



SAN FRANCISCO

Antibiotic Use in Food Animals Ordinance Reporting Year 2020

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SAN FRANCISCO
ENVIRONMENT
DEPARTMENT

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Executive Summary

Antibiotic resistance is a grave threat to public health that calls on us all to minimize the misuse and overuse of antibiotics so that they will work when we need them.

Understanding the threat of antibiotic resistance, the San Francisco Board of Supervisors passed the Antibiotic Use in Food Animals Ordinance (Ordinance) in 2017, the first local law of its kind in the United States to increase transparency about how certain antibiotics are used in the production of raw meat and poultry. The law seeks to provide information about which producers of raw meat and poultry use antibiotics that are important to human medicine, how much antibiotics are used, and what the use policies are for these antibiotics.

The ordinance focuses on the meat and poultry industry and the grocers that sell their products because approximately two-thirds of antibiotics sold in the U.S. are used by the livestock industry. Despite this large share, there is no federal mandate for this industry to track the on-farm use of antibiotics that are important for human medicine.

Under the Ordinance, chain grocers¹ operating in San Francisco must report data to the San Francisco Environment Department (SF Environment) regarding medically important antibiotics used by the producers of the raw meat and poultry they sell. The Ordinance also requires that SF Environment publish information about this reported data so that consumers may make more informed choices about the meat and poultry they buy and where they buy it. This is the third report under the Ordinance for data collected in the calendar year 2020.

Challenges and Opportunities

2020 brought unique challenges: supply chain disruptions resulting from COVID-19 outbreaks, staffing shortages and at times, packing plant closures, placed unprecedented pressure on both grocers and producers.² These issues caused many grocers to temporarily turn to producers with whom they had not worked previously. This made it more difficult to obtain information from producers who did not have the infrastructure in place to record this data or who did not have any contractual obligations to provide it.

Given those challenges, SF Environment extended the reporting deadline for 2020 data from May 3rd to June 30th, 2021, for poultry and lamb. For beef and pork, SF Environment issued a conditional waiver, allowing aggregated reporting of antibiotics classes used by a representative set of beef and pork producers. In previous years, grocers found that almost no pork and beef producers were willing to provide transparency about their practices to grocers, leaving grocers with no data to report. Working closely with Albertson's, SaveMart, and the California Grocers Association (CGA), SF Environment agreed to issue a conditional waiver allowing grocers to report on antibiotics classes used in the year 2020 by 37 beef and nine pork producers that were the last place of residence for cattle and swine before slaughter, as long as CGA convened two stakeholder meetings to identify barriers to data collection and solutions that will improve data transparency in future years. This pork and beef data for the calendar year 2020 was submitted in December 2021.

¹ Defined as grocers with 25 or more stores anywhere.

² Cowley, Cortney. "Covid-19 Disruptions in the U.S. Meat Supply Chain." *Federal Reserve Bank of Kansas City*, 31 July 2020, www.kansascityfed.org/agriculture/ag-outlooks/COVID-19-US-Meat-Supply-Chain/. Accessed 25 May 2023.

Highlighted Findings

In 2020, 11 grocery chains, representing more than 100 individual retail grocery stores in San Francisco, reported antibiotic use for 95 poultry products sold in San Francisco. Highlights of the reported data include:

- As compared to the last reporting year, 2019, grocers provided more complete information about the policies that govern the production of the meat and poultry they sell, but like last year, some did not provide the required numeric data about antibiotic use.
- Like 2019, reporting for chicken and turkey products featured the highest level of transparency regarding use of antibiotics.
- Due to the waiver issued allowing grocers to report an aggregate set of data provided for beef and pork, there has been an improvement in quantity of data provided. However, this is not the full transparency the Ordinance requires. While we acknowledge the difficulty in obtaining data from a complex supply chain, ultimately it is the responsibility of the livestock industry to begin tracking and disclosing this data.
- Half of the chicken producers who provided numeric antibiotic use data reported using more than the national average of antibiotics per animal.
- Even though three years have passed since the passage of the Ordinance, only one grocer has a public-facing policy that limits antibiotic use – Whole Foods, which maintains a storewide policy restricting the use of antibiotics across all types of meat and poultry. However, a recent sampling of raw meat products at Whole Foods indicates that this policy may not be well enforced.³
- In December of 2021, Costco announced a plan to have 95% of store-brand chicken products raised without antibiotics which are important to human medicine. Additionally, the company plans to release a timeline to achieve 100% of chicken products raised without antibiotics and will report annual percentages of antibiotic use until the goal is reached.⁴ Few grocers have released an official policy or plans to require disclosure of medically important antibiotics from their supply chain.⁵

Overall, grocers improved their reporting of *policies* for antibiotic use for poultry, but many poultry producers failed to report *numeric* antibiotic use information. Pork and beef reporting under the conditional waiver

³ See Goldsmith, Ben. “The Drugs Farm Forward Found Hiding In Your Meat.” *Farm Forward*, 13 April 2022, www.farmforward.com/news/the-drugs-farm-forward-found-hiding-in-your-meat/. Accessed 25 May 2023.

⁴ See “Costco Wholesale Sustainability Commitment.” *Costco*, <https://mobilecontent.costco.com/live/resource/img/static-us-landing-pages/4cAnimal-Welfare.pdf>. Accessed 25 May 2023.

⁵ For example, Costco’s antibiotic use policy for meats other than poultry restates existing requirements of the Food and Drug Administration (FDA) that use of medically important antibiotics for prevention, control and treatment of disease must be under the care of a veterinarian. See “Costco Wholesale Sustainability Commitment.” *Costco*, <https://mobilecontent.costco.com/live/resource/img/static-us-landing-pages/4cAnimal-Welfare.pdf>. Accessed 25 May 2023. Similarly, Kroger has posted a policy which restates the requirement of the FDA. See “Kroger Statements & Policies.” *Kroger*, www.thekrogerco.com/wp-content/uploads/2018/07/The-Kroger-Co_AnimalWelfarePolicy_2018-July.pdf. Accessed 25 May 2023. Target’s website states it does not support “the use of routine, non-therapeutic antimicrobials to promote growth,” which is already a federal requirement. See “Food Animal Welfare Commitments.” *Target*, <https://corporate.target.com/sustainability-ESG/environment/animal-welfare/food-animal-welfare>. Accessed 25 May 2023. Albertsons has a policy on its website requiring suppliers to follow both FDA guidance and all federal, state, and *local* policies. However, many Albertson’s suppliers have not provided antibiotic use data required under the Ordinance in San Francisco. See “Animal Well-Being.” *Albertsons Companies*, www.albertsonscorporation.com/our-impact/products/animal-well-being/default.aspx. Accessed 25 May 2023.

provided the first significant antibiotic data for pork and beef yet received, and we anticipate continued collaboration with grocers and these industries to obtain more transparency into these sectors' use of antibiotics.

Ultimately, we all must do our part to reduce antimicrobial resistance if we wish to keep antibiotics working. All purchasers of meat and poultry, especially grocers, play a pivotal role in applying the market pressure necessary to transform the livestock industry into one that is fully transparent about its use of antibiotics. While it is common for San Francisco's residents to "vote" with their dollars to support products and producers who protect human and environmental health, they cannot do so without complete information about the products they purchase. **It is therefore important for grocers and their suppliers to provide complete information so that San Francisco consumers can send accurate market signals back to grocers.**

1. Introduction

Since the discovery of penicillin in 1928 and its first use in medical treatment in the early 1940s, antibiotics have become a critical part of our medical toolbox. Yet the efficacy of antibiotics is in peril due to the proliferation of antibiotic-resistant bacteria. To preserve the efficacy of our antibiotics, the City and County of San Francisco passed a first-in-the-nation ordinance, the Antibiotic Use in Food Animals Ordinance (Ordinance) in October of 2017. The Ordinance seeks to address the urgent public health threat of antibiotic resistance.

