

What You Need To Know About Antibiotic Usage In Livestock

Consumers want to know about antibiotic usage in animals. More specifically, they are worried about antibiotic resistance. And who isn't? I can't imagine anything worse than having a sick loved one who is not responding to an antibiotic because it is no longer effective towards the bacteria they are trying to fight. How and why is antibiotic resistance happening?

Antibiotic resistance is a *complex* issue. And one that ALL of us need to take seriously. When it comes to using antibiotics in livestock, there are a few things you need to know about antibiotic usage in livestock.

Many are pointing fingers at livestock farmers because animals use the largest amount (by poundage) of antibiotics in the U.S. The figure most used is that 70-80% of antibiotics sold in the U.S. each year are used in animals. However, over a third of those antibiotics are in classes that have no use in human medicine, and another third are in classes that are not considered highly important to human medicine (refer to the chart).

Let's start by examining why farmers give their animals antibiotics:

1. therapeutic (treat animals that are sick)
2. sub-therapeutic (prevent sickness)
3. promote growth (allow the animals to grow more efficiently)

In 2013, the FDA (Food and Drug Administration) asked pharmaceutical manufacturers to voluntarily surrender their growth promotion labels and put all other therapeutic uses of antibiotics under the direct supervision of veterinarians. *And they did.* By complying with [FDA's Guidance for Industry #213 and #209](#), drug companies voluntarily gave up their growth promotion claims for all antibiotics that are in classes used in human medicine. FDA #213 and #209 went into effect on January 1, 2017.

Even though risk studies have shown agricultural antibiotic use having minimal effect on public health, agriculture has *proactively* stepped up to the plate by making changes on how antibiotics are used on the farm. It's about doing the right thing.

Going forward we must study animal antibiotic usage and resistance not based on how many pounds we use, but rather the impact on public health. As of January 1, 2017, all farmers are required to work closely with a veterinarian and *all antibiotics will be required to have direct veterinarian oversight.*

As a farmer, we try to minimize the amount of antibiotics we use. Here is what we do on our pig farm:

1) Prevent illnesses. There are a number of practices we use to prevent illnesses.

- *Vaccination program.* Following a strict and comprehensive list of vaccines given to our pigs at a young age helps keep them healthy. Our vaccination program changes as our herd health change and is reviewed regularly.
- *All-in, all-out.* Newly weaned pigs come to our farm as a complete group, deliveries split over about 3-4 days. By having only one group of pigs on our farm, we are not exposing young pigs to viruses or illnesses from other pigs.
- *Cleanliness.* Our barns are washed after every group of hogs are sold. We use a pressure washer which uses heated water to clean everything. And I mean everything! From ceilings to heaters to fans to hallways. And then we let it dry for as long as possible.
- *Clean water, air and feed.* Our pigs eat 9 different rations (same as recipe) that meets their nutritional needs. We also filter our air at the sow farm to help prevent airborne diseases.
- *Keep stresses to a minimum.* There is no doubt stress causes illness. We keep our pigs in the same pens from the time they arrive on our farm. Moving pigs from one pen to another initiates their innate "pecking order" behaviors will cause the new pig to be attacked. Also, pigs housed inside are less stressed because we can control volatile weather conditions and no exposure to predators or parasites. When an entire group of pigs is moved (such as weaning), we do use antibiotics to prevent illness. Because we have cared for pigs for a very long time, many times we "know" when pigs will get sick. Better to prevent an illness than to let them suffer through a full-fledged illness outbreak.
- *Making sure all equipment is working properly.* Are the waterers working? Are the feeders working properly? Are the ventilation fans working? These are daily questions we ask ourselves.

2) Work closely with our veterinarian. The oversight of a veterinarian for all uses of medically important antibiotics is part of FDA Guidance 209/213, as well part of farmers' routine practice through quality assurance programs. We rely heavily on our veterinarian's advice.

3) Monitor hog health daily. Many days we are in the barns multiple times observing and monitoring their health. Just by looking at a pig, we can determine whether it's feeling well. Do they scamper around or are they just lying around? Do they sit straight or are their legs off to the side? Are they breathing hard? Are they coughing? Do their stools look good or are they loose? By watching for signs early, we can catch illnesses early before a full fledged outbreak.

4) Antibiotic recordkeeping. We are required to have a log of all antibiotics our animals receive. This log contains what drug used, when, what pig(s) and why. Antibiotic withdrawals are posted in the barn. Withdrawals are the time an animal is given the last drug to the time an animal is sent to market. It is *ILLEGAL* to send an animal with antibiotic residue above FDA's level to market, which essentially means **all meat is antibiotic-free!**

Have other countries banned antibiotics?

Eliminating antibiotics to prevent or control disease in farm animals in other countries such as [Denmark](#) has not reduced the amount of antibiotic-resistant bacteria infections and strains harmful to people. And it has even led to increased need for treatment of animals with newer, stronger antibiotics that are more closely related to those used in human medicine and other problems.

Do all antibiotics leave the animal's body after administered?

Typically, antibiotics are administered one of two ways. One is through the feed or water and the other is administered through a syringe. The antibiotics administered through a syringe either goes into the animal's muscle or just under the skin. The amount of antibiotics given is determined by weight of animal, the number of doses and the level of antibiotic needed to kill the bacteria - all determined by the FDA. After the drug has been administered, the antibiotic will start to leave the body naturally through excretion of urine and feces. Each specific antibiotic is regulated by the FDA, which has established the withdrawal period needed to bring the antibiotic residue down to a minuscule safe tolerance level. Antibiotics such as penicillin has a zero residue level. Antibiotic residue does not have a finite life, which means it will continue to decrease to zero.

How do farms raise animals without antibiotics?

Many niche farmers who raise animals without antibiotics may still treat animals who do get sick with antibiotics. The treated animals are removed from the herd and placed in a separate holding area. And in the case of pigs, moving these animals in with other treated animals will cause them to fight because they need to reinitiate their social hierarchy. Another stress.

What is USDA's role in testing animals for antibiotic residue?

Read this blog post by [North Carolina Meat Mom](#). She has great insight on the USDA and it's role in testing animals. The [American Meat Institute](#) also has a great explanation of antibiotic use in meat.

Antibiotic usage is changing on the farm. We rarely use penicillin when years ago we used it on a regular basis. Farmers understand the gravity of the antibiotic resistance bacteria problem and use antibiotics only when absolutely necessary.

It's important that consumers know that we do need to care for our pigs. Being required to give *zero* antibiotics is *not* an option. When our pigs get sick, we need to help them. ***It's our responsibility.*** We will continue to find ways to prevent these illnesses or find other ways to treat them. Future ways to help prevent illnesses may include new and better vaccines, water filtering, improved biosecurity, essential oils, genetics and other methods that aren't even on the radar screen. Believe me, farmers would love to ***not*** use antibiotics.

One thing I do know is agriculture is always changing. Changing by continuously finding new and

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