal health (and producer profits). Put simply, it's more profitable to use antibiotics than it is to raise genetically robust animals in conditions that promote health.

Since the 1940 discovery that antibiotics promote growth and enhance feed efficiency in livestock, these drugs have been widely used in animal agriculture. Although legislation in 2017 banned the use of antibiotics solely as growth promoters, their continued use under the guise of "disease prevention" has allowed the industry to maintain similar dosages and achieve similar growth outcomes.[11]

In the United States, by volume, ***two-thirds (66 percent) of all medically important antibiotics for treating human disease are purchased for use in farmed animals***.[12] The World Health Organization (WHO) warns that antibiotic use in livestock is a serious threat to human health, directly compromising the ability to treat virulent human infections.[13]

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[10] For a comprehensive description of the risks endemic in modern poultry breeding, for instance, see: Farm Forward, "Understanding Modern Poultry Breeding."
[11] David Wallinga et al., "A Review of the Effectiveness of Current US Policies on Antimicrobial Use in Meat and Poultry Production;" Pew Trusts, "FDA Must Establish Limits for All Animal Antibiotics," April 29, 2021.
[12] David Wallinga et al., "A Review of the Effectiveness of Current US Policies on Antimicrobial Use in Meat and Poultry Production."
[13] World Health Organization (WHO), "Stop Using Antibiotics in Healthy Animals to Prevent the Spread of Antibiotic Resistance," November 7, 2017; Xu C et al., "A Review of Current Bacterial Resistance to Antibiotics in Food Animals."

The overuse and misuse of antibiotics, paired with the difficulty of developing new drugs to match the increasing rate of resistance, threaten the ability to treat even common infections.[14] Between 38 and 50 percent of post-surgical infections already resist standard antibiotics.[15] As the most widely used antibiotics are rendered ineffective, the use of "last-resort" antibiotics leads to resistance to these critical drugs, and the Organization for Economic Cooperation and Development (OECD) projects a twofold increase in this resistance by 2035.[16] The outcome of antibiotic resistance is that many diseases will likely become untreatable.

The WHO categorizes antibiotics (also known as antimicrobials) according to how medically important they are for the treatment of human disease.[17] Some are approved only for use in humans, but a significant number are authorized for use in both humans and animals (including pets and livestock). They are organized into Highest Priority Critically Important Antimicrobials, Critically Important Antimicrobials, Highly Important Antimicrobials, and Important Antimicrobials.

For drugs categorized as medically important for the treatment of human disease, the WHO advises "complete restriction of these antibiotics for growth promotion and disease prevention without diagnosis … sick animals should be tested to determine the most effective and prudent antibiotic to treat their specific infection … and antibiotics used in animals should be selected from those WHO has listed as being 'least important' to human health."[18]

The WHO calls for these restrictions because any time an antibiotic is used, there is a risk that its use will lead to the development of antibiotic-resistant microbes. When used at a large scale, that risk is vastly multiplied. The organization's categorization based on levels of medical importance is aimed at limiting the growth of antibiotic resistance and preserving, for as long as possible, the efficacy of the most important drugs for treating human disease.

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[14] WHO, "Antimicrobial Resistance," November 21, 2023.
[15] Aude Teillant et al., "Potential Burden of Antibiotic Resistance on Surgery and Cancer Chemotherapy Antibiotic Prophylaxis in the USA: A Literature Review and Modelling Study," *The Lancet Infectious Diseases* 15, no. 12 (2015): 1429-1437.
[16] WHO, "Antimicrobial Resistance."
[17] WHO, "WHO publishes the WHO Medically Important Antimicrobials List for Human Medicine," February 8, 2024.
[18] WHO, "Stop Using Antibiotics in Healthy Animals."

And yet, the industrial animal sector routinely uses Critically Important, Highly Important, and Important Antimicrobials. As of 2024, 56 percent of all antibiotics sold for use in farmed animals were medically important for the treatment of human disease.[19] Of the medically important antibiotics used in farmed animals, 41 percent were sold for use in cattle, 44 percent for pigs, 10 percent for turkeys, and 2 percent for chickens.[20]

Highly Important Antimicrobials called tetracyclines account for two-thirds of medically important antibiotics sold for use in livestock.[21] Tetracyclines are a class of broad-spectrum antibiotics that treat a host of human infections, some potentially fatal. These include pneumonia and staph infections (including MRSA—*methicillin-resistant Staphylococcus aureus*).[22] Penicillins—the first discovered and longest used antibiotic—account for 10 percent.[23] These two drugs have long served as foundational antibiotics in the treatment of human disease, and continue to be relied on heavily in human medicine for numerous serious bacterial infections.

The vast majority of antibiotics are used in the industry as a prophylaxis and for growth promotion and feed efficiency.[24] This is known as *subtherapeutic use*—administering antibiotics in low doses to prevent disease and optimize weight gain. It is precisely this low-dose, subtherapeutic delivery that breeds antibiotic resistance.[25] Low-dose antibiotics have the effect of killing most of the targeted bacteria, leaving only resistant bacteria to replicate in large numbers, facilitating spread to other animals and to humans. These new strains of familiar bacteria are immune to the antibiotics designed to eliminate them, rendering a growing number of drugs ineffective in treating disease.

Antibiotic-resistant microbes can easily be transferred from animals to humans through the consumption of animal products (e.g., from meat contaminated with *Salmonella* or *E. Coli*), touching animals, the consumption of vegetables fertilized with manure, and/or environmental

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[19] Chris Dall, "FDA Report Shows Small Decline in Sales of Antibiotics for Food-producing Animals," University of Minnesota Center for Infectious Disease Research and Policy, October 14, 2024.
[20] FDA, "2023 Summary Report On Antimicrobials Sold or Distributed for Use in Food-Producing Animals." See Appendix D: Medically Important Antibiotics Used in Food Animals.
[21] FDA, "II. Data on All Marketed Antimicrobial Drugs: Table 2a: Antimicrobial Drugs Approved for Use in Food-producing Animals Actively Marketed in 2023 Domestic Sales and Distribution Data Reported by Medical Importance and Drug Class, "2023 Summary Report On Antimicrobials Sold or Distributed for Use in Food-Producing Animals."
[22] Mollie C Shutter et al., "Tetracycline," *National Library of Medicine,* StatPearls [Internet], Treasure Island (FL): StatPearls Publishing, updated June 5, 2023; 2025.
[23] FDA, "II. Data on All Marketed Antimicrobial Drugs: Table 2a, "2023 Summary Report On Antimicrobials Sold or Distributed for Use in Food-Producing Animals."
[24] Feiyang Ma et al., "Use of Antimicrobials in Food Animals and Impact of Transmission of Antimicrobial Resistance on Humans," *Biosafety and Health* 3, no. 1 (2021): 32-38.
[25] National Research Council (US) Committee on Drug Use in Food Animals, "Costs of Eliminating Subtherapeutic Use of Antibiotics," in *The Use of Drugs in Food Animals: Benefits and Risks.* Washington (DC): National Academies Press (US), 2008.

transmission from feces and other waste.[26] For example, animal-to-human transmission was documented in a 2021 study on the suspected spread of multidrug-resistant *Staphylococcus aureus* among pigs, farmworkers, and the surrounding community in the North Carolina pork industry.[27]

Despite these dangers, the industry continues to routinely use antibiotics, most often in subtherapeutic doses given to increase growth rates and profitability, to enable raising animals in unhealthy and unhygienic conditions. The National Research Council reports:

> In large part, subtherapeutic feeding of antibiotic drugs is a management tool to prevent infection and to facilitate the use of confinement housing. This practice allows larger numbers of animals to be maintained in a healthy state and at a lower cost per unit to the farmer. If subtherapeutic use of antibiotic agents were eliminated, these production advantages would be reduced or lost.[28]

In addition to using antibiotics that are medically important for human health, the industrial animal sector uses a large volume of non-medically-important antibiotics. These antibiotics are primarily ionophores (representing 37 percent of all antibiotics sold or distributed for on-farm use).[29] Ionophores are sold for feed conversion efficiency and to prevent disease. Monensin, sold under the brand name Rumensin®, is one such ionophore, marketed for use in cattle. The company's marketing highlights its use in terms of increased profit:

> Rumensin means greater milk production efficiency—up to 4% more energy per pound of feed, for a return on investment of at least 5:1. Rumensin's ability to help cows get more energy from every pound of feed provides flexibility when formulating rations. Dairy producers can customize the herd's rations and get more milk from the same feed or the same milk from less feed. By increasing milk production efficiency, Rumensin helps provide value throughout the lactation cycle.[30]

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[26] Christy Manyi-Loh et al., "Antibiotic Use in Agriculture and Its Consequential Resistance in Environmental Sources: Potential Public Health Implications," *Molecules* 23, no. 4 (2018): 795; CDC, "Antibiotic Resistance Threats in the United States 2019."
[27] Johns Hopkins University Bloomberg School of Public Health, "Antibiotic-Resistant Strains of Staph Bacteria May Be Spreading Between Pigs Raised in Factory Farms and People in North Carolina," March 5, 2021.
[28] National Research Council (US) Committee on Drug Use in Food Animals, "Costs of Eliminating Subtherapeutic Use of Antibiotics," In *The Use of Drugs in Food Animals: Benefits and Risks.* Washington (DC): National Academies Press (US), 2008.
[29] FDA, "II. Data on All Marketed Antimicrobial Drugs: Table 2a, "2023 Summary Report On Antimicrobials Sold or Distributed for Use in Food-Producing Animals."
[30] Elanco, "Rumensin® for Dairy Cattle."