If antibiotics are misused or mis-prescribed – whether in human or veterinary medicine – bacteria may acquire resistance to an antibiotic through gene mutation or the transfer of genetic material between bacteria. While antibiotics are essential to treating many different types of diseases in people, almost two-thirds of all “medically-important antibiotics” – those that are important in human medicine – are used in the livestock industry.⁶ Resistant strains of bacteria can develop from misuse of antibiotics and can quickly spread from farms to the wider world. That is why, in 2017, the World Health Organization (WHO) recommended that “farmers and the food industry stop using antibiotics routinely to promote growth and prevent disease in healthy animals.”⁷

Despite the need to ensure that antibiotics are used appropriately, there are no federal requirements for livestock producers to track and report antibiotic use, and only one state – Maryland – has a reporting requirement for the on-farm use of antibiotics. San Francisco’s Ordinance seeks to address this lack of transparency by requiring certain retailers of raw meat and poultry to report the antibiotic use policies and practices for the meat and poultry sold in their stores. Consumers then may make more informed purchasing decisions about whether their dollars support meat and poultry producers that are transparent about their antibiotic use practices.

1.1 Ordinance Requirements

The Ordinance requires grocers in San Francisco with 25 or more stores anywhere to report two types of information about the raw meat and poultry products they sell. First, grocers must answer high-level policy questions about whether and in what situations antibiotics may be given to animals raised for each of their raw meat and poultry products. Second, grocers must provide the volume of antibiotics used and the number of animals treated to produce each of their product lines.

Antibiotic Use Policy Questions

The following are the policy questions asked of grocers, who then in turn request this information from raw meat and poultry producers in their supply chain.

1. Was this Product Group organic or raised without antibiotics⁸?
2. Was this Product Group raised without medically important antibiotics?

⁶ Wallinga, David & Kar, Avinash. “New Data: Animal vs. Human Antibiotic Use Remains Lopsided.” *Natural Resources Defense Council (NRDC)*, 15 June 2020, www.nrdc.org/experts/david-wallinga-md/most-human-antibiotics-still-going-us-meat-production. Accessed 25 May 2023.

⁷ “Stop Using Antibiotics in Health Animals to Prevent the Spread of Antibiotic Resistance.” *World Health Organization (WHO)*, 7 November 2017, www.who.int/news-room/detail/07-11-2017-stop-using-antibiotics-in-healthy-animals-to-prevent-the-spread-of-antibiotic-resistance. Accessed 25 May 2023.

⁸ “Product Group” is defined as the type of meat or poultry (i.e. beef, chicken, pork, turkey, lamb) and the brand name and sub-brand.

3. Did the policies for this Product Group require veterinarian oversight (e.g., a veterinary feed directive or other prescription) for all medically important antibiotics administered (including for injections and topical applications)?
4. Did the policies for this Product Group prohibit medically important antibiotics for growth promotion?
5. Did the policies for this Product Group prohibit medically important antibiotics for disease prevention⁹?
6. Did the policies for this Product Group allow medically important antibiotics for disease control¹⁰?
7. Did the policies for this Product Group allow medically important antibiotics for disease treatment¹¹?

Numeric Antibiotic Use Data

For any product that was not Organic or certified as not using antibiotics, grocers must provide the names of the producers of each product, the number of animals raised by that producer for that product line, and the amount of twelve classes of medically important antibiotics¹² used to produce that product line. These numeric data are necessary to calculate the average amount of antibiotics used to produce that product line, which then can be used to compare quantities used by different producers to national data and to antibiotic use reported in other countries.

2. Waiver Issued

In 2020, the California Grocers Association petitioned for a waiver of all reporting requirements on behalf of San Francisco grocers, citing both pandemic supply chain issues and extreme difficulty in obtaining data from the pork and beef sectors. SF Environment did not waive poultry reporting because grocers had been fairly successful in obtaining information from this sector which is largely vertically integrated, meaning the supply chain is far less complex. However, because the beef and pork supply chains are very complex, SF Environment agreed to accept data on the classes of antibiotics used by representative suppliers for pork and beef, on the condition of grocers convening two stakeholder meetings with pork and beef producers to identify challenges to full reporting and begin developing solutions for future reporting years.

3. Reporting Compliance

The following eleven grocers were subject to the Ordinance in 2020. Poultry data from these grocers was reported on time; however, the aggregated beef and pork data was submitted almost 6 months after the extended due date.

⁹ Delivery of antibiotics without a diagnosis of disease.

¹⁰ Delivery of antibiotics to an entire flock or herd of animals when one or more animals, but not all, are diagnosed with disease.

¹¹ Delivery of antibiotics to an animal that is diagnosed with disease.

¹² The twelve classes are available in Appendix A of FDA's Guidance Document, CVM GFI #152 (2003), "Evaluating the Safety of Antimicrobial New Animal Drugs with Regard to Their Microbiological Effects on Bacteria of Human Health Concern." *Food and Drug Administration (FDA)*, January 2023, www.fda.gov/media/69949/download. Accessed 25 May 2023.

- Albertsons (Safeway)
- Costco
- Grocery Outlet
- Kroger (Foods Co.)
- Smart & Final
- US Foods
- The Savemart Companies (Lucky)
- Whole Foods
- Target
- Trader Joe's
- Walgreens

One grocer, Whole Foods, maintained a storewide policy prohibiting antibiotic use to produce meat and poultry sold in its stores; per the Ordinance, Whole Foods submitted public-facing documentation of this policy.¹³

3.1 Compliance – Policy Questions

The answers to the antibiotic use policy questions listed in Section 1.1 are meant to reveal the circumstances under which meat and poultry producers are using medically important antibiotics. Of particular concern is giving antibiotics to healthy animals. The US Food and Drug Administration (FDA) has been slow to address this issue, having only eliminated the use of medically important antibiotics for the purpose of increasing the rate of growth of healthy animals. The FDA continues to allow that antibiotics be given to healthy animals to prevent and/or control disease if the use is under the oversight of a licensed veterinarian.¹⁴

For reporting year 2020, grocers provided mostly complete answers to the antibiotic use policy questions for poultry. For pork, beef and to some degree lamb, previous reporting years have seen almost universal data gaps; to address this problem, the Department has been working with grocers and producers to identify barriers and solutions to reporting. One result of these efforts is that pork and beef producers provided a representative sample of aggregated, anonymized reporting data for 2020 that included mostly complete answers to the policy questions. This marks a step in the right direction, though full transparency has not yet been achieved.

Figures 1-3 below provide an aggregated view of which policies were in use as a percentage of products sold by each grocer. Figure 1 shows whether medically important antibiotics for growth promotion was prohibited by the producer. Data shown in Figure 1 has improved substantially since 2019. Almost all grocers reported prohibiting antibiotics for growth promotion for 100% of their products. Smart & Final, for example, reported 97% which marks an increase from the 81% reported in 2019. While the FDA does not allow antibiotics to be used for growth promotion, some raw meat and poultry products may be produced where this practice is still allowed such as in some Latin American countries.

¹³ "Meat Department Quality Standards." *Whole Foods Market*, www.wholefoodsmarket.com/quality-standards/meat-standards. Accessed 25 May 2023

¹⁴ "GFI #209, Judicious Use of Medically Important Antimicrobial Drugs in Food-Producing Animals." Food & Drug Administration (FDA), April 2012, www.fda.gov/regulatory-information/search-fda-guidance-documents/cvm-gfi-209-judicious-use-medically-important-antimicrobial-drugs-food-producing-animals. Accessed 25 May 2023

Figure 1. Percent of poultry and lamb products offered by grocers, including organic and NAE, that have policies prohibiting medically important antibiotics for growth promotion

Did the policies for this Product Group prohibit medically important antibiotics for growth promotion?	Yes	No
Albertsons Companies	100%	0%
Costco	100%	0%
Grocery Outlet	100%	0%
Kroger	100%	0%
Savemart	100%	0%
Target	100%	0%
Walgreens	100%	0%
US Foods	100%	0%
Smart & Final	97%	3%
Trader Joe's	96%	4%

Figure 2 shows whether lamb and poultry sold in stores may have been raised with medically important antibiotics to prevent disease. The fact that many products may have been raised this way is not surprising since the FDA has not prohibited this use as long as it is conducted under veterinary care. Nonetheless, it is a concerning practice. **Using antibiotics to prevent disease in a group of healthy animals is like giving antibiotics to healthy children going to daycare just because they will be exposed to germs.** Instead, wherever possible, producers should vaccinate animals against disease, and then provide adequate space, shelter and healthy food.

