

Are antibiotics used in poultry production?

Farmers, managers, and veterinarians strive to prevent disease and keep poultry healthy by husbandry practices such as environmentally controlled housing, vaccination, proper diets, and biosecurity to control potential disease threats. Nevertheless, there are times that antibiotics are needed in the rearing for the animal wellbeing of chickens and turkeys. Antibiotics are one tool in the tool box that a veterinarian can use to treat and control disease, ensure animal welfare, and maintain a healthy food supply for the consumer.

What kinds of antibiotics are used in poultry production?

While there are multiple antibiotics that could be used in the practice of veterinary medicine to combat bacteria that might infect a flock, they can be broadly divided into two categories—medically important (sometimes referred to as shared class) and non-medically important. Shared class antibiotics are those antibiotics that are used in human and animal medicine. There are different regulations that govern the use of these two different categories of antimicrobials.

How are antibiotics used in poultry production?

Recently, FDA issued Guidance for Industry documents which outline changes in how antibiotics can be used in food producing animals in order to provide greater veterinary oversight, promote responsible use, and protect public health by instituting measures to reduce the development of antimicrobial resistance.

There are four different ways that antibiotics can be used in poultry production. Medically important antibiotics can only be used for prevention, control and treatment of specific diseases. When these antibiotics are given in the water or through the feed, they will require a veterinary prescription or feed directive, increasing the veterinary oversight and involvement in their care and treatment decisions. Veterinarians must have a valid client-patient relationship in order to prescribe those antibiotics. Non-medically important antibiotics can be given for prevention, control and treatment, but also for enhancing growth, given that they pose very little risk for antimicrobial resistance in the human population based on previous FDA risk assessments.

Treatment of disease

A flock contracts a bacterial infection that is susceptible to an antibiotic treatment

- **Poultry example** Lameness may be noted in a flock of turkeys and antibiotics could be given via the water or injection.
- **Human example** A child has a strep throat and an antibiotic is administered.

Control of disease

When one or more animals in a flock get sick, they increase the risk that the entire flock may contract the same disease, so the entire flock is treated to reduce the spread.

- **Poultry example** An increase in morbidity and mortality is noticed in a few birds and necrotic enteritis (a rapidly spreading fatal bacterial infection of the intestine) is diagnosed. The entire flock is treated as the bacterial disease is readily transmitted and susceptible to antibiotics; therefore reducing morbidity and mortality.
- **Human example** A student is diagnosed with bacterial meningitis and those in the residence hall floor that may have come in contact, are also treated with an antibiotic.

Prevention of disease

A situation where a flock of birds are at high risk of exposure to an infection and are given antibiotics to prevent disease.

- **Poultry example** Administration of an antibiotic to a flock of newly hatched poultts that have been identified as high risk offspring from a breeder flock identified as shedding a bacterium harmful to the poultts.
- **Human example** Antibiotics are often administered after surgery or dental procedures or when traveling to areas that are endemic with malaria.

Is the meat from animals treated with antibiotics safe to eat?

Yes, all animals treated with antibiotics that have to be held for a specified number of days after treatment to ensure that the antibiotic is out of their system. This time period is determined by the FDA and is regularly monitored to ensure no harmful residues are in our food supply.

What are some of the potential consequences of further antibiotic restrictions?

Veterinarians, working with family farmers, are concerned about the well-being of the broiler and turkey flocks that they care for. They depend on the ability to apply the appropriate treatment along with husbandry practices to ensure animal health, welfare and the safest food supply in the world. Veterinarians have taken an oath to ensure these intangibles for the animals in their care. We must ensure that regulations and restrictions do not outpace new innovations coming to the marketplace to care for our flocks.

Such is the case with the disease Blackhead in turkeys and chickens, which is a disease of the liver and gastrointestinal tract, causing morbidity and mortality. All known treatments have been withdrawn from the US marketplace leaving producers with only environmental management. Even with environmental management birds may still become exposed to the disease-causing organism and it can result in devastating losses to the flock and the family farmer. As pharmaceutical and vaccines companies work with the poultry industry to bring new innovations into the marketplace, we need to have increased cooperation with the regulatory bodies to allow a path forward.

Veterinarians need sufficient antimicrobial tools to address not only existing conditions, but new, emerging, and re-emerging diseases. Veterinarians should also retain the ability to use their professional judgment, experience, and knowledge of local conditions in applying available antimicrobial tools in the most effective and judicious manner, including extra-label use when scientifically indicated.

Want more information?

The American Association of Avian Pathologists has outlined several documents regarding judicious use of antibiotics and antibiotic stewardship within the poultry industry. Learn more at www.aaap.info

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