The FDA approves the use of monensin for "continuous use," meaning the drug can be added to cattle feed indefinitely.[31] The effects of this continuous use and its potential impact on human health is not well studied.

Even non-medically-important antibiotics used in livestock can lead to antibiotic resistance and cross-resistance to medically important drugs. For instance, recent research suggests that the overuse of ionophores may lead to antibiotic resistance to medically important drugs—a significant risk since ionophores account for more than one-third of all antibiotics used in livestock.[32] *Ambrook Research* quotes Michael Hansen, a biologist and senior staff scientist at *Consumer Reports*, saying that "new data is becoming available that links ionophores to medically important antibiotics. Even if [an antibiotic] is not used in human medicine, if it's in the same family, then [scientists] are concerned about it." He continued, "Because antibiotics in the same family all work fundamentally the same way … When one becomes resistant, the others do too."[33]

Antibiotic use in livestock is not systematically tracked, and the implications of non-medically-important antibiotics are under-researched, so the true scale of antibiotic resistance caused by these drugs is not fully understood.

Overall, the widespread use of antibiotics in the industrial animal sector reflects irresponsible practices that put the public at risk. Many consumers are aware of these risks and seek out antibiotic-free meat as a primary way to support reducing antibiotic use in the food industry.

CONSUMERS WANT RWA PRODUCTS AND ARE WILLING TO PAY MORE FOR THEM

Consumer demand for RWA meat is high, even as these products cost more: 87 percent of consumers say that buying antibiotic-free meat is important to them [ranging from "slightly" to "very" important], and 74 percent are willing to pay more to have testing data verifying the antibiotic-free labeling claims.[34] As antibiotic resistance proliferates, consumers are increasingly aware of the risk drug-resistant diseases pose. In a 2021 survey of American consumers, 75 percent reported that they were concerned about "future antibiotic-resistant superbugs spreading through our food supply" and 69 percent were concerned about "antibiotic overuse [in meat production] leading to a pandemic caused by a drug-resistant virus or superbug."[35]

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[31] FDA, "Questions and Answers on the Proper Use of Monensin in Dairy Cows," February 12, 2018.
[32] Rikki Franklin Frederiksen, "Polyether Ionophore Resistance in a One Health Perspective," *Perspectives in Microbiology* 15 (2024); Alex Wong, "Unknown Risk on the Farm: Does Agricultural Use of Ionophores Contribute to the Burden of Antimicrobial Resistance?" *American Society for Microbiology* 4, no. 5 (2019).
[33] Hannah Macready, "The Illusion of Antibiotic-Free Meat," *Ambrook Research*, September 7, 2023.
[34] "John Zogby Strategies Poll of US Adults."
[35] "John Zogby Strategies Poll of US Adults."

At the same time, some consumers are concerned about the unhygienic conditions in which animals are raised in the industrial animal sector. Consumers worried about cleanliness respond with a visceral feeling of disgust at the "overcrowding, filth, and squalor" of industrial farms.[36] They believe that such conditions are "inherently unsafe and unhealthy," and that it is not possible for such a system to produce safe and nutritious food.[37]

Much of the public understands that the overuse of antibiotics is inherently connected to animal welfare. Antibiotics are used sub-therapeutically not only to cause animals to grow faster than they would otherwise, but also so they can survive cramped and unsanitary conditions that breed pathogens and severely compromise animal welfare. Sixty percent of consumers have major concerns about animal welfare in industrial agriculture.[38] If the industry were to improve its welfare standards through, for instance, allowing more space, fresh air, and cleaner conditions, antibiotic use could be dramatically reduced.

Consumer concerns about how animals are raised and about the widespread use of antibiotics drive their choices at the grocery store. They rely on RWA labels to make informed purchasing decisions, and are willing to pay more for meat with these labels. In fact, 75 percent of consumers concerned with antibiotic use are willing to pay more for RWA products.[39] Consumers tend to trust RWA labeling—72 percent report believing labels such as RWA, organic, natural, and grass fed, some or most of the time.[40] A 2024 poll found that conscientious consumers also trust *grocery retailers* specifically, sometimes outweighing trust in labeling ("the grocery store is often considered the food 'source'").[41]

Food retailers and the meat industry capitalize on this consumer demand and trust. When consumers purchase meat with RWA labels, they expect that these labels are truthful and accurate. Unfortunately, **testing of RWA beef has revealed a fundamental flaw in the RWA market—companies are deceiving consumers with false labeling and the U.S. government is allowing them to do it.**

[36] Topos Partnership, "Final Report," 25-28.
[37] Topos Partnership, "Final Report," 27.
[38] Topos Partnership, "Final Report," 17.
[39] "John Zogby Strategies Poll of US Adults."
[40] "John Zogby Strategies Poll of US Adults."
[41] Topos Partnership, "Final Report," 15.

MAJOR BEEF COMPANIES AND RETAILERS PROFIT FROM RWA-LABELED BEEF THAT IS NOT ANTIBIOTIC-FREE

In 2022, *Science* published a study based on testing of RWA cattle. The study found that 15 percent of the samples tested contained antibiotic residues, including from drugs critically important for human medicine.[42] Pressure by researchers at George Washington University, Farm Forward, and other advocacy organizations following the release of the *Science* study led USDA, in 2023, to test cattle raised for the RWA market and the agency reported an even higher portion: ***20 percent of samples tested positive for antibiotics***, including those, like tetracyclines and penicillin, that are of high medical importance for treating human diseases.[43] These samples were traced to specific producers, but USDA chose not to release their names publicly. In December 2024, through a FOIA request, Farm Forward obtained the names of the companies that tested positive for antibiotics in their RWA products, along with letters issued by the agency to the offending companies. Industry giants in beef processing like Tyson, Cargill, and JBS were found to have antibiotics in their RWA beef, in addition to dozens of other companies, nearly half of which were suppliers to Whole Foods Market.[44]

Industry Giants Tyson, Cargill, and JBS Lead the Way in Antibiotics Deception

Tyson, Cargill, and JBS capitalize on the growing demand for RWA beef by selling beef under dozens of RWA brand names. These recognizable brands, such as Open Prairie®, Certified Angus Beef®, Swift®, and Just Bare®, are sold at major retailers such as Walmart, Kroger, Albertsons, Fred Meyer, and IGA.

Consumer trust in Tyson, Cargill, and JBS is high. In a nationwide survey, consumers familiar with the companies reported overwhelmingly positive associations with all three: 81% approval for Tyson, 73% for Cargill, and 70% for JBS.[45] And yet, in the interest of profit, these companies have deceived consumers, selling beef products at a premium under false RWA labeling.

JBS has continued to sell meat labelled RWA, despite the fact that their RWA products were found to contain antibiotics. USDA did not report which specific JBS brands had problems with antibiotics in their supply chain. JBS markets RWA beef under multiple brands, including Aspen Ridge®, Grass Run Farms®, and thinkpure®.[46] Aspen Ridge®, for instance, states in its marketing, "Naturally raised Angus beef from family-owned,

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[42] Lance B. Price et al., "Policy Reforms for Antibiotic Use Claims in Livestock," *Science* 376 (2022): 130-132.
[43] USDA FSIS, "Constituent Update - August 30, 2024: FSIS Announces Availability of Guideline on Substantiating Animal-Raising or Environment-Related Labeling Claims." For a list of antimicrobials and their importance for human medicine, see: World Health Organization, "WHO List of Medically Important Antimicrobials."
[44] See Appendix A: List of Companies with Positive Antibiotics Tests in RWA Beef.
[45] Topos Partnership, "Final Report."
[46] See Appendix B: False Marketing of RWA Beef.

U.S. ranches with incredible tenderness and flavor. Our Natural Angus beef has no added hormones, has verified Angus genetics, and [is] raised without antibiotics. This is Natural beef at its most premium." Because the company has not acknowledged or addressed USDA's results publicly, it is impossible to know which of their RWA brands were found to contain antibiotics. And because neither JBS nor USDA has instituted any known verification program, it is impossible to say which of JBS's RWA brands may contain antibiotics today.