Figure 2. Percent of poultry and lamb products offered by grocers, including organic and NAE, that have policies prohibiting medically important antibiotics for disease prevention

Did the policies for this Product Group prohibit medically important antibiotics for disease prevention?	Yes	No
Trader Joe's	92%	8%
Grocery Outlet	80%	20%
US Foods	80%	20%
Albertsons Companies	78%	22%
Target	67%	33%
Savemart	64%	36%
Kroger	62%	38%
Smart & Final	57%	43%
Costco	50%	50%
Walgreens	50%	50%

Figure 3 below shows whether meat and poultry sold in stores may have been raised with medically important antibiotics for disease control, whereby one animal in a group is diagnosed with a disease and all animals are treated. This practice may be warranted in certain cases of very infectious disease but should not be used routinely.

Figure 3. Percent of poultry and lamb products sold by grocers, including organic and NAE, that have policies allowing medically important antibiotics for disease control

Did the policies for this Product Group allow medically important antibiotics for disease control?	No	Yes
Trader Joe's	88%	12%
Grocery Outlet	38%	62%
US Foods	33%	67%
Albertsons Companies	31%	69%
Kroger	27%	73%
Target	25%	75%
Smart & Final	24%	76%
Savemart	23%	77%
Costco	0%	100%
Walgreens	0%	100%

For a view of individual *producers'* answers to antibiotic use policy questions, see Appendix A.

3.2 Compliance – Numeric Antibiotic Use Data

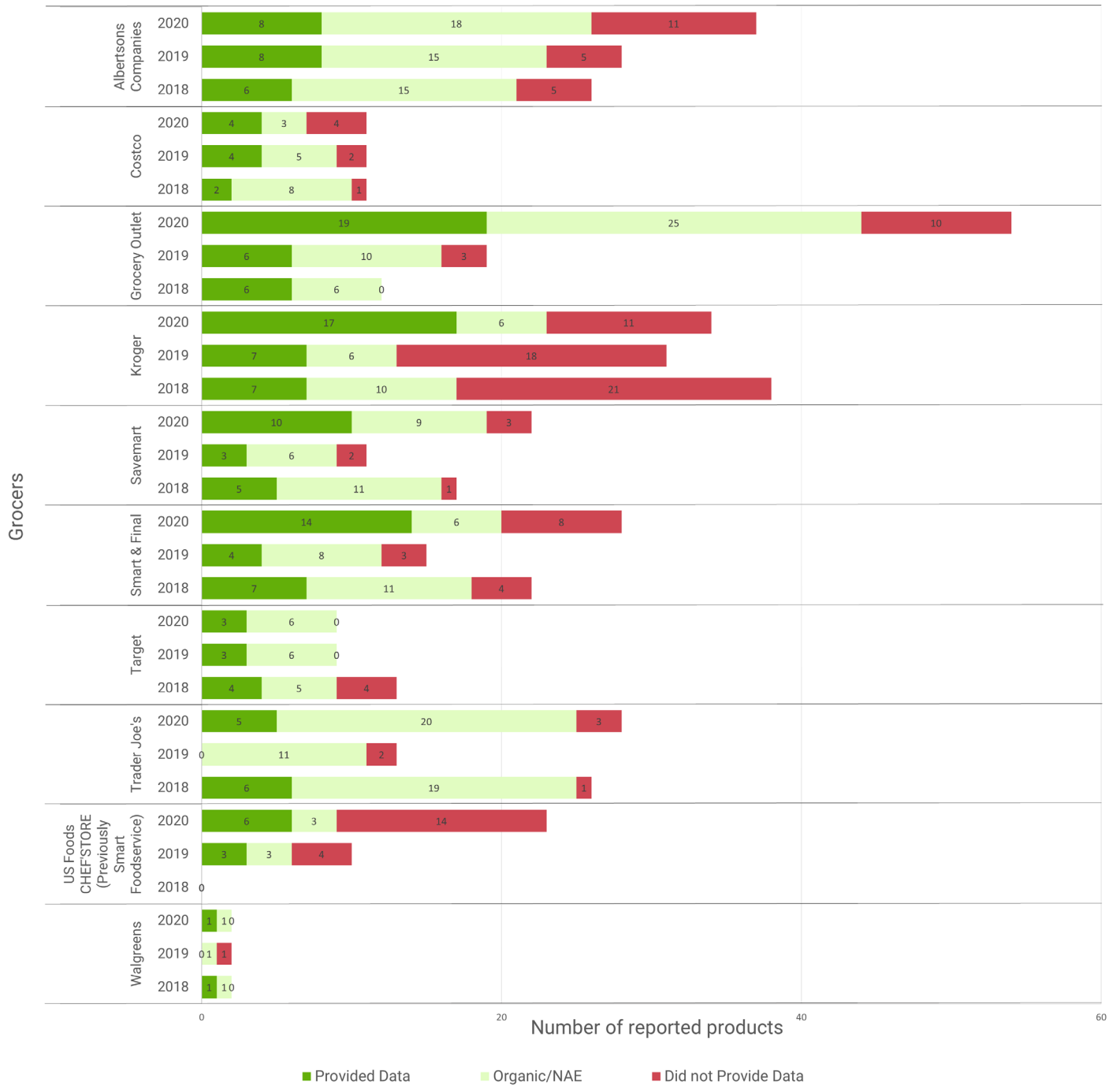
For all products that are *not* Organic or “No Antibiotics Ever” (NAE), grocers must also provide the identity of the producer(s) that supplied the raw meat or poultry for that product, the number of animals raised for that product, and the number of kilograms of 12 classes of medically important antibiotics used to raise those animals. These data allow for calculations that can help in comparing antibiotic use by species, producers, brands, and grocery stores; it also allows for comparisons to national and international rates of antibiotic use.

Most grocers' 2020 data shows an improvement from the previous two years: Albertson's, Grocery Outlet, Kroger, Save Mart (Lucky), Smart & Final, Trader Joe's, and US Foods provided more complete antibiotic use data than previously. Costco, Target, and Walgreens provided the same amount of data as 2019. Trader Joe's reported a large increase in the number of Organic/NAE products.

Figure 4 below presents the number of grocers' products for which numeric antibiotic use information was reported, by grocer. It is noteworthy that many grocers sold more new products than in previous years, likely because the pandemic disrupted their previous supply chains and they had to transition to different suppliers.

In addition, Figure 4 shows that all grocers offer organic and/or NAE products. Whole Foods is not listed in this chart because all products offered are organic and/or NAE. A list of organic and NAE brands offered by grocers is listed in Appendix

Figure 4. Number conventional poultry and lamb products for which grocers provided kilograms of antibiotics used and number of organic/NAE products available, by year



Figures 5-7 below show an analysis of whether antibiotic use data was *provided by producers* to grocers.¹⁵ In 2020, ten chicken producers and six turkey producers reported 100% antibiotic usage data. This marks strong improvement from 2019 but still lacks the full transparency that is required by the Ordinance. In cases where suppliers' data was provided for some products but not all, it is unclear whether grocers failed to ask for the information or if suppliers failed to provide requested data. For a different view of the same data in Figures 5-7, see Appendix C.

Compared to 2019, almost all chicken producers in 2020 provided data on more products, with ten producers reporting antibiotic data for all products.

