

Routine Drug Use in Livestock and Poultry—What Consumers Can Do

Food Safety and Sustainability Center at Consumer Reports

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Introduction

The development of bacteria that can resist antibiotics is now a public health crisis. The U.S. Centers for Disease Control and Prevention (CDC) estimates that every year antibiotic-resistant bacteria cause more than two million infections, killing at least 23,000 people.¹ The problem is not limited to this country. Globally, the World Health Organization (WHO) has warned of an “end to modern medicine as we know it” and that “things as common as strep throat or a child’s scratched knee could once again kill.”²

An important contributor to the rise of antibiotic resistance is the misuse of these drugs in livestock and poultry production for growth promotion and disease prevention.³ Additionally, food animals may receive other drugs like beta-agonists and hormones,⁴ which threaten their health.⁵

As consumers have grown more concerned about how their food is produced, many have opted out of a system that places them at risk by seeking meat and poultry produced without the routine use of drugs.⁷ The Consumer Reports Food Safety and Sustainability Center has developed guides to the antibiotic use and animal welfare practices of leading brands, restaurants, and labels to help consumers choose more sustainably produced meat and poultry, both at the grocery store and when eating out. The Center will publish a full report on routine drug use and animal welfare in the coming months.

Routine Antibiotic Use in Livestock and Poultry Promotes Antibiotic Resistance

The rise of antibiotic resistance is driven by the overuse of antibiotics.⁸ In bacterial populations, random genetic mutations allow some bacteria to survive exposure to antibiotics.⁹ In the presence of antibiotics, these bacteria can out-compete more susceptible bacteria and become more common over time.¹⁰ In short, antibiotic resistance is Darwinian evolution on a microscopic scale. If we want antibiotics to remain effective, we must stop selecting for resistance by overusing these drugs.¹¹ This means only using antibiotics to treat bacterial infections,¹² as prescribed by a medical professional.

The overuse of antibiotics can occur in many settings—doctors’ offices¹³ and hospitals,¹⁴ for example—but we cannot save antibiotics without meaningful changes in our food system, especially livestock and poultry production. This is because, in the U.S., the use of antibiotics in livestock and poultry dwarfs their use in humans: about 80 percent of these drugs go to food animals.¹⁵ Furthermore, low doses of antibiotics can be fed to food animals for long durations to promote growth and prevent disease.¹⁶ Such routine use of antibiotics exerts continuous selective pressure for antibiotic resistance.¹⁷

The livestock¹⁸ and poultry¹⁹ industries—and the trade association for drug companies²⁰ that sell them antibiotics—claim that current uses of antibiotics are necessary to assure animal health and food safety. This argument elides a basic question: why is routine antibiotic use necessary?

The past 65 years have witnessed a transformation in animal agriculture. Small, independent farms have been replaced by mammoth facilities that confine thousands of animals together in close contact with each other and their waste.²¹ These animals produce enormous amounts of manure—335 million tons in 2005²²—that can contaminate the air we breathe and the water we drink and use to irrigate crops.²³

Meanwhile, stresses induced by overcrowding at these operations suppress animals' immune systems,²⁴ leaving them vulnerable to infection. This system depends on routine drug use to prevent disease.

Unless we address the underlying, systemic reasons for routine antibiotic use, pledges to reduce or even eliminate these drugs' use may simply mean that companies will switch to other drugs for the same purposes without implementing other safeguards to improve the safety and sustainability of their products. In fact, 450 drug products have been approved for use in animal agriculture, often for growth promotion and disease prevention, according to a recent report from the Center for Food Safety.²⁵ For example, antibiotics used only in animals, like ionophores, may continue to be used routinely in healthy animals for disease prevention.²⁶ This practice allows the industry to continue to confine immense numbers of animals—and generate vast quantities of waste that threaten public health and the environment. Preventing disease, controlling pathogen growth, and preserving the effectiveness of antibiotics requires better waste management, hygiene, and animal welfare—not daily doses of drugs.