In the case of Cargill, there is no indication that the company has done any third-party testing, any testing of its own, or changed any of its procedures to ensure its product is free of antibiotics. According to USDA testing results, Cargill's RWA beef included antibiotics listed by the WHO as of high medical importance for humans, despite Cargill's claim that they have "committed not to use antibiotics that are critically important for human medicines."[47]

Although Tyson had sold RWA beef at a premium under multiple brands for years, it aggressively dialed back its RWA claims following the USDA testing. Pulling its RWA label from beef mirrored Tyson's earlier course reversal on its No Antibiotics Ever (NAE) chicken products. As the supplier of roughly 20 percent of chicken in the United States, Tyson made news in 2017 when it announced that the company would eliminate antibiotics from fresh and frozen chicken, a move that was highly profitable for the company as it supplied major companies, like Chick-fil-A, and school districts around the country that purchased RWA meat.

But when USDA reported that it would perform exploratory sampling for antibiotics in June 2023,[48] Tyson announced the following month that it would withdraw its NAE labels on some of its chicken products, then rebranded these products under a new label, called "No Antibiotics Important to Human Medicine" (NAIHM).[49] NAIHM branding allows for the unlimited use of certain antibiotics, like ionophores. This new language enabled the company to continue selling products from animals raised with antibiotics under a label that sounds similar enough to NAE that most consumers may not be aware of the difference. The company maintains its NAE brand on the Open Prairie® line of pork products. Following Tyson's creation of this new label, Chick-fil-A also announced that it would eliminate the NAE label and rebrand as NAIHM.[50]

After USDA began testing on cattle, Tyson—presumably knowing that increased transparency and testing would expose their false claims—also abandoned their RWA claims for beef in July 2024. The company removed beef from its RWA Open Prairie® brand and ended its two-decade-old

[47] Andrew Wasley and Marlowe Starling, "Cargill Cows Contaminated with Vital Antibiotics," *Bureau of Investigative Journalism*, September 27, 2024.
[48] USDA, "USDA Launches Effort to Strengthen Substantiation of Animal-Raising Claims," June 14, 2023.
[49] Patrick Thomas, "Tyson Foods to Drop 'No Antibiotics Ever' Label on Some Chicken Products," *Wall Street Journal*, July 2, 2023; News Desk, "Tyson Foods to Remove 'No Antibiotics Ever' Label by End of Year," *Food Safety News*, July 11, 2023.
[50] Sarah Zimmerman, "Chick-fil-A to Drop 'No Antibiotics Ever' Policy on Chicken," *Agricultural Dive*, March 27, 2024.

RWA Certified Angus Beef® brand.[51] Tyson stated: "We continue to offer antibiotic-free beef based on market demand, and our commitment to antibiotic stewardship has not changed."[52] They did not state which brands or private labels would continue these offerings.

Other companies that tested positive for antibiotics in the USDA sampling continue to market their products as RWA, such as Home Place Pastures, Fort Worth Meat Packers, LLC, and Emory's Little Store, which tested positive for penicillin, monensin, and tulathromycin, respectively.[53] None of these companies have announced any change in their procedures or any plan to submit to government or independent third-party testing of their claims. See Appendix B for examples of their recent marketing.

Alongside the continued RWA claims by some suppliers, the shift away from NAE labeling by top industry players (e.g., Tyson, Chick-fil-A) reflects a significant regression in addressing the problem of widespread antibiotic use in farmed animals, entrenching antibiotic use for prophylaxis and growth promotion to prioritize profits. Maintaining the use of non-medically-important antibiotics allows the industry to continue its existing model of intensive confinement and unhygienic production practices.

Whole Foods' Continued False Marketing of "No Antibiotics Ever" Attracts Lawsuit

According to active litigation, Whole Foods—the premier retailer of RWA beef—has knowingly deceived consumers by selling meat containing antibiotics under their company-wide standard for meat: the "No Antibiotics Ever" (NAE) promise. The NAE slogan appears in their stores and in online marketing materials, and has long meant that no meat in any Whole Foods, whether fresh, frozen, prepared, or in a store brand product, comes from an animal raised with antibiotics.[54] Yet the USDA's 2023 testing revealed that of the 27 companies that tested positive for antibiotics in RWA beef, 13 (nearly half) supplied Whole Foods.[55]

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[51] Deena Shanker, "Tyson Pulls Back on Antibiotic-free Beef After Years of Promotion," *The Detroit News,* July 2, 2024; Chris Casey, "Tyson Foods Scales Back Its Antibiotic-free Beef Pledge," *Food Dive*, July 3, 2024.
[52] Simon Harvey, "Tyson Foods to 'Reduce Antibiotic-free Beef Offerings."
[53] Home Place Pastures, "Farming Practices;" Fort Worth Meat Packers, LLC, "Qualifications;" Emory's Little Store, "About."
[54] A.C. Gallo, "Our Meat: No Antibiotics, Ever," Whole Foods, June 25, 2012.
[55] Sara Safari, et al. v. Whole Foods Market Services, Inc., Case 8:22-cv-01562-JWH-KES, Document 260, April 4, 2025, United States District Court Central District of California.

In 2022, a consumer class action lawsuit was filed against Whole Foods for false marketing of meat claiming to be RWA.[56] The suit was submitted after testing commissioned by Farm Forward in 2022 found that meat from Whole Foods, marketed under the RWA promise, contained residues of the antibiotic monensin, an ionophore, as well as other drugs.[57]

When confronted with the results of this testing that proved the company's marketing claims were false, and even after the lawsuit was filed, Whole Foods has continued to sell meat under its NAE branding. The original class action filing reported that "Whole Foods' internal emails show that its executives rejected the opportunity to investigate the accuracy of its 'No Antibiotics, Ever' claims, in part because 'the repercussions for having a positive result were beyond ridiculous.'"[58]

At the time of the lawsuit filing in 2022, Whole Foods was selling one pound of filet mignon beef steak for $31.99 while a traditional retailer was selling the same cut of beef for $24.99 per pound, a 28 percent price difference.[59] By April 2025, the price difference was even more stark. Whole Foods sold filet mignon beef steak for $36.99 per pound, while a traditional retailer priced the same cut of beef at $27.99 per pound.[60] Whole Foods charges almost a full third (32 percent) more for meat it sells as 'NAE'; consumers would not pay these exorbitant prices if they believed the labels were false.[61] The lawsuit asserts that consumers experienced economic harm in overpaying for products that made these false NAE claims.

Filings in the lawsuit contend that RWA beef from at least 13 Whole Foods suppliers was found to contain antibiotics through USDA testing. The sheer number of Whole Foods suppliers selling RWA beef containing antibiotics suggests that there may be a systematic failing of Whole Foods certification and meat assurance programs to ensure that the meat the company sells is truthfully labeled and marketed.

Whole Foods has done nothing to substantiate its marketing claims about RWA. They have continued to show willful ignorance about the systematic problem of antibiotics in RWA meat supply chains, profiting instead from an industrial animal sector that is incentivized to misuse antibiotics and then mislead the public about the presence of antibiotics.

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[56] Sara Safari, et al. v. Whole Foods Market Services, Inc., Case 8:22-cv-01562-JWH-KES, Document 1, August 8, 2022, United States District Court Central District of California.
[57] Andrew deCoriolis, "Farm Forward Finds Drugs in Certified Meat at Whole Foods," Farm Forward, April 4, 2022.
[58] Sara Safari, et al. v. Whole Foods Market Services, Inc., Case 8:22-cv-01562-JWH-KES, Document 1, 2.
[59] Sara Safari, et al. v. Whole Foods Market Services, Inc., Case 8:22-cv-01562-JWH-KES, Doc 1, 3.
[60] These prices reflect the current cost per pound of filet mignon at Whole Foods and Safeway as of April 14, 2025.
[61] Sara Safari, et al. v. Whole Foods Market Services, Inc., Case 8:22-cv-01562-JWH-KES, Doc 1, 3.

Across the meat industry, the fact that USDA testing of cattle raised for the RWA market found antibiotics in one out of every five samples—and in meat from the top three beef companies that dominate the market—suggests that no meat labeled RWA is guaranteed to be truthful in its claims. The testing revealed not only false marketing by industry but also the failings of USDA as the agency tasked with approving companies' use of RWA labels and ensuring that meat labeling is truthful and accurate.

The next section answers, "How is this high percentage of RWA samples containing antibiotics possible when the USDA is mandated to approve RWA claims for labeling?"

USDA HAS ALLOWED FALSE RWA LABELING, DEFERRING TO INDUSTRY SELF-REPORTING

The Federal Meat Inspection Act (FMIA), meant to protect the public and ensure food safety, mandates that labeling be truthful and not misleading.[62] The USDA Food Safety and Inspection Service (FSIS) is the sole agency tasked with regulating food labels and substantiating claims related to specialty labeling (e.g., "raised without antibiotics," "humanely raised," "sustainable," etc.). According to USDA, "Raised Without Antibiotics" is a category that includes labels such as "No Antibiotics Administered", "No Added Antibiotics," "No Antibiotics Ever," and "Raised Antibiotic Free."

