Cattle Chat: Antibiotic uses in cattle

K-State beef cattle veterinarians share reasons for making drug selections

By Lisa Moser, K-State Research and Extension news service

MANHATTAN, Kan. — When tackling a building project, many find it helpful to follow a plan and use the right tool to save time, which will often also increase the likelihood of the desired outcome in completing the task.

In much the same way, veterinarians make choices regarding antibiotic selections in cattle, said the experts at Kansas State University’s Beef Cattle Institute. How those antibiotics work is a question that the veterinarians answered on a recent Cattle Chat podcast.

“The basic definition is that an antibiotic is a chemical that interferes with bacterial growth or replication,” K-State veterinarian Brian Lubbers said.

He added that antibiotics interrupt that replication in many ways, including some that interfere with bacterial cell wall growth, some that inhibit bacterial protein synthesis and others that stop bacterial replication by interfering with the DNA and RNA of the bacteria.

To better understand why an antibiotic is selected for one bacterium and not another, Lubbers suggests that producers ask their local veterinarian.

“The reasons veterinarians might choose one antibiotic over another are not only related to the drug’s mechanism of action; there are a lot of factors we think about when deciding to use a specific antibiotic for a certain case,” Lubbers said.

He said they also consider antibiotic resistance, especially when opting to prescribe antibiotics that fall into the same class of drugs that are also used to treat sickness in humans.
Another factor that is considered when prescribing antibiotics for food animals is withdrawal time K-State veterinarian Bob Larson said.

"With food animals, we need to be aware of the time those antibiotics remain in the body before they are harvested so that they are free of harmful antibiotic residues when they enter the human food chain," Larson said.

To get more information about how each antibiotic works, the veterinarians recommend reading the product labels.

“Producers often get questions from consumers, so those who are educated about antibiotic use are able to better portray how we practice antibiotic stewardship,” Lubbers said.

To hear the full discussion, listen to Cattle Chat on your preferred streaming platform.

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FOR PRINT PUBLICATIONS: Links used in this story

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