Hormone and Beta-agonist Use

Beyond antibiotics, hormones and other drugs known as beta-agonists, which are similar to asthma medications, can be used in certain species to promote animal growth.²⁷ While the primary concern with antibiotic use is selection for antibiotic resistance, hormones and beta-agonists are different. These drugs raise concerns about animal health.²⁸ Many drug approvals are based on limited or outdated data submitted by drug companies to the Food and Drug Administration (FDA) to demonstrate their safety.²⁹

The FDA has approved the use of hormones, including estrogen, progesterone, testosterone, and their synthetic equivalents, in beef cattle; hormone use is not approved for pork or poultry production.³⁰ Ractopamine is approved for use in beef cattle, pigs, and turkeys, and another beta-agonist known as zilpaterol is approved specifically for use in beef cattle.³¹ Ractopamine is associated with animal mortality and significant adverse health events, according to FDA data.³²

What Consumers Can Do

In recent years, several companies that produce or sell meat and poultry have pledged to reduce or eliminate the use of antibiotics and/or other drugs. Ideally, all meat and poultry would be produced without the routine use of drugs. This would mean banning all antibiotic use for growth promotion and disease prevention, and banning hormone and beta-agonist use for growth promotion. It would also require better animal welfare, as problems in this area underlie the need for routine drug use.

Some companies, brands, and fast-food restaurant chains have made some progress in these directions. The January 2016 issue of Consumer Reports, [now available at ConsumerReports.org](http://www.ConsumerReports.org), includes information on the antibiotic use practices of meat and poultry brands and fast-food chains. Many companies also have internal animal welfare policies; however, these policies range widely in what they require, how they are verified, how they were developed, and whether standards are publicly available.

Below, Consumer Reports' Food Safety and Sustainability Center has prepared a guide to third-party certification labels commonly found on meat and poultry products. Labels have several advantages:

publicly available standards, independent verification, and meaningful requirements for animal welfare that go beyond industry norms (e.g. prohibiting gestation crates, increasing living space requirements). In this way, meaningful, certified labels provide the highest level of assurance for consumers.

The Center's guide highlights the policies of third-party labels regarding routine uses of all antibiotics, including those important in human medicine as well as animal antibiotics like ionophores, and other drugs like beta-agonists and hormones. We also review their animal welfare and farm management standards. You can use this detailed guide to make more informed decisions about the health, safety and sustainability of the meat and poultry you buy, and help move the marketplace in a better direction.

Label Ratings

We rated third-party labels found on meat and poultry products based on four criteria: Do they allow the use of antibiotics used in human medicine for growth promotion or disease prevention? Do they allow the use of antibiotics used only in animals, like ionophores, for growth promotion or disease prevention? Do they allow the use of beta-agonists or hormones? Do they set standards for hygiene, confinement, waste management, and animal welfare (e.g., space allowance and indoor air quality)?

For each major species—beef, pork, chicken, and turkey—we present the *best* labels, which ban the use of human and animal antibiotics for growth promotion and disease prevention, ban the use of beta-agonists and hormones, set high standards for animal welfare and farm management, and are verified by third parties, as well as *additional* labels. Some additional labels (e.g., GAP Step 4, American Grassfed) are still meaningful, while others (e.g., Natural) have nothing to do with drug use or animal welfare.

Here is what our numbered ratings mean for each category in the Labels tables below. You can obtain additional details on a label’s animal welfare rating at www.greenerchoices.org/eco-labels.

Rating	Human Antibiotics	Animal Antibiotics	Other Drugs	Animal Welfare
4	Prohibits use for growth promotion and disease prevention.	Prohibits use for growth promotion and disease prevention.	Prohibits use of <i>all</i> beta-agonists and hormones.	Comprehensive and highly meaningful standards.
3	Prohibits use for growth promotion and <i>some</i> disease prevention.	Prohibits use for growth promotion and <i>some</i> disease prevention.	-	Standards cover <i>most</i> but not all aspects of animal welfare and farm management.
2	Prohibits use for growth promotion but <i>not</i> disease prevention.	Prohibits use for growth promotion but <i>not</i> disease prevention.	Prohibits use of <i>some</i> beta-agonists or hormones.	Standards cover <i>some</i> but not all aspects, or the label offers only minimal improvements over the industry standard.
1	Does not prohibit use for growth promotion or disease prevention.	Does not prohibit use for growth promotion or disease prevention.	Does not prohibit use of beta-agonists or hormones.	No comprehensive standards, or the label reflects the industry standard.