In new labeling guidelines published by the agency in August 2024, USDA states, "To use this [RWA] claim, **source animals cannot be administered antibiotics in their feed, water, or by injections at any point in the production process**. This includes ionophores, which are recognized as antibiotics by USDA."[63]

After the failure of USDA to regulate RWA labeling was revealed by the agency's own testing, Farm Forward and others pressured USDA to take action. However, the agency has continued to sidestep adopting any requirements for meaningful oversight: "FSIS ***strongly encourages*** [but does not require] establishments to support such claims by instituting a sampling program to test for the use of antibiotics in animals prior to slaughter or by using a third-party certifier that performs routine antibiotic sampling and testing as part of its certification standards."[64]

USDA has maintained that the agency itself will not conduct audits or on-site inspections as part of the approval process, nor will it require that producers either conduct testing themselves or enlist third-party auditors for verification of claims. Its August, 2024 guidelines clarify that

[62] USDA FSIS, "Federal Meat Inspection Act."
[63] USDA FSIS, "FSIS Guideline on Substantiating Animal-Raising or Environment-Related Labeling Claims," August 2024, 17.
[64] USDA FSIS, "FSIS Guideline," 17. Emphasis added.

the agency relies entirely on producers to accurately and truthfully self-report their practices requiring documentation that includes information on how RWA animals are raised to support their RWA claims and how animals who do receive antibiotics are treated and traced.[65] Producers can also submit results of testing performed either by the establishment itself or by a third-party auditor. However, this testing is optional and not required by the agency to issue approval for RWA labels.[66]

In fact, nowhere in the agency's requirements for labeling approval does it do any more than suggest that producers test to verify the accuracy of their label claims. By contrast, American consumers overwhelmingly believe that companies should release independently verified data to prove that their label claims are truthful and accurate—77 percent hold this view—while 64 percent believe that the federal government should increase its own testing of RWA beef.[67]

And yet, USDA has made no meaningful changes to correct its failings. Following its exploratory testing, in a Constituent Update published in August 2024, the agency stated:

> The study findings underscore the need for more rigorous substantiation of such claims. These sampling results may lead to additional testing by the agency. FSIS has the authority to collect samples any time it believes a product is mislabeled with any claim covered by the guidance. Moreover, FSIS may consider future additional actions, including random sampling and rulemaking, to further strengthen the substantiation of animal-raising and environment-related claims.[68]

So while USDA reserves the right to collect additional targeted or random samples or develop related rules, it has taken no known initiative on any of these fronts.

USDA also reported that it "will take enforcement action against any establishments found to be making false or misleading negative antibiotic claims."[69] However, the agency has not stated that it will verify RWA claims with its own inspections, or require third-party testing, or even require that producers conduct their own verification, making enforcement action all but impossible. Unsurprisingly, no enforcement action or penalty has been issued.

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[65] USDA FSIS, "FSIS Guideline," 18-19.
[66] USDA FSIS, "FSIS Guideline," 18.
[67] "John Zogby Strategies Poll of US Adults."
[68] USDA FSIS, "Constituent Update - August 30, 2024."
[69] USDA FSIS, "Constituent Update - August 30, 2024."

In August 2024, USDA did issue letters to the offending companies, stating that antibiotic residues were found in one or more sampled carcasses and advising corrective measures. Farm Forward obtained copies of these letters, including the offending companies' names. In these letters, the agency stated:

> Antibiotics are prohibited in products labeled with claims such as "Raised without antibiotics" or related claims. The sampling results are inconsistent with these claims. Therefore, FSIS **advises** that your establishment conduct a root cause analysis to determine how antibiotics were introduced into the animal and to take appropriate measures to ensure that future products are not misbranded. **FSIS is not taking immediate enforcement action in response** to individual test results stemming from this sampling project. [emphasis added] See Appendix C for example of letter.

Given the inaction of the agency and its ongoing failure to require transparent testing to prove RWA claims are true, consumers should assume RWA-labeled beef may contain antibiotics.

It is not just USDA that fails in its mandate to protect the public and ensure that food safety is meaningfully regulated, but also multiple related agencies.

GOVERNMENT-WIDE FAILURE FUELS INDUSTRY'S RECKLESS USE OF ANTIBIOTICS

While USDA is the government entity responsible for verifying antibiotic labeling claims, the larger problem of unchecked antibiotic use in the industrial animal sector shows up in every agency related to antibiotic use. This problem is not merely a coincidental failure across individual agencies. Instead, it's a systematic, orchestrated refusal to regulate the industry and protect public health. Although antibiotic use in livestock is the primary driver of antibiotic resistance, across agencies the U.S. federal government has deferred to industry, doing little to regulate or limit antibiotic use and allowing what policies and recommendations do exist to be voluntarily or incompletely implemented.[70]

An arm of the federal government itself has exposed this systematic failure. The United States Government Accountability Office (GAO)—the nonpartisan "congressional watchdog" agency appointed by Congress—reports that addressing antibiotic use has been a *federal government-wide*, *multi-agency failure*, involving significant gaps across all agencies involved in antibiotics oversight. For example:

[70] David Wallinga et al., "A Review of the Effectiveness of Current US Policies on Antimicrobial Use in Meat and Poultry Production."

- The FDA has failed to track and report on on-farm use and the purpose of use;
- The Economic Research Service, the National Agricultural Statistics Service, and the Animal and Plant Health Inspection Service have failed to conduct frequent surveys, and when they do survey, have relied on producers' consent rather than compelling it; and
- The Centers for Disease Control and Prevention, FDA, Agricultural Research Service, and Food Safety and Inspection Service have failed to collect sufficient farm-level data.[71]

These agencies want to be seen as addressing the problem, when their efforts can be more accurately understood as "no meaningful action."

One of the many systematic failures in government oversight is the lack of tracking or reporting on the *actual use* of antibiotics on farms.[72] Data collection on antibiotic use is the lynchpin of any successful regulatory action. Regulating antibiotic use requires knowing what quantities of which antibiotics are being used, under what circumstances, and for what duration. But individual producers are not required to report the details of their on-farm antibiotic use. Producers rarely voluntarily report this data, citing antibiotic use as confidential business information.[73] Rather, the FDA collects data on *sales volume* of antibiotics, with no national reporting on the circumstances under which antibiotics are used.[74] As the GAO has made clear, sales volume is "not a proxy for antibiotic use at the farm level."[75]

In 2018, the FDA released a five-year plan for 2019 to 2023 called "Supporting Antimicrobial Stewardship in Veterinary Settings," meant to address the government's failings in tracking and managing antimicrobial use in animals.[76] But by 2023, the National Resources Defense Council found that the FDA still had

> no plans or systems in place to track and identify overuses of these same antibiotics on pigs, cattle, and other farmed animals, nor to curb them. Ironically, [the FDA] plan has never contained goals or indicators to measure the level of stewardship from year to year, or to verify that stewardship in 2023 is better or worse than it was in 2018. There is clear statutory authority for the FDA to do this kind of

[71] U.S. Government Accountability Office (GAO), "Antibiotic Resistance: More Information Needed to Oversee Use of Medically Important Drugs in Food Animals," March 2017.
[72] David Wallinga et al., "A Review of the Effectiveness of Current US Policies."
[73] David Wallinga et al., "A Review of the Effectiveness of Current US Policies."
[74] David Wallinga et al., "A Review of the Effectiveness of Current US Policies."
[75] GAO, "Antibiotic Resistance: More Information Needed."
[76] FDA, "Supporting Antimicrobial Stewardship in Veterinary Settings: Goals for Fiscal Years 2019-2023," September 2018.

tracking and measuring. Through its actions, however, the FDA has demonstrated an unwillingness to exert that authority unless Congress directs it to do so.[77]

In 2022, the FDA's Center for Veterinary Medicine (VMA) enlisted the Reagan-Udall Foundation to convene a working group that was skewed heavily toward the priorities of professional associations representing the food animal sector, but included other stakeholders, to discuss the feasibility of a public-private partnership to develop a database tracking antibiotic use in the livestock industry.[78] This discussion led to a series of working groups charged with developing recommendations for a plan to improve tracking. However, an implementation plan was never advanced; even if the database were to be created, there is no mandate requiring producers' participation. Instead, the 2023 final report largely defers to industry interests and is crafted so meat companies would not be required to reduce or even track antibiotic use on farms. In theory, a public-private partnership *could* help to inform regulation on antibiotic use if it required participation and tracking, as well as antibiotic use reduction targets. However, lacking these requirements, the meaningless outcome of the partnership provides no useful model for addressing the problem.

As the issue of unchecked antibiotic use intensifies, the FDA has repeatedly failed to implement meaningful changes in tracking and regulation. In 2023, following up on its first five-year "Supporting Antimicrobial Stewardship in Veterinary Settings" plan, the FDA released a new plan for 2024–2028 that acknowledged the serious failings in tracking and regulating antibiotic use, identified specific problems with taking bulk volume sales as an indicator for antibiotic use, and again highlighted the need for more comprehensive data on *actual use*.[79] However, the document does not mention any real plan for the systematic data collection or mention any requirements for producers to report on this data.

