

# Are Farmers Causing Antibiotic Resistance?

## Antibiotic Resistance

*I hate being sick.*

Fortunately, I can honestly say that I do not remember the last time I was prescribed an antibiotic for a bacterial infection. But when I do, I want to be assured the antibiotic will work.

According to the [National Institutes of Health](#) there has been an increase in antibiotic resistance, which has been deemed a “crisis” by many. “Each year in the United States, at least 2 million people become infected with bacteria that are resistant to antibiotics and at least 23,000 people die each year as a direct result of these infections.”

### How does antibiotic resistance occur?

Antibiotic resistance occurs when bacteria develops the capacity to inactivate or exclude antibiotics or develop a mechanism to block the inhibitory or killing effects of antibiotics. The bacteria survives, continues to multiply and spread, and causes more harm.

Antibiotics are used in both human healthcare and on farms. None of us, including farmers, want to face a medical problem where an antibiotic is no longer useful because an infection is resistant to antibiotics. Unfortunately, just using an antibiotic causes resistance. So let’s look at how farmers use antibiotics.

### Examining the use of antibiotics in farming.

Many farmers, like myself, use antibiotics when our animals become sick – as it’s our responsibility to give them the care they need. Giving antibiotics may be the only moral and ethical way to help our animals.

Historically, farmers have used antibiotics three different ways:

We use antibiotics therapeutically and prophylactically. **Farmers are prohibited from using them subtherapeutically (low levels of antibiotics) and as of January 1, 2017, the FDA will require that livestock animals not be given antibiotics for the purpose of enhancing animal growth.**

So if giving an antibiotic causes resistance, what do farmers do to prevent animals from becoming ill in order to eliminate or greatly reduce antibiotic usage?

### Other ways farmers prevent illnesses.

- **Comprehensive Vaccination Program.** Our animals are put on a strict vaccination program developed by our veterinarian. Vaccinations help animals develop an immunity to common diseases, which results in an animal becoming sick less often.
- **Cleanliness.** On our farm, we raise and sell our hogs in groups. Once the last pig of the group has been sent to market we start pressure washing our barns. It takes about 50-60 hours. Once the barns have been washed, we spray a disinfectant. And if possible, we let the barns sit idle for 4-5 days.
- **Reduce Stress.** Stress = Illness. We look for ways to reduce the stress level of our animals. For example, moving animals causes stress, so we try to find ways that minimize movement. If we know our animals have been stressed, we will give an antibiotic prophylactically (prevention). We feel it's better to prevent an illness than treat a full-force illness, which will require more antibiotics than what was used in prevention.
- **Biosecurity.** We have an on-farm policy that restricts people that enter our barns. Diseases travel very easily. Restricting traffic helps reduce transmission of these illnesses. We also take measures to reduce rodents and birds, which also transmit various diseases.
- **Animal Nutrition.** We work closely with an animal nutritionist who develops specific feed rations (same as a recipe) for our pigs. Our pigs eat a total of nine different rations from the time they arrive at our farm (3 weeks old) until the time they go to market (6 months later at 280 pounds). Each ration is designed to meet the nutritional needs of the animals during specific growth periods.
- **Animal Care Experts.** We work closely with our veterinarian who gives us animal care recommendations. Prevention is always the top priority on our farm. Veterinarians also prescribe us antibiotics as needed.
- **Clean Water, Clean Air, Fresh Nutritious Feed.** All of our animals receive clean water and clean air. Clean air comes through electronically controlled air fans. The feed our animals eat is processed on our farm. About 95 percent of the feed they eat is corn and soybean meal. The corn we use is the corn we grow on our farm. The soybean meal comes from a local soybean processing plant where they process local farmers' soybeans. The other approximate 5 percent is minerals, vitamins and other nutrients.

## Required antibiotic withdrawal periods

If an animal is given an antibiotic, we are required to follow drug labels for dosage and withdrawals. Our record keeping system records what, why, when, where and how much of every antibiotic given. We also *strictly* follow drug withdrawal periods, which is the time between the last dosage and the time the animal goes to market. USDA meat inspectors are present at all meat packing

facilities.



So what about regulations?

## **FDA (Food and Drug Administration) Directives 209 and 213**

Starting January 1, 2017, the Food and Drug Administration (FDA) directives 209 and 213 will take effect. What does that mean?

- Antibiotics that are medically important (to human illness) will not be used for growth promotion in food animals.
- Antibiotics will only be available for therapeutic and prophylactic use – meaning to treat or prevent disease. Also required will be veterinarian oversight.
- Feed grade antibiotics and water medications will require a veterinary feed directive—similar to a drug prescription.

Antibiotic resistance is a complex issue and any measures we can take as farmers are welcomed by our industry. We embrace these changes. Our end goal is to raise healthy and safe meat and we continually look for ways to improve our animal care methods and knowledge to reach that goal.

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