Figure 5. CHICKEN - Percentage of producers' conventional products for which antibiotic use data was provided

Producer	Number of products reported	Percentage antibiotic use data provided
Foster Farms	16	100%
Agrosuper	8	100%
Peco	5	100%
Randall Foods	4	100%
Fair Market Inc.	3	100%
Devine	1	100%
Golden Valley	1	100%
IQF	1	100%
John Soules	1	100%
Isernio's	1	100%
Sanderson Farms	4	75%
Pilgrims	7	71%
Supremas	2	50%
Wayne Farms	2	50%
House of Raeford	8	25%
Tyson	6	0%
Koch Foods	2	0%
Vista	2	0%
Americhicken	1	0%
Custom Craft Poultry	1	0%
Levitt Foods	1	0%
Lincoln Premium Poultry	1	0%
Miami Beef Co.	1	0%
Porky's	1	0%
Pucci Foods	1	0%
Twin Rivers	1	0%
Uncle Lou's	1	0%
Maple Leaf Farm	1	0%
Golden West Food Group	1	0%
OK Foods	1	0%

Legend
80% - 100% Complete
50% - 79% Complete
0% - 49% Complete

¹⁵ Data may reflect: 1) grocers' failure to collect information, 2) producers' failure to provide information to grocers, or 3) grocer errors in submitting information to San Francisco Environment.

Figure 6. TURKEY - Percentage of producers' conventional products for which antibiotic use data was provided

Producer	Number of products reported	Percentage antibiotic use data provided
Foster Farms	9	100%
Dakota Provisions	7	100%
Birchwood	1	100%
Honeysuckle White	1	100%
Coleman Natural	1	100%
Butterball	12	92%
Jennie-O	9	33%
Cooper Farms	7	0%
Michigan Turkey Producers Co-Op, Inc	6	0%
Farbest Foods	6	0%
Golden Valley	1	0%
Turkey Valley Farms	1	0%

Legend
80% - 100% Complete
50% - 79% Complete
0% - 49% Complete

In 2020, reporting for Butterball turkey products increased from 80% to 92% of products. For the first time, grocers reported sales of turkey from Dakota Provisions, Birchwood, Coleman Natural, and Honeysuckle White, all of which provided antibiotic data on all their products. This year, grocers did not report any sales of turkey by Cargill.

Figure 7. LAMB - Percentage of producers' conventional products for which antibiotic use data was provided

Producer	Number of products reported	Percentage antibiotic use data provided
The Lamb Company	5	100%
Australian Lamb Company	2	100%
Atkins Ranch	2	100%
JBS	1	0%
Thomas Foods International	1	0%
Other	1	0%

Legend
80% - 100% Complete
50% - 79% Complete
0% - 49% Complete

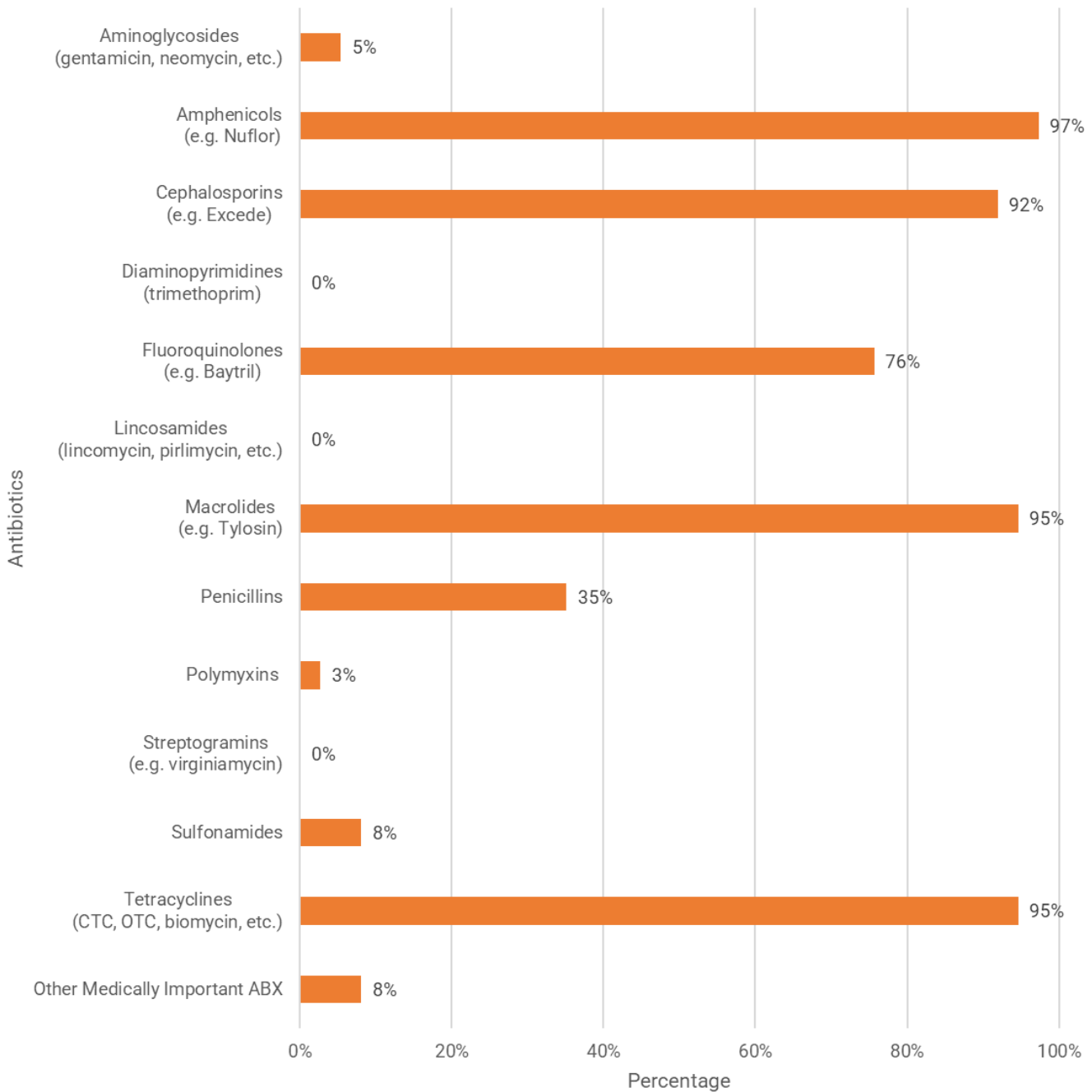
In 2020, grocers reported six lamb products. Three out of six suppliers provided antibiotic use data for these products.

As mentioned previously, the waiver issued for beef and pork allowed grocers to report which classes of antibiotics were used by a representative set of producers – 37 cattle and 9 pork producers that were the last place of residence for the animals before slaughter. Due to this waiver, there is no producer-specific numeric

data to report. Though this isn't the full transparency that is required, it is a strong improvement from 2019 where almost no beef or pork producers reported any numeric data. Figures 8 and 9 below show the specific antibiotics used to treat cattle and swine and the percentage of producers who used each. Notably, these charts only include the percentages of producers who reported numeric antibiotic data -- this is not a complete list of all producers. The last bar, labeled "Other Medically Important ABX", accounts for any antibiotic used that was not part of the antibiotic classes listed.