Prior to the creation of these FDA plans, in what initially seemed to be a promising move, the FDA released the 2017 Veterinary Feed Directive, creating a new requirement for veterinary oversight of antibiotic use in livestock feed.[80] The use of antibiotics as feed additives solely for growth promotion purposes was banned, and a veterinarian's prescription was required before using medically important antibiotics as feed additives. But a loophole allowed producers to continue to use the very same growth-promoting antibiotics in feed subtherapuetically, as the NRDC notes:

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[77] David Wallinga, "Revamping the Animal Drug User Fee Act Should Not Override Public Health," National Resources Defense Council, September 8, 2023.
[78] Reagan-Udall Foundation, "Summary Report: Establishing a Draft Framework for a Public-Private Partnership to Support the Tracking of Antimicrobial Use in Food-Producing Animals," August 2023.
[79] FDA, "Supporting Antimicrobial Stewardship in Veterinary Settings: Goals for Fiscal Years 2024-2028," September 2023.
[80] FDA, "Veterinary Feed Directive (VFD)," January 3, 2024.

"Under these feed directives, however, many livestock antibiotics continue to be fed to herds of animals on a routine basis for the so-called disease prevention, even when there are no sick or diseased animals."[81]

The VFD has a number of critical flaws. For instance, a veterinarian is not required to examine individual animals before prescribing an antibiotic; instead, they need to have familiarity with the management of animals on the farm in question.[82] Producers, in effect, can determine antibiotic use at their own discretion so long as a veterinarian signs off.

Further, the VFD does not address another critical gap in antibiotic use identified by the GAO: ***the duration of antibiotic use.***[83] The GAO identified long-term and open-ended use of antibiotics as a key driver of antibiotic resistance, especially in the case of drugs that are highly important for human medicine.[84]

This is not a minor problem. In 2023, 79 percent of medically important antibiotics sold for use in farmed animals had no specified durations for use.[85] The FDA maintains a list of medically important antibiotics permitted in animal feed that have no defined duration of use. Among these are drugs like aminoglycosides and macrolides that are categorized by the WHO as Critically Important Antimicrobials for human medicine, and tetracyclines, sulfonamides, and lincosamides, categorized as Highly Important Antimicrobials.[86] Antibiotics are meant to be taken for a short duration and in dosages appropriate for treating infections, not in low doses for unspecified durations.[87] Long-term use creates the perfect conditions for antibiotic resistance, as bacteria have the opportunity to adapt to the particular drug.

Many labels fail to provide clear direction regarding the length of time these antibiotics can be used on livestock. This is no coincidence: The pharmaceutical industry endorses the opaque guidelines on its products, as part of its general opposition to regulations on the use of veterinary drugs. With no restrictions on the duration of use, companies steadily accumulate profits as they sell the antibiotics to be used indefinitely.

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[81] David Wallinga, "U.S. Livestock Antibiotic Use Is Rising, Medical Use Falls," *Natural Resources Defense Council*, November 18, 2021.
[82] FDA, "GFI #263: Frequently Asked Questions for Farmers and Ranchers," May 22, 2024.
[83] Pew Trusts, "FDA Must Ensure That All Animal Antibiotics Have Defined Durations of Use," April 1, 2019.
[84] GAO, "Antibiotic Resistance: More Information Needed."
[85] FDA, "2023 Summary Report."
[86] FDA, "List of Approved Medically Important Antimicrobial Drugs Administered in the Feed of Food-Producing Animals that Lack a Defined Duration of Use," May 22, 2024.
[87] Brad Spellberg and Louis B. Rice, "Duration of Antibiotic Therapy: Shorter Is Better." *Annals of Internal Medicine* 171, no. 3 (2019): 210-211.

But the role of the pharmaceutical industry in perpetuating the problem of antibiotic overuse and misuse is much more significant than its negligence in clear directions for the drugs it sells. Since at least the 1970s, the industry has a consistent track record of systematically using its lobbying power to prevent any regulations on antibiotic use in the livestock sector.[88] For instance, in 2013 and 2014, pharmaceutical companies coordinated with agricultural groups to lobby aggressively against three bills presented to Congress that would have tightened restrictions on the use of antibiotics used in livestock. The pharmaceutical industry spent $14.3 million and agricultural groups spent $9.2 million on blocking these bills.[89] The combined lobbying power of these two industries impedes any government progress on regulations that would address the problem of antibiotic misuse.

Individual pharmaceutical executives, too, have taken an active role in campaigning against antibiotics regulation and pushing for support of the livestock sector. For instance, Jeff Simmons (CEO and president of the pharmaceutical giant Elanco) has for years campaigned against plant-based meat companies, arguing that increased consumption of plant-based meat will harm the animal-based meat industry and thus drive down pharmaceutical profits associated with widespread antibiotic use in livestock.[90] In this context, pharmaceutical executives have also been appointed in key government roles to ensure the livestock industry flourishes and regulation is limited. In April 2025, President Trump appointed Tim Schell—a former pharmaceutical industry executive—as acting director of the FDA's Center for Veterinary Medicine.[91] The revolving door of high-level industry personnel being appointed in top government positions is a phenomenon common across government agencies and further blurs the line between industry interests and government regulations.

The federal government's capacity to control the dangerous use of antibiotics is severely compromised by industry's aggressive work against regulation. Rather than enacting adequate regulation, the government relies on both the pharmaceutical and animal agricultural industries to voluntarily adopt safer antibiotics stewardship. Despite long-standing calls for better antibiotic policy, federal agencies have failed to regulate the unchecked use of antibiotics in the industrial animal sector, putting public health in grave danger as a result.[92]

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[88] Claas Kirchhelle, "Pharming Animals: A Global History of Antibiotics in Food Production (1935–2017)," *Palgrave Communications* 4, no. 96 (2018): 1-13. For an overview of the narratives used by the pharmaceutical industry to oppose antibiotic use regulation in livestock, see: Michaela Herrmann and Clare Carlile, "'Narratives of Delay': How the Animal Pharma Industry Resists Moves to Curb the Overuse of Antibiotics on Farms," *DeSmog*, December 20, 2023.
[89] Amy Nordrum and Elizabeth Whitman, "Antibiotic Resistance: How Livestock Lobbyists and Drug Companies Hinder The US Fight Against Superbugs," *International Business Times*, April 29, 2015.
[90] Kenny Torrella, "Why Big Pharma Wants You to Eat More Meat," *Vox,* March 1, 2025.
[91] Lizzy Lawrence and Brittany Trang, "FDA Commissioner Marty Makary Announces Three New Hires in Leadership Team," April 22, 2025.
[92] GAO, "Antibiotic Resistance: Agencies Have Made Limited Progress Addressing Antibiotic Use in Animals," 2011; GAO, "Antibiotic Resistance: Federal Agencies Need to Better Focus Efforts to Address Risk to Humans from Antibiotic Use in Animals," 2004.

How, then, can regulatory and industry measures address the problem of the overuse of antibiotics and antibiotic resistance?

RECOMMENDATIONS FOR FOUR POLICY CHANGES

Farm Forward strongly recommends the following:

1. USDA must require testing to substantiate RWA claims, and producers and retailers must be held accountable for marketing claims.
2. FDA must track and regulate the use of antibiotics in the industrial animal sector.
3. Mandatory reduction targets for all antibiotic use in animal agriculture must be implemented and followed.
4. Regulations must be implemented that address the underlying drivers of antibiotic overuse as an industry-wide problem.

1. USDA must require testing to substantiate RWA claims, and producers and retailers must be held accountable for marketing claims.
As the sole authority approving RWA labels on meat products, USDA must take more aggressive and meaningful action to regulate RWA claims. This involves requiring either USDA or third-party empirical testing to substantiate RWA labels. Retailers and food distributors must verify the veracity of claims made by producers **prior** to marketing RWA products in stores and online. If producers, retailers, and distributors misrepresent RWA claims, punitive action at a level that motivates future corporate compliance should be taken to correct the problem.

2. FDA must track and regulate the use of antibiotics in the industrial animal sector.
Tracking and regulation by the FDA is critical to the objective of antibiotic reduction and responsible use. Tracking actual antibiotic *use* rather than *volume of sales* would more accurately document the situation. In this vein, the FDA must require producers to report on their antibiotic usage, including how and why they have used antibiotics in particular circumstances. Public reports on this data should be published annually.

The agency must also establish clear duration limits for antibiotics to decrease the indefinite use of medically important antibiotics as prophylaxis and for growth and feed efficiency purposes.[93] Additionally, the FDA must mandate that pharmaceutical companies provide clear instructions on the indications, dosages, and durations of use for the drugs they sell to the industrial livestock sector.

3. Mandatory reduction targets for all antibiotic use in animal agriculture must be implemented and followed.

[93] Pew Trusts, "FDA Must Establish Limits for All Animal Antibiotics," April 29, 2021.

