

Original Paper

The Issue of Overusing Antibiotics in Cattle in the US Food

Industry

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Abstract

The misuse of antibiotics in cattle production in the United States deserves more public recognition and regulatory intervention. Antibiotics are used by cattle farmers not just for treating cattle illnesses, but mostly to increase profits and earnings. Antibiotic abuse is not unique in the United States. It has already happened on a global scale, with the United States being one classical example. To deal with overusing antibiotics in cattle, one way is to settle limitation requirements by federal agencies. The other approach is to impose taxes on antibiotics applied in cattle production. Advantages and disadvantages are identified for the two solutions respectively. The best option is determined by the event's timing and character, as well as the country's specific conditions.

Keywords

cattle production, antibiotics, policy intervention

1. Introduction

Cattle production is significant to the US food economy, American's daily menu, environment, and public health. USDA statistics indicated that cattle farming, as the most important agricultural industry, had been constantly making up a majority of overall agricultural commodity cash payments. Steak, milk, and other cattle products are common in Americans' plates, and the United States was the largest beef consumer in the world in 2020. Additionally, Mannette (2021) stated that Americans who invest a great deal of money in their food, are also concerned with its sustainability and health effects. However, the overuse of antibiotics in US cattle production is worth more attention and policy intervention, which has already impacted American's daily life with the emergence of superbugs and a growing number of people becoming resistant to drugs.

Recent studies showed that antibiotics were commonly overused by cattle producers in the United

States. Guglielmi (2017) reported that a great number of antibiotics—almost 80% of all—were put into food animals, especially cattle in the US. It should be noted that producers not only utilized this vast number of antibiotics to cure sick cattle due to infections, but they also applied antibiotics to prevent and control diseases (DeVuyst, 2017). As can be seen, the issue of overusing antibiotics in the US cattle industry is evident.

2. Analysis of Problem Mechanisms

What were the motivations behind those producers? The reasons included that antibiotic overuse was carried out as a strategy to increase producers' profits with low costs. Tom Peters, a consulting nutritionist to beef producers, stated that antibiotics added in cattle feed cost approximately \$1 a head (Johnston, 2017). In addition, research manifested antibiotics were effective at promoting the growth and production of cattle (Angulo et al., 2005). In this way, lots of revenue would be earned by using these cheap antibiotics to generate greater weights of cattle and a higher number of cattle products. As a result, it gradually became a routine for the interest-driven producers to overuse antibiotics on cattle in order to make more profits.

Yet, the consequence of overusing antibiotics in the cattle industry is severe. Antibiotic treatment of cattle on a regular basis promotes the development of drug-resistant microorganisms. Kazuaki Miyagishima, director of food safety at the WHO, stated that overuse of antibiotics in cattle was a major contributor to the emergence of antibiotic resistance since bacteria could be passed on to humans, especially when people interacted with cattle producers or ate items made from cattle (Harvey, 2017). Antibiotic resistance kills a lot of people in the United States every year. According to data from the Centers for Disease Control and Prevention (2013), in the United States, more than 2 million people have been infected with the sign of antibiotic resistance, and at least 23,000 people die each year as a result. Most importantly, this tragic conclusion illustrates that if the cow industry ignores the issue of antibiotic usage and continues to develop antibiotic resistance, a little accident can be lethal to customers. Dr. Keiji Fukuda, assistant director-general for health security at the World Health Organization (WHO), urged that simple diseases and minor injuries, which could have been cured with medical treatment and procedures, would endanger people's lives once more (Boseley, 2014). It became clear that unless people took this situation seriously and took appropriate steps, they would be forced back to a primitive stage when tiny illnesses led to massive casualties.