Figure 8 shows that antibiotic use was concentrated in five classes of antibiotics. Concerningly, one producer reported use of Polymyxins. Polymyxins include the antibiotic colistin which is used to treat serious infections and is typically used as a last line of defense against bacteria that are resistant to all other bacteria.¹⁶

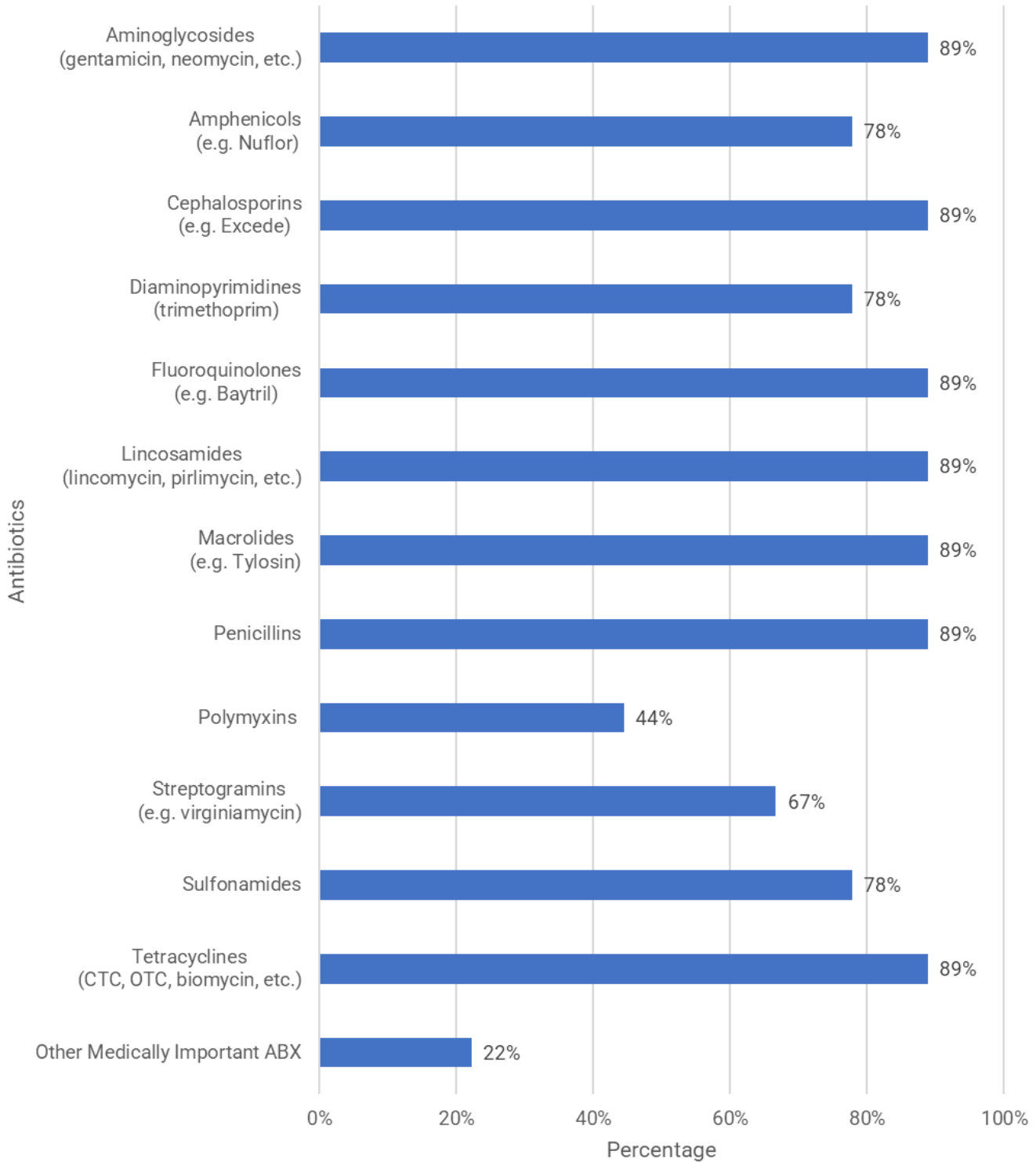
Figure 8. BEEF – Percentage of producers that used each antibiotic class



¹⁶ Moffatt, Jennifer H., Marina Harper, and John D. Boyce. "Mechanisms of polymyxin resistance." *Polymyxin antibiotics: From laboratory bench to bedside* (2019): 55-71.

Figure 9 below shows that pork producers use of antibiotics was less concentrated in certain classes, and instead all classes of antibiotics were used. Notably, almost half of pork producers reported using polymyxins, which, as noted above, are considered a last line of defense against certain multi-drug resistant strains of bacteria.

Figure 9. PORK -- Percentage of producers that used each antibiotic class (2020)

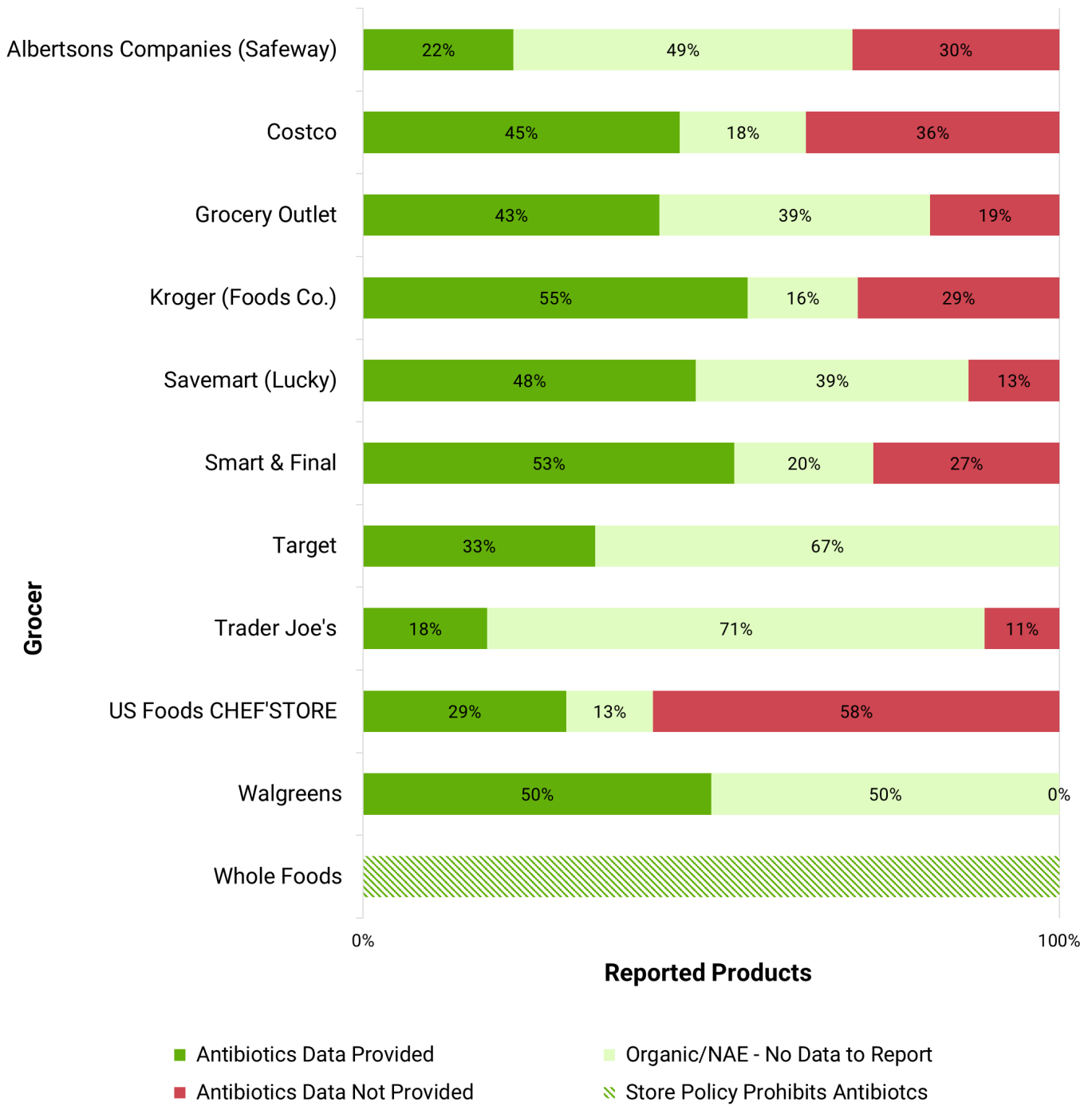


3.3 Store Brand Reporting

Many grocers offer products labeled under their own store brand. Based on reported data and conversations with several grocers, many grocers are increasingly selling products labeled under their store brands. These products are typically purchased based on contractual specifications and often labeled by the producer on the store's behalf. **Store brand contracts represent an important opportunity for grocers to require greater disclosure of antibiotics used by producers, and possibly requirements that prohibit the use of antibiotics for disease prevention.**

Figure 10 below shows the number of store brand products reported by each grocer and whether antibiotic use data was submitted. For many grocers who reported in both 2019 and 2020, there has been an increase in the number of Organic/NAE products for sale in their stores.