In 2024, the UN held a High-Level Meeting on antibiotic resistance, resulting in a political declaration on reducing the use of medically important antibiotics in animal agriculture. The declaration called for a 10 percent reduction in antibiotic use globally by 2030; however, "no specific targets were set for reducing the inappropriate use of antibiotics in food-producing animals, which many believe is a significant contributor to AMR."[94] As noted by the University of Minnesota's Center for Infectious Disease Research and Policy, an earlier draft of the UN declaration had included the target of a 30 percent reduction in "inappropriate use of antibiotics in food-producing animals … but was ultimately dropped following pushback from the veterinary drug industry and leading meat-producing nations, including the United States."[95] Although the declaration suggests some progress in calling for the reduction of antibiotic use, the agreement is not binding, meaning that no country is required to even attempt to meet specific targets.

More aggressive reduction goals must be mandated globally, and the United States should lead the way in setting and meeting these benchmarks. Clear and meaningful definitions of "inappropriate use" based on science, not on meat-industry influence, must inform these reduction efforts.

4. Regulations must be implemented that address the underlying drivers of antibiotic overuse as an industry-wide problem.
At a more fundamental level, the routine practices of industry that lead to disease outbreaks must be addressed, including overcrowding, confinement, poor ventilation, and the breeding of livestock with unhealthy genetics. The WHO calls for alternative options to antibiotics use, such as "improving hygiene, better use of vaccination, and changes in animal housing and husbandry practices."[96] The USDA's Economic Research Service also recommends alternative practices that "include management methods, vaccines, and capital improvements to enhance sanitation."[97] In addition to housing and hygiene, the breeding of livestock must be addressed to reduce the susceptibility of animals to the rapid spread of diseases, including bacterial infections and viral infections, like the highly pathogenic avian influenza H5N1. More genetically heterogeneous populations are more resistant to disease as infections spread less rapidly and widely than in genetically homogenous populations.[98] There must

[94] Chris Wall, "UN Calls for Action, Accountability on Antimicrobial Resistance," University of Minnesota Center for Infectious Disease Research and Policy, September 26, 2024.
[95] Chris Wall, "UN Calls for Action, Accountability on Antimicrobial Resistance.
[96] World Health Organization, "Stop Using Antibiotics in Healthy Animals to Prevent the Spread of Antibiotic Resistance," November 7, 2017.
[97] Stacey Steeringer, "Restrictions on Antibiotic Use for Production Purposes in U.S. Livestock Industries Likely To Have Small Effects on Prices and Quantities," USDA Economic Research Service, November 24, 2015.
[98] K.C. King and C. Lively, "Does Genetic Diversity Limit Disease Spread in Natural Host Populations?" *Heredity* 109 (2012): 199–203; D.P. Berry et al., "Genetics of Animal Health and Disease in Cattle," *Irish Veterinary Journal* 64, no. 1 (2011)

be meaningful improvements in animal husbandry and breeding practices in the industrial animal sector as a way to safeguard animal health, and ultimately human public health.

The science is established and provides clear guidance. The past regulatory environment is what allowed animal agriculture to become the threat that it currently poses to public health, but science-backed regulation could shift animal agriculture to dramatically reduce its existential risk to human well-being.

APPENDIX

Appendix A: List of Companies with Positive Antibiotics Tests in RWA Beef

- Cargill Meat Solutions Corporation
- Swift Beef Company (Owned by JBS)
- Tyson Fresh Meats, Inc.
- AEE Inc. dba Emory's Processing
- Appalachian Abattoir
- Caviness Beef Packers, Ltd.
- Colorado Custom Meat Company, LLC
- Detweiler Meats, LLC
- Double J Meat Packing, Inc.
- Fort Worth Meat Packers, LLC
- Green Bay Dressed Beef, LLC
- Home Place Pastures
- Intermountain Packing, LLC
- J.F. O'Neill Packing Co., Inc.
- Long Prairie Packing Company, LLC
- Musselman’s Meats, LLC
- New Geneva Meats & Processing, Inc.
- P&N Packing, Inc.
- Phillips Processing Plant
- Piedmont Custon Meats, Inc.
- Ralphs Ranches, Inc.
- Responsible Transportation, LLC
- Trackside Butcher Shoppe
- Walke Brothers Meat Processing
- Wayne Mays Meat Processing
- Montshire Packing, LLC

Appendix B: False Marketing of RWA Beef

USDA released the results of its testing and contacted producers in August 2024. The following examples of marketing were all captured on April 14, 2025, well after companies were notified.

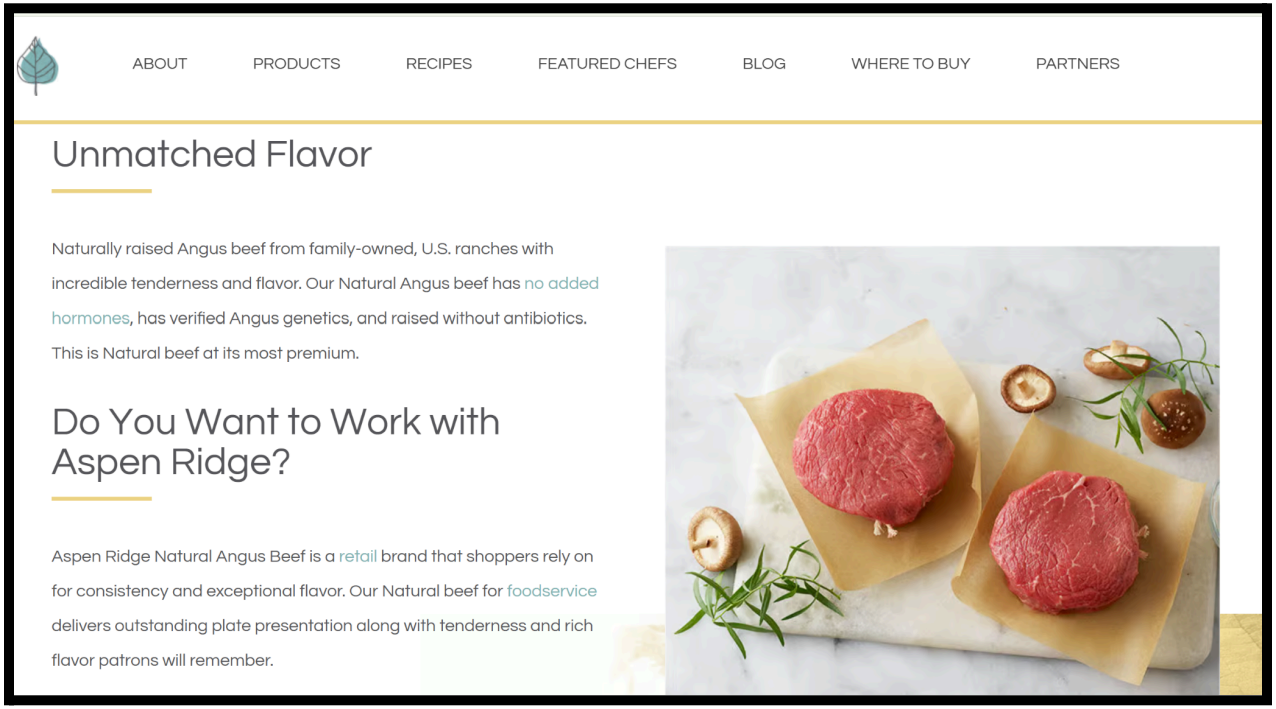


Figure 1. Aspen Ridge®: "Our Natural Angus beef has no added hormones, has verified Angus genetics, and [is] raised without antibiotics."