Antibiotic abuse in cattle is not simply a problem in the United States, but it has also drawn international attention. In fact, antibiotic overuse has already occurred on a global basis and USA is one of the instances. The distinction was that antibiotics were added to the feed of different livestock in different nations, such as pigs in China, chickens in England, and fish in Japan. Sally Davies, England's chief medical officer, warned that the planet was on the verge of an antibiotic apocalypse (Schwarz, 2017). In other words, resistance to antibiotics was a nightmare for humans because of its incredible ability to peel away the human body's medicinal armor. Unfortunately, the problem of animal overuse

of antibiotics is expanding around the world, as meat demand has been steadily increasing (Schoepp, 2017).

3. Discussion on Feasible Solutions

Two viable solutions to this thorny challenge have been offered in the United States. To begin with, some experts recommend that the federal government issue regulations requiring a particular number of antibiotics to be provided for cattle feeding (Johnston, 2016). On the one hand, the government has the capacity to compel producers to shift their existing behavior in ways that the market cannot. As a result, it is an effective method for producers to adapt their antibiotic dosage based on the visible hand's guidance. This strategy, on the other hand, focuses on the correct direction. The goal of reducing antibiotic usage in cattle, according to Matthew Wellington, field director of the US PIRG charity antibiotics program, is to eliminate ordinary antibiotic use in healthy cattle (McKenna, 2017). By optimizing the genuine usefulness of antibiotics, it is reasonable to limit the influence of antibiotics that are remaining in cattle. By doing that, antibiotics are more likely to be administered to sick cattle for medical purposes rather than for the purpose of increasing productivity (FDA, 2017). Antibiotics should be used in this manner all of the time by producers. Nevertheless, they take advantage of legal loopholes because there is no limit on the number of antibiotics that can be used in feeding cattle. (Ferber, 2003).

Another option is to impose a tax on antibiotics used in agriculture. Antibiotics, which are variable inputs, will be used more sparingly by rational producers as the cost of these inputs rises. Making antibiotics more expensive forces producers use them only when strictly necessary (Guglielmi, 2017). We correct producer misbehavior using this approach by simply relying on the market. Hollis and Ahmed (2013) pointed out that this technique had four advantages. To begin with, it was a simple implementation for administrators to carry out since, as long as the tax was settled, they could just leave it to market and watched the practical situation. Secondly, the tax could deter low-value uses of antibiotics with the help of their substitutes of them. In this article, vaccinations and better animal-management methods were provided as examples. Producers would naturally be distracted from excessively utilizing antibiotics if they had a variety of alternatives in their hands. Antibiotics were not the only option, and they chose to use them only when necessary. The concept allowed producers to weigh whether it was worthwhile to insist on using antibiotics while also reducing the overuse and misuse of antibiotics. Third, the additional cash generated from collecting the tax can be used to fund socially beneficial projects such as antimicrobial stewardship, education programs, and infrastructure improvements. In practice, the taxable income will go toward restocking and maintaining the antibiotic supply. Fourth, if this strategy is expanded internationally, it will be more feasible. It encourages governments to impose the tax since it allows them to generate revenue. Taxing would be far more appealing to enforce than issuing injunctions, which bring no revenue to the government. It is acceptable on a global scale. Given these considerations, the approach of pricing antibiotics in

agriculture is beneficial to both farmers and the United States government.

4. Conclusion

To reach a conclusion, antibiotic abuse in cattle is a severe problem caused by cattle farmers abusing cheap antibiotics, and it must be addressed as soon as possible in the United States. Cattle producers abuse antibiotics for their personal gains, regardless of the public's benefits. Many Americans die each year as a result of antibiotic resistance, which is closely linked to the overuse of antibiotics in cattle production.

Furthermore, the issue is receiving worldwide attention since it poses a threat to humanity's future. To solve this serious problem, two potential solutions have been proposed as follows: the government enacting legislation to limit the amount of antibiotics used in agriculture, and the government pricing antibiotics used in agriculture. Each approach has its own set of benefits and drawbacks. The ideal option is determined by the timing and nature of the event, as well as the circumstances of the nation. The first step in conquering the steep mountain is to recognize the problem and try to uncover potential solutions. Putting the ideas into action is a vital step, and developing ties with people all around the world can assist in this endeavor and help achieve that goal.

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