Figure 10. Number of store branded poultry and lamb products for which grocers provided kilograms of antibiotics used



4. Differences in Sector Reporting

As in 2018 and 2019, there were clear differences in the level of reporting for the five major species sectors of the livestock industry (e.g. beef, chicken, turkey, pork and lamb). Poultry led the market in providing kilograms of antibiotics used to produce their products. Interviews with industry experts and grocers suggested the poultry sector is ahead of other sectors for several reasons. First, a broiler chicken's life is relatively short – 45 to 60 days to slaughter. These animals are therefore more likely to spend their entire lives in one place until slaughter. This vertical integration simplifies collection and tracking of antibiotic use.

In addition, fast-food restaurants faced public scrutiny and advocacy campaigns regarding overuse of antibiotics in chicken production several years ago. Under pressure from their customers, chicken producers have made improvements in tracking and reduced their use of medically important antibiotics.

By contrast, a cow bred for consumption lives for about 36 months and is commonly transferred to several different locations before slaughter. Swine live for approximately six months and may be transferred to one to two locations in their lifetimes. Currently, locations along the supply chain may not consistently collect data on antibiotics used, much less transfer that data when moving animals from location to location.

Given these realities, SF Environment issued the previously mentioned waiver allowing representative antibiotic classes to be reported for beef and pork at the last place of residence before slaughter. With the difficulty of collecting and reporting data significantly reduced, more data was provided on antibiotic use in beef and pork. This is a step in the right direction toward full reporting in the coming years.

5. Comparing Antibiotic Use to a National Average

The Ordinance requires two sets of numeric data – kilograms of antibiotics used and the number of animals raised – so as to calculate a producer's average antibiotic use per kilogram of livestock.¹⁷ This producer average then can be compared to a national average of antibiotic use per kilogram of livestock.¹⁸ Although little data was reported for kilograms of antibiotics used, we were able to calculate some producer averages and compare those to the national average, as depicted in Figures 11-13 below for chicken, turkey, and lamb.

It is important to note that for many of the graphs below, SF Environment did not receive complete numeric data for every product. Therefore, the calculated averages do not provide a full picture of antibiotic use but rather provide some insight into possible general trends of current antibiotic use for at least the producers willing to provide data.

¹⁷ Calculation is modeled after the European Surveillance of Veterinary Antimicrobial Consumption (ESVAC). The units of measurement are "mg/PCU" or milligrams per Population Correction Unit. PCU is an average weight of the animal at the time it is most likely to be treated with antibiotics. More information on ESVAC and species by species calculations are available at "European Surveillance of Veterinary Antimicrobial Consumption (ESVAC)." European Medicines Agency, <https://www.ema.europa.eu/en/veterinary-regulatory/overview/antimicrobial-resistance/european-surveillance-veterinary-antimicrobial-consumption-esvac>. Accessed 25 May 2023.

¹⁸ Wallinga, David et al. "A Review of the Effectiveness of Current US Policies on Antimicrobial Use in Meat and Poultry Production." Current environmental health reports vol. 9,2 (2022): 339-354. doi:10.1007/s40572-022-00351-

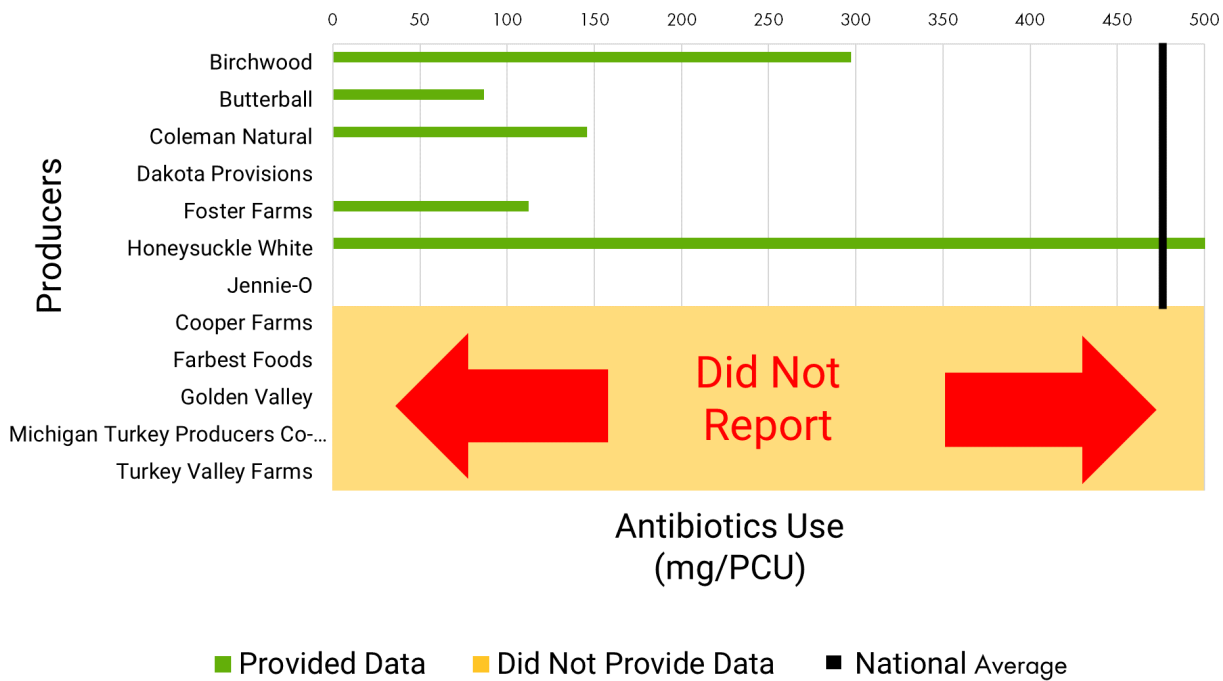
Figure 11. CHICKEN -- Producer antibiotic use in mg/PCU as compared to national average (2020)¹⁹



In 2020, more producers provided data than in 2018 and 2019. However, compared to the numeric use data provided in 2019, the antibiotic use is higher in 2020. As is shown in Figure 11, four of the nine producers who reported data used more antibiotics than the national average. It is notable that the national average for chicken is far lower than any other species. Additionally, the national average in 2020 is lower than the 2019 value, which may indicate a sector shift to using less or no antibiotics.

¹⁹ Pilgrims Pride average is based on the 71% of product data it provided. House of Raeford average is based on the 50% of product data it provided. Wayne Farms average is based on the 50% of product data it provided.

Figure 12. TURKEY – Producer antibiotic use in mg/PCU as compared to national average (2020)²⁰



With the exception of one producer, turkey producers that were transparent regarding antibiotics usage used less than the national average. Overall, the number of producers reporting antibiotic use data more than doubled from three in 2019 to seven in 2020. Notably, Dakota Provisions and Jennie-O Foods Inc. reported almost no antibiotic use in their turkey products. That said, for providers using antibiotics, the average antibiotic use in turkey is consistently higher when compared to use in chicken.

In 2020, JBS was the only specific lamb producer reported. However, JBS did not provide any numerical antibiotic use data. Therefore, there is no chart comparing reported antibiotic use to a national average for lamb.

²⁰ Butterball average is based on the 92% of product data it provided.

6. Conclusions & Next Steps

For the 2020 reporting year, San Francisco’s chain grocers made progress in complying with the Ordinance. As in 2019, antibiotic use policy information was 100% complete. Additionally, more numeric data was provided in 2020, likely due in part to the previously mentioned waiver.