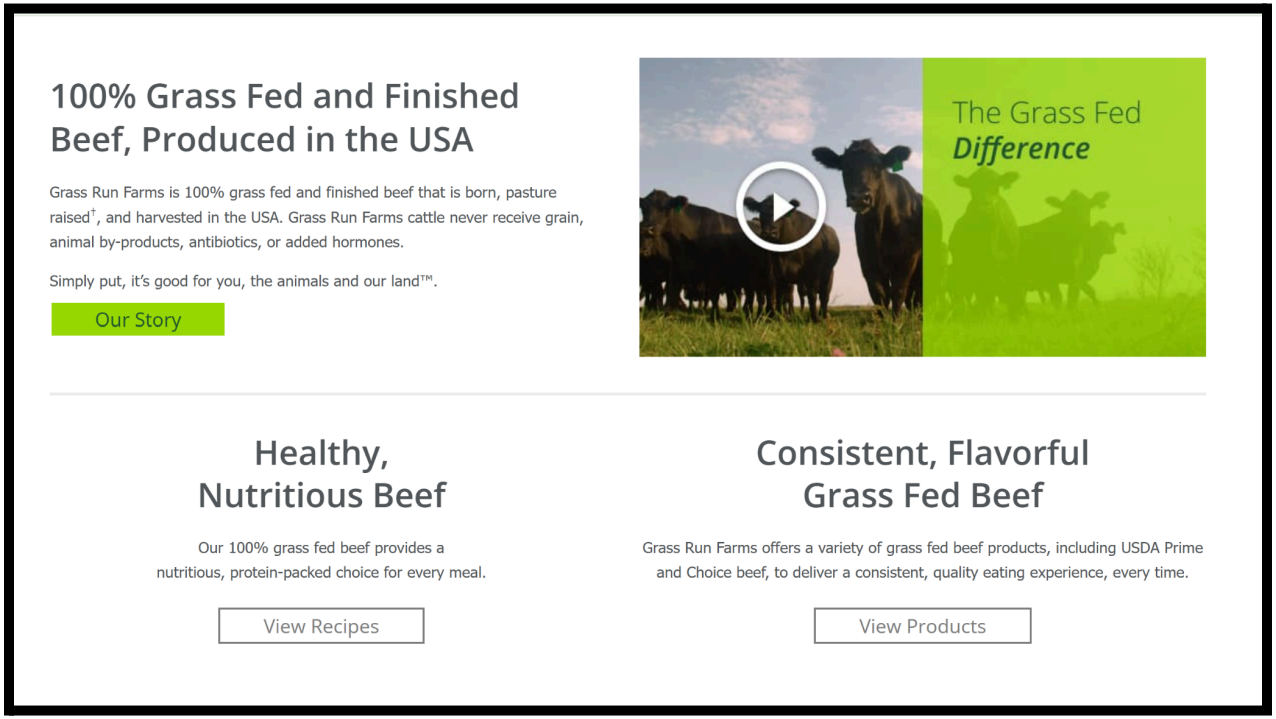


Figure 2. Grass Run Farms®: "Grass Run Farms is 100% grass fed and finished beef that is born, pasture raised†, and harvested in the USA. Grass Run Farms cattle never receive grain, animal by-products, antibiotics, or added hormones."

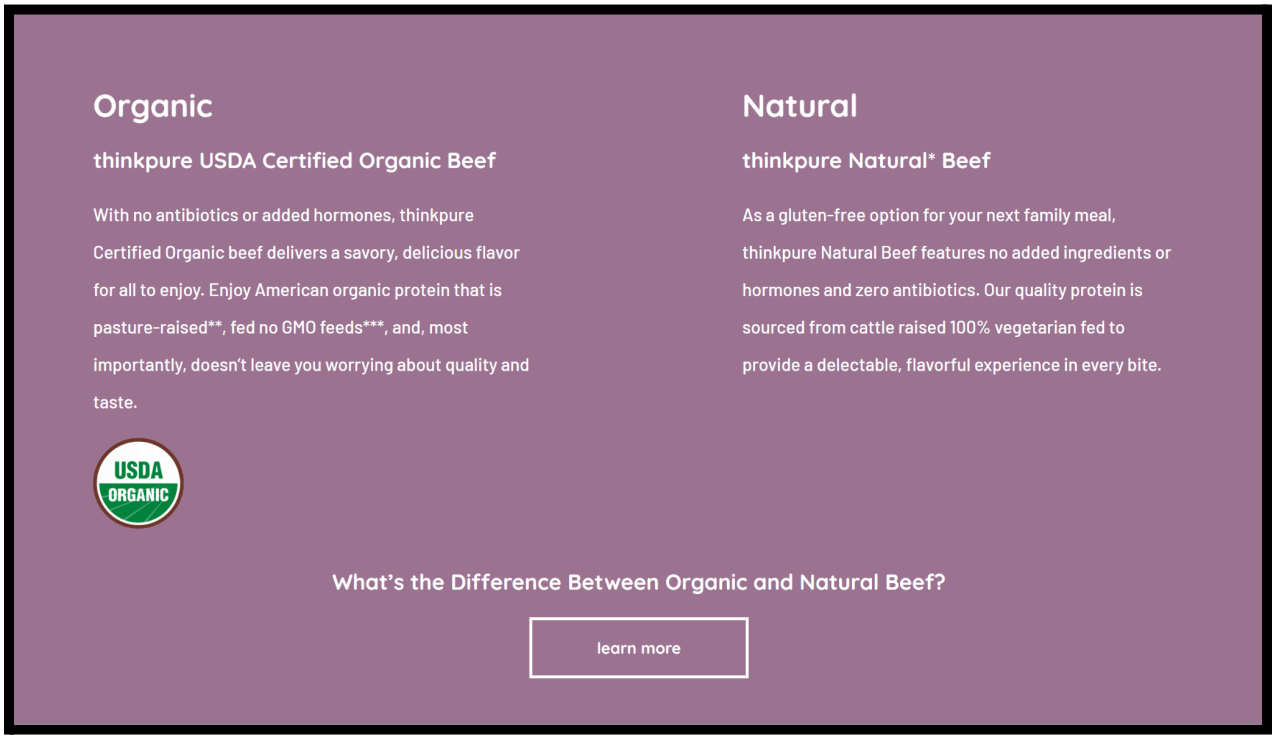


Figure 3. thinkpure®: "As a gluten-free option for your next family meal, thinkpure Natural Beef features no added ingredients or hormones and zero antibiotics."

Figure 4. Home Place Pastures: "We raise grass fed beef, pastured pork, and pastured eggs without using synthetic fertilizers, herbicides, pesticides, or antibiotics, and support a network of regional farmers who share our values."

Figure 5. Emory's Little Store: "We never add any Hormones or Antibiotics."

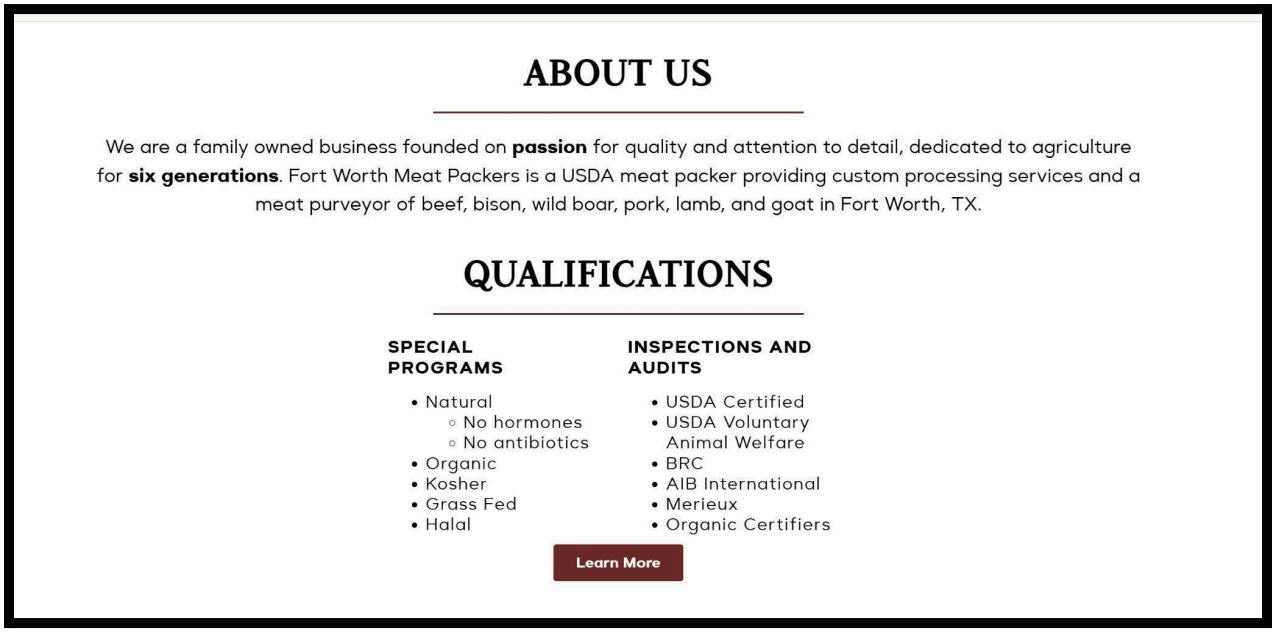
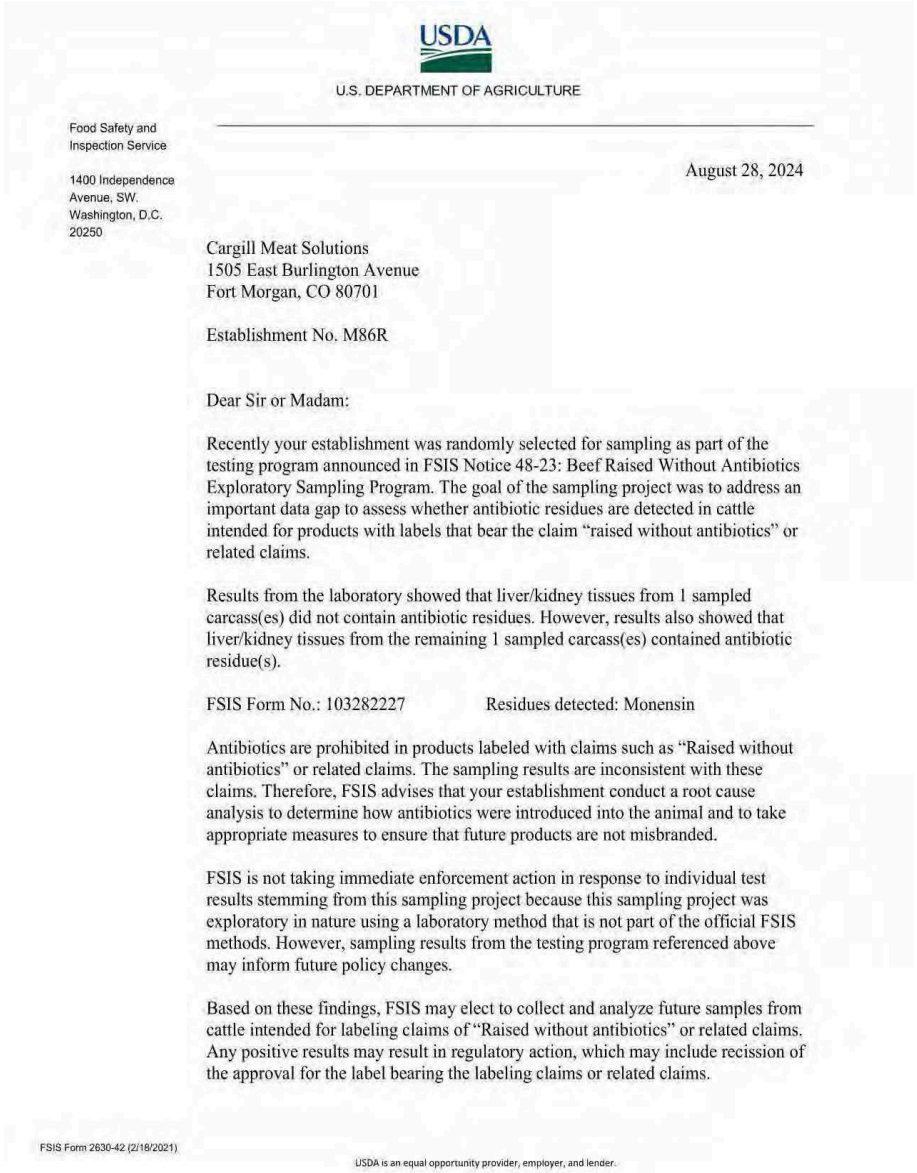