Beef Labels

Best Labels	Human Antibiotics	Animal Antibiotics	Other Drugs*	Animal Welfare
Animal Welfare Approved	4	4	4	4
Animal Welfare Approved Grassfed	4	4	4	4
GAP Step 5	4	4	4	4
GAP Step 5+	4	4	4	4
Additional Labels				
American Grassfed	4	4	4	3
American Humane Association	2	2	4	2
Antibiotic-free**	-	-	-	-
Certified Humane	4	4	4	3
GAP Step 1	4	4	4	2
GAP Step 2	4	4	4	2
GAP Step 4	4	4	4	3
Grassfed	1	1	1	2
Natural	1	1	1	1
No Added Antibiotics	4	4	1	1
No Antibiotics Administered	4	4	1	1
No Antibiotics Ever	4	4	1	1
No Growth Promotants	1	1	2	1
No Hormones	1	1	2	1
Raised without Antibiotics	4	4	1	1
USDA Organic	4	4	4	2
USDA Organic + Grassfed	4	4	4	3
USDA Process Verified - Grassfed	1	1	1	2
USDA Process Verified - Never Ever 3	4	3	4	1

*For beef, 'Other Drugs' include beta-agonists and hormones. ** USDA has not approved the claim "antibiotic-free."

Pork Labels

Best Labels	Human Antibiotics	Animal Antibiotics	Other Drugs*	Animal Welfare
Animal Welfare Approved	4	4	4	4
GAP Step 5	4	4	4	4
GAP Step 5+	4	4	4	4
Additional Labels				
American Humane Association	2	2	4	2
Antibiotic-free**	-	-	-	-

Certified Humane	4	4	4	3
GAP Step 1	4	4	4	2
GAP Step 2	4	4	4	2
GAP Step 3	4	4	4	3
GAP Step 4	4	4	4	3
Natural	1	1	1	1
No Added Antibiotics	4	4	1	1
No Antibiotics Administered	4	4	1	1
No Antibiotics Ever	4	4	1	1
No Growth Promotants	1	1	2	1
No Hormones	1	1	1	1
PQA-Plus	1	1	1	1
Raised without Antibiotics	4	4	1	1
USDA Organic	4	4	4	2
USDA Process Verified - Never Ever 3	4	3	4	1

* For pork, 'Other Drugs' includes beta-agonists; hormones are not approved for pigs. ** USDA has not approved the claim "antibiotic-free."

Chicken Labels

	Human Antibiotics	Animal Antibiotics	Other Drugs*	Animal Welfare
Best Labels				
Animal Welfare Approved	4	4	N/A	4
Additional Labels				
American Humane Association	2	2	N/A	2
Antibiotic-free**	-	-	-	-
Certified Humane	3	4	N/A	3
Certified Responsible Antibiotic Use	3	1	N/A	1
GAP Step 1	2	2	N/A	2
GAP Step 2	2	2	N/A	2
GAP Step 3	2	2	N/A	3
GAP Step 4	2	2	N/A	3
GAP Step 5	2	2	N/A	4
GAP Step 5+	2	2	N/A	4
National Chicken Council 's Animal Welfare Guidelines	1	1	N/A	1
Natural	1	1	N/A	1
No Added Antibiotics	4	4	N/A	1
No Antibiotics Administered	4	4	N/A	1
No Antibiotics Ever	4	4	N/A	1
No Growth Promotants	1	1	N/A	1

No Hormones	1	1	N/A	1
Raised without Antibiotics	4	4	N/A	1
USDA Organic	3	4	N/A	2
USDA Process Verified - Never Ever 3	4	3	N/A	1

* Neither beta-agonists nor hormones are approved for use in chicken, as indicated by 'N/A.' ** USDA has not approved the claim "antibiotic-free."

Turkey Labels

Best Labels	Human Antibiotics	Animal Antibiotics	Other Drugs	Animal Welfare
Animal Welfare Approved	4	4	4	4
GAP Step 5	4	4	4	4
GAP Step 5+	4	4	4	4
Additional Labels				
American Humane Association	2	2	4	2
Antibiotic-free**	-	-	-	-
Certified Humane	3	4	4	3
GAP Step 1	4	4	4	2
GAP Step 2	4	4	4	2
GAP Step 3	4	4	4	3
GAP Step 4	4	4	4	3
Natural	1	1	1	1
No Added Antibiotics	4	4	1	1
No Antibiotics Administered	4	4	1	1
No Antibiotics Ever	4	4	1	1
No Growth Promotants	1	1	2	1
No Hormones	1	1	1	1
Raised without Antibiotics	4	4	1	1
USDA Organic	3	4	4	2
USDA Process Verified ("No antibiotics used for growth promotion - antibiotics used only for treatment and prevention of disease")	2	2	4	1
USDA Process Verified - Never Ever 3	4	3	4	1

* For turkey, 'Other Drugs' includes beta-agonists; hormones are not approved for use in turkeys. ** USDA has not approved the claim "antibiotic-free."

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