That said, **San Francisco grocers should redouble their efforts to obtain information for all meat and poultry they sell to fully comply with the Ordinance. It is only with complete information that San Francisco consumers can make informed purchasing decisions.**

Experience from grocers in Great Britain demonstrates what is possible: in response to requests similar to those required under the Ordinance, nine of ten British grocers rapidly developed antibiotic use policies.²¹ Likewise, we hope chain grocers with a presence in San Francisco will push their raw meat and poultry suppliers to improve their efforts of tracking and disclosing their antibiotic use, creating policies that restrict that use to the treatment of diseased animals, and ultimately reduce overall use of medically important antibiotics.

If more jurisdictions pass ordinances like San Francisco’s, growing public awareness and consumer demand for transparency could drive grocers and meat and poultry producers to better track antibiotic use, and ultimately toward improvements in antibiotic use practices. In addition, multiple jurisdictions with similar reporting requirements could combine funding sources to create a multi-jurisdictional reporting platform that would ease grocers’ reporting burden and improve consistency in data collected.

We look forward to working with grocers and producers in the coming reporting cycles to improve data quality and quantity, provide important information for consumer choice, and ultimately keep medically important antibiotics effective. Consumers have the right to know how much, when, and why antibiotics are used so they may make informed choices. **The current lack of transparency undermines consumers’ rights to express their values through their purchasing decisions.**

²¹ See “Supermarket Antibiotics Policies Assessment 2019.” *Save Our Antibiotics*, January 2020, www.saveourantibiotics.org/media/1826/supermarket-antibiotics-policies-assessment-2020-report.pdf. Accessed 25 May 2023.

Appendix A – Producers with policies prohibiting certain uses of antibiotics

Did the policies for this Product Group prohibit medically important antibiotics for growth promotion?	Yes	No
Agrosuper	100%	0%
Alliance Group	100%	0%
ANZCO	100%	0%
Applegate Farms	100%	0%
Atkins Ranch	100%	0%
Australian Lamb Company	100%	0%
Birchwood	100%	0%
Butterball	100%	0%
Cooper Farms	100%	0%
Dakota Provisions	100%	0%
Diestel	100%	0%
Empire Kosher	100%	0%
Fair Market Inc.	100%	0%
Farbest Foods	100%	0%
Foster Farms	100%	0%
Golden West Food Group	100%	0%
Honeysuckle White	100%	0%
House of Raeford	100%	0%
IQF	100%	0%
Isernio's	100%	0%
JBS	100%	0%
Jennie-O	100%	0%
June	100%	0%
Lincoln Premium Poultry	100%	0%
Maple Leaf Farm	100%	0%
Michigan Turkey Producers Co-Op, Inc	100%	0%
Northern Pride	100%	0%
OK Foods	100%	0%
Peco	100%	0%
Perdue	100%	0%
Petaluma Poultry	100%	0%
Pilgrims	100%	0%
Pitman Farms	100%	0%
Progressive Meats	100%	0%
Sanderson Farms	100%	0%
Silver Fern Farms	100%	0%
Southern Meats	100%	0%
The Lamb Company	100%	0%
Turkey Valley Farms	100%	0%
Tyson	100%	0%
WAMMCO	100%	0%
Wayne Farms	100%	0%
Coleman Natural	86%	14%
Supremas	0%	100%
Americhicken	N/A	N/A
Custom Craft Poultry	N/A	N/A
Devine	N/A	N/A
Golden Valley	N/A	N/A
John Soules	N/A	N/A
Koch Foods	N/A	N/A
Levitt Foods	N/A	N/A
Miami Beef Co.	N/A	N/A
Other	N/A	N/A
Porky's	N/A	N/A
Pucci Foods	N/A	N/A
Randall Foods	N/A	N/A
Thomas Foods International	N/A	N/A
Twin Rivers	N/A	N/A
Uncle Lou's	N/A	N/A
Vista	N/A	N/A

N/A: producer provided no information in responses

Did the policies for this Product Group prohibit medically important antibiotics for disease prevention?	Yes	No
Agrosuper	100%	0%
Alliance Group	100%	0%
ANZCO	100%	0%
Australian Lamb Company	100%	0%
Coleman Natural	100%	0%
Cooper Farms	100%	0%
Dakota Provisions	100%	0%
Empire Kosher	100%	0%
House of Raeford	100%	0%
Junee	100%	0%
Maple Leaf Farm	100%	0%
Michigan Turkey Producers Co-Op, Inc	100%	0%
Perdue	100%	0%
Progressive Meats	100%	0%
Sanderson Farms	100%	0%
Silver Fern Farms	100%	0%
Southern Meats	100%	0%
Turkey Valley Farms	100%	0%
Tyson	100%	0%
WAMMCO	100%	0%
Wayne Farms	100%	0%
Peco	80%	20%
JBS	50%	50%
Foster Farms	7%	93%
Birchwood	0%	100%
Butterball	0%	100%
Farbest Foods	0%	100%
Honeysuckle White	0%	100%
IQF	0%	100%
Jennie-O	0%	100%
Pilgrims	0%	100%
Supremas	0%	100%
Americhicken	N/A	N/A
Applegate Farms	N/A	N/A
Atkins Ranch	N/A	N/A
Custom Craft Poultry	N/A	N/A
Devine	N/A	N/A
Diestel	N/A	N/A
Fair Market Inc.	N/A	N/A
Golden Valley	N/A	N/A
Golden West Food Group	N/A	N/A
Isernio's	N/A	N/A
John Soules	N/A	N/A
Koch Foods	N/A	N/A
Levitt Foods	N/A	N/A
Lincoln Premium Poultry	N/A	N/A
Miami Beef Co.	N/A	N/A
Northern Pride	N/A	N/A
OK Foods	N/A	N/A
Other	N/A	N/A
Petaluma Poultry	N/A	N/A
Pitman Farms	N/A	N/A
Porky's	N/A	N/A
Pucci Foods	N/A	N/A
Randall Foods	N/A	N/A
The Lamb Company	N/A	N/A
Thomas Foods International	N/A	N/A
Twin Rivers	N/A	N/A
Uncle Lou's	N/A	N/A
Vista	N/A	N/A

N/A: producer provided no information in responses

Did the policies for this Product Group allow medically important antibiotics for disease control?	No	Yes
Coleman Natural	100%	0%
House of Raeford	100%	0%
Michigan Turkey Producers Co-Op, Inc	100%	0%
Tyson	100%	0%
Agrosuper	0%	100%
Birchwood	0%	100%
Butterball	0%	100%
Cooper Farms	0%	100%
Dakota Provisions	0%	100%
Farbest Foods	0%	100%
Foster Farms	0%	100%
Honeysuckle White	0%	100%
IQF	0%	100%
JBS	0%	100%
Jennie-O	0%	100%
Maple Leaf Farm	0%	100%
Peco	0%	100%
Pilgrims	0%	100%
Sanderson Farms	0%	100%
Supremas	0%	100%
Turkey Valley Farms	0%	100%
Wayne Farms	0%	100%
Americhicken	N/A	N/A
Custom Craft Poultry	N/A	N/A
Devine	N/A	N/A
Golden Valley	N/A	N/A
Golden West Food Group	N/A	N/A
John Soules	N/A	N/A
Koch Foods	N/A	N/A
Levitt Foods	N/A	N/A
Lincoln Premium Poultry	N/A	N/A
Miami Beef Co.	N/A	N/A
OK Foods	N/A	N/A
Other	N/A	N/A
Porky's	N/A	N/A
Pucci Foods	N/A	N/A
Randall Foods	N/A	N/A
Thomas Foods International	N/A	N/A
Twin Rivers	N/A	N/A
Uncle Lou's	N/A	N/A
Vista	N/A	N/A