Figure 6. Fort Worth Meat Packers, LLC: "Natural: No hormones. No antibiotics."

Appendix C: Sample Letter from USDA to Offending Companies



USDA

U.S. DEPARTMENT OF AGRICULTURE

Food Safety and Inspection Service

1400 Independence Avenue, SW.
Washington, D.C. 20250

August 28, 2024

Cargill Meat Solutions
1505 East Burlington Avenue
Fort Morgan, CO 80701

Establishment No. M86R

Dear Sir or Madam:

Recently your establishment was randomly selected for sampling as part of the testing program announced in FSIS Notice 48-23: Beef Raised Without Antibiotics Exploratory Sampling Program. The goal of the sampling project was to address an important data gap to assess whether antibiotic residues are detected in cattle intended for products with labels that bear the claim "raised without antibiotics" or related claims.

Results from the laboratory showed that liver/kidney tissues from 1 sampled carcass(es) did not contain antibiotic residues. However, results also showed that liver/kidney tissues from the remaining 1 sampled carcass(es) contained antibiotic residue(s).

FSIS Form No.: 103282227 Residues detected: Monensin

Antibiotics are prohibited in products labeled with claims such as "Raised without antibiotics" or related claims. The sampling results are inconsistent with these claims. Therefore, FSIS advises that your establishment conduct a root cause analysis to determine how antibiotics were introduced into the animal and to take appropriate measures to ensure that future products are not misbranded.

FSIS is not taking immediate enforcement action in response to individual test results stemming from this sampling project because this sampling project was exploratory in nature using a laboratory method that is not part of the official FSIS methods. However, sampling results from the testing program referenced above may inform future policy changes.

Based on these findings, FSIS may elect to collect and analyze future samples from cattle intended for labeling claims of "Raised without antibiotics" or related claims. Any positive results may result in regulatory action, which may include recission of the approval for the label bearing the labeling claims or related claims.

FSIS Form 2630-42 (2/18/2021)

USDA is an equal opportunity provider, employer, and lender.

Appendix D: Medically Important Antibiotics Used in Farmed Animals

Critically Important Antimicrobials

Macrolides (9 percent of medically important antibiotics[99])
Macrolides are used to treat various infections in humans, including pneumonia in critically ill patients, as well as infections like sinusitis, pharyngitis, and tonsillitis.[100] Macrolides are used in farmed animals for both prevention and treatment of disease.[101]

Aminoglycosides (6 percent of medically important antibiotics[102])
In humans, aminoglycosides are used to treat serious gram-negative bacterial infections, including infections such as *E. coli* and pneumonia.[103] In farmed animals, they are used for prevention and treatment of disease and growth promotion.[104]

Highly Important Antimicrobials

Tetracyclines (66 percent of medically important antibiotics[105])
In human medicine, tetracyclines treat respiratory tract infections, multiple sexually transmitted diseases, pneumonia, staph infections, and many others.[106] As the overwhelmingly more common medically important antibiotic used in livestock, tetracyclines address numerous bacterial infections and its widespread administration has led to resistance and cross-resistance to other drugs.[107]

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[99] FDA, "2023 Summary Report."
[100] Wendy I Sligl et al., "Macrolide Use in the Treatment of Critically Ill Patients with Pneumonia: Incidence, Correlates, Timing and Outcomes," *Canadian Journal of Infectious Diseases and Medical Microbiology* 24, no. 4 (2013): e107-12; Parth H Patel et al., "Macrolides," In StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing, updated 2023.
[101] Joseph M Blondeau, "Immunomodulatory Effects of Macrolides Considering Evidence from Human and Veterinary Medicine," *Microorganisms* 9, no. 10 (2022): 2438.
[102] FDA, "2023 Summary Report On Antimicrobials Sold or Distributed for Use in Food-Producing Animals."
[103] Kevin M. Krause et al., "Aminoglycosides: An Overview," *Cold Spring Harbor Perspectives in Medicine* 1, no. 6 (2016): a027029.
[104] Marta Glinka et al., "Determination of Aminoglycoside Antibiotics: Current Status and Future Trends," *TrAC Trends in Analytical Chemistry* 131 (2020): 116034.
[105] FDA, "2023 Summary Report."
[106] Cleveland Clinic, "Tetracyclines."
[107] Melissa A. Mercer, "Tetracyclines Use in Animals," *Merck Veterinary Manual,* April 2025.

Penicillins (10 percent of medically important antibiotics[108])

As one of the original antibiotics, penicillin has been used since the 1940s to treat a wide range of bacterial infections, including strep throat, syphilis, Lyme disease, meningitis, pneumonia, *Salmonella*, and staph infections.[109] Penicillin is still widely used in livestock and leads to antibiotic resistance in humans, in large part through the transfer of residues in meat and milk.[110]

Sulfonamides (4 percent of medically important antibiotics[111])

Sulfonamides were the first antibiotics widely administered in humans and are still commonly used today to treat and prevent dozens of infections, including urinary tract, skin, and burn, and urinary tract infections, malaria, and parasitic diseases.[112] In livestock, sulfonamides are used to treat local and acute systemic infections like mastitis, respiratory infections, and toxoplasmosis.[113] Because of the long history and frequency of their use, this class of drugs is commonly associated with antibiotic resistance.[114]

Lincosamides (3 percent of medically important antibiotics[115])

Lincosamides, such as Clindamycin, are often used when an infection is aggressive and/or resistant to other antibiotics (e.g., *Staphylococcus*, *Streptococcus*), as well as in people who are allergic to penicillins.[116] Lincosamides are used in livestock (especially pigs and cattle), including in long-term use in feed–an application that has been documented to cause antibiotic resistance.[117] Cross-resistance (when bacteria develop resistance to multiple antibiotics that share a similar mechanism of action in fighting an infection) with macrolides has been documented in livestock.[118]

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[108] FDA, "2023 Summary Report."
[109] Cleveland Clinic, "Penicillin."
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Amphenicols (1 percent of medically important antibiotics[119])

In human medicine, amphenicols have been used to treat severe bacterial infections like typhoid and cholera, but their serious adverse side effects have reduced their use.[120] Chloramphenicols have been used to treat eye and ear infections in topical applications.[121] In livestock, amphenicols are used as therapeutics and prophylaxis.[122]

Cephalosporins (less than 1 percent of medically important antibiotics[123])

Cephalosporins are commonly used in human medicine to treat pneumonia, meningitis, gonorrhea, strep throat, and skin, ear, sinus, and urinary tract infections.[124] In cattle, they are used for a range of common infections, including mastitis, bovine respiratory disease, and foot rot.[125]

Fluoroquinolones (less than 1 percent of medically important antibiotics[126])

In human medicine, fluoroquinolones are indicated for a range of infections, including pneumonia, typhoid, anthrax, bronchitis, sinusitis, septicemia, and joint, bone, urinary tract, and skin infections.[127] The use of fluoroquinolones in farmed animals (especially poultry) has been linked to antibiotic resistance in humans for bacterial infections such as *Campylobacter*, *E. coli*, and *Salmonella*.[128]

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