N/A: producer provided no information in responses

Appendix B – Brands reported to offer some organic and/or NAE products

Brands 2020

Chicken

Empire Kosher

Fair Market

Foster Farms

Good & Gather

Isernio's

Just Bare

Kirkland Signature

Marys Organic

O Organic

OFOD

Open Nature

Perdue

Rocky

Rocky Chicken

Rosie

Simple Truth Organic

Sweetwater Creek

Trader Joe's

Tyson

Sheep

Atkins Ranch

JBS

New Zealand

Opal Valley

Open Nature

Private Label

The Lamb Company

Turkey

Applegate Farms

Diestel

Empire Kosher

Foster Farms

Norbest

O Organic

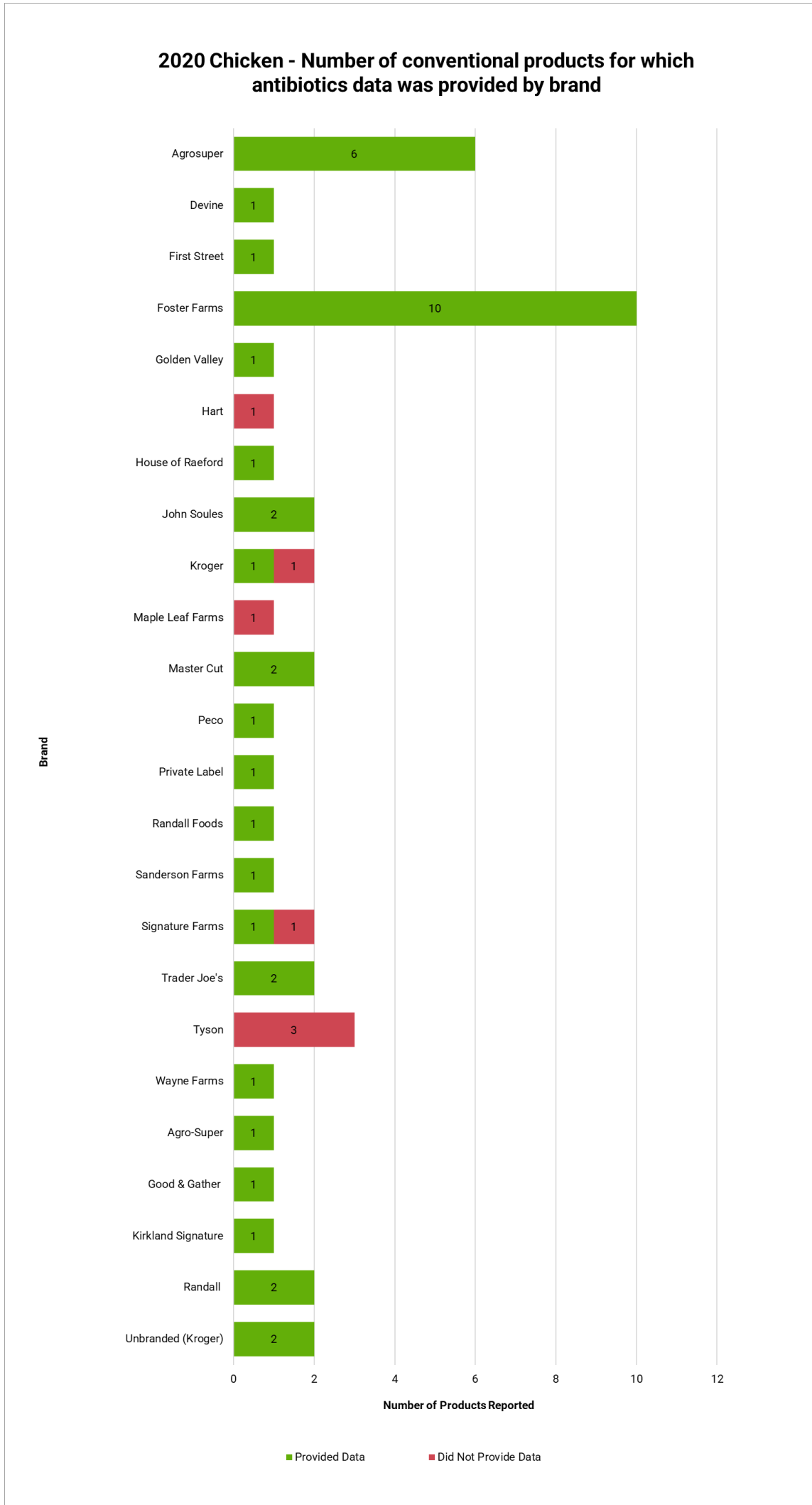
Open Nature

Signature Farms

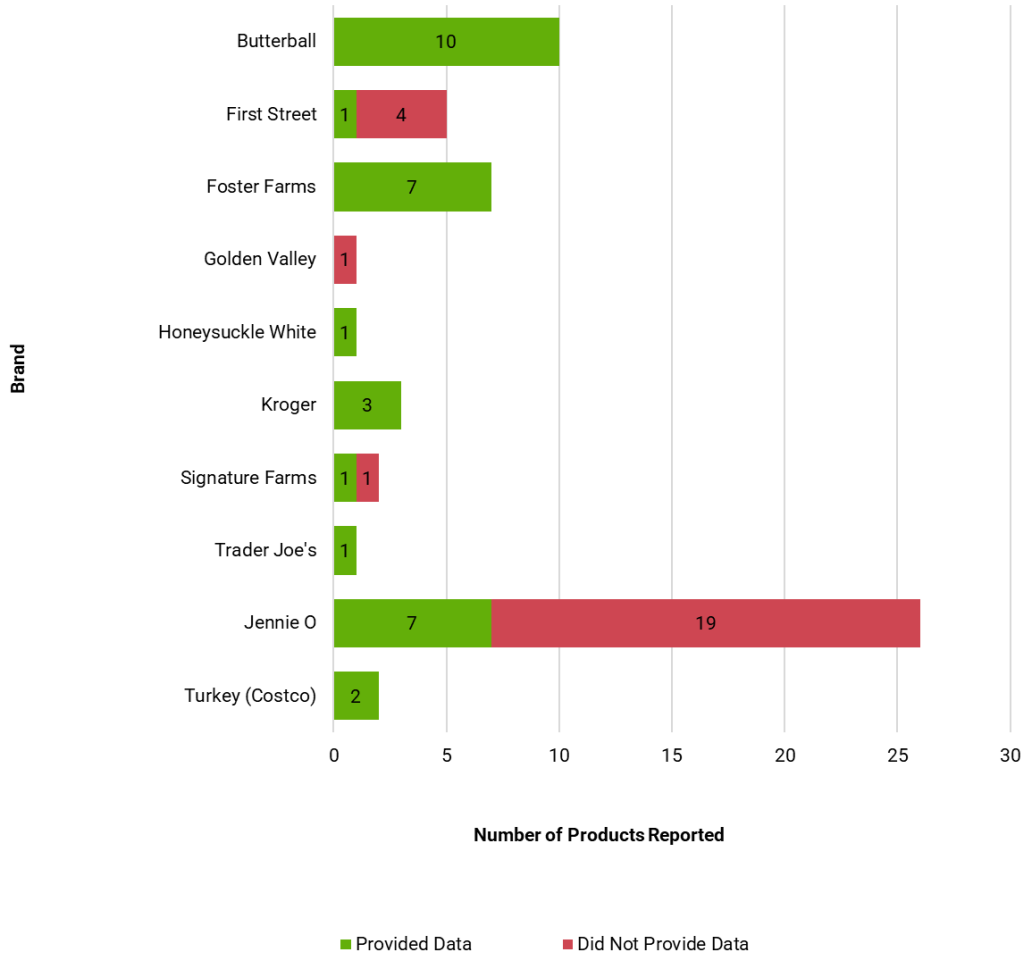
Trader Joe's

Appendix C – Which producers provided antibiotic use data?

Charts in Appendix C are a different view on the same data reported in Figures 5-7, that is whether producers provided antibiotic use data. As mentioned above, in cases of suppliers where there was data provided for some products but not all, it is unclear whether the producers intentionally did not report some data or if grocers never requested it.



2020 Turkey - Number of conventional products for which antibiotics data was provided by brand



2020 Lamb - Number of conventional products for which antibiotics data was provided by brand

