

Who and how is the Veterinary Feed Directive affecting Lincoln County, the state of Tennessee, and the United States as a whole?

March 27, 2017

Fayetteville FFA
1800 Wilson Parkway, Fayetteville, TN 37334
TENNESSEE
615-519-0296



Summary

Courses in which instruction occurred: Agriscience (48 students), Small Animal Care (13 students), Organized Leadership (8 students), and Agriculture Business (6 students). Each class researched and learned different aspects of the issue, including the economic impact to each sector of the industry, the importance of consumer's perception and opinion, and the impact these regulations can have on the agriculture industry in the future.

Why is this issue important now? The agriculture issue is new legislation laid out by the Food and Drug Administration (FDA) as Veterinary Feed Directives (VFDs). A VFD is described by the FDA as the "changing of the labels of *medically-important* antimicrobial drugs in feed and water to eliminate their usage to enhance growth or to improve feed efficiency in food-producing animals" (Farm, 2016). This means that producers must now have a prescription from a veterinarian for medications that are medically important to human medicine. The new antibiotic restrictions are now a vitally important issue because the FDA's restrictions on antibiotics in feed and water are making it increasingly difficult for producers to obtain medically-important drugs, and these regulations are costing producers, veterinarians, feed distributors, and even consumers money. Other than the economic impact, the regulations are also causing an increase in resources required and an abundance of confusion.

What is the nature of this issue? Following January 1, 2017, it is required that a veterinarian authorize antibiotic use in feed and water for livestock, within the context of a Veterinarian-Client Patient Relationship. This means farmers must first have an established relationship with a licensed veterinarian and must maintain that relationship within the established guidelines. For example, the relationship may not be maintained over the phone, and the veterinarian must make a farm visit every 12 months (Farm, 2016). It is important that agriculturists, veterinarians, feed distributors, and consumers are all educated about this issue in a timely fashion, so we are given the opportunity to be informed about the regulations and antibiotic resistance that is stemming from the use of antibiotics which have been used since the 1940's.

What is the historical background of this issue? The United States is not the first to implement these types of regulations with the use of Veterinary Feed Directives. Restricting antimicrobials started in the 1970's in Sweden, and it continued as a trend spreading throughout Europe after witnessing the epidemic of antibiotic resistant *Salmonella Typhimurium* in the mid-1960's. European agriculturalists made the last ban in 1999, and since then have been devoting their focus to various types of surveillance programs to collect data of the sales and usage of antibiotics to ensure regulations are being followed (Cogliani, Goossens, and Greko, 2011). European agriculturalists were far ahead of the curve on the subject of antibiotic resistance. Since the 1940's, there has been tremendous growth in areas of medical research and development for humans and livestock; however, the overuse of these antibiotics could threaten to reverse all of the work and progress made in medical fields.

What caused the issue? Since the beginning of the use of antibiotics, livestock genetics have been developing a resistance to these overused prescriptions. In 1996 Congress enacted the Animal Drug Availability Act (ADAA) to facilitate the approval and marketing of new animal drugs and medicated feeds. As part of the ADAA, Congress recognized that certain new animal drugs intended for use in animal feed should only be administered under a veterinarian's order and professional supervision. The intent was to provide controls over certain drugs to prevent overuse and bacterial resistance (Tennessee Farm Bureau, 2016). This piece of legislation was revised in 2015, making it difficult for producers to obtain anything from penicillin - a common antibiotic used for treating various infections and viruses - to hygromix, commonly used by poultry producers as a dewormer (Tennessee Farm Bureau, 2016).

How can this issue be defined? While the public has a general understanding of what this means for our population, many do not understand what initially started this issue. Simply stating, it was caused by the overuse of antibiotics in the medical and livestock industry. From a producer's standpoint, antibiotics have been used in the livestock industry to promote growth and to increase feed efficiency - not just to treat bacterial illnesses. For example, medications have been used to help livestock survive and thrive in stressful and crowded environments - like what is seen in the poultry industry. Due to this use, non-resistant bacteria receive new DNA, so the drug resistant bacteria survive and multiply, thus making this issue even more pertinent (Antibiotic Resistance, n.d.). It is expected that by 2050 superbugs will cause more deaths than cancer — and estimated 10 million deaths by antibiotic resistant and an estimated 8.2 million by cancer (Belluz, 2015).

Who is involved in the issue? This issue affects both producers and the consumers alike. From the perspective of many farmers, the Food and Drug Administration's restrictions on antibiotics are making it increasingly difficult to obtain the necessary antibiotics that are needed on their operations. Farmers use a large portion of the antibiotics sold in the United States, approximately 80 percent being used in meat and poultry production (Consumers Union, 2013). Farmers now must have a Veterinarian Client Patient Relationship to get the needed medication authorized if



the medications are being put in feed or water, and they are medically important to human medicine. Veterinarians must be familiar with the care and management livestock receive, assume responsibility for making clinical judgments, provide treatment oversight and be readily available for follow-up evaluations, and maintain and evaluate case and treatment records for two years (University of Nebraska, 2015).

Furthermore, producers are responsible for the VFD's that they receive and using them responsibly and for their intended purposes. Moreover, without the ability to use antibiotics for growth enhancement and feed efficiency, there will be a loss in efficiency for many producers. It has been found that small doses of antibiotics administered daily in feed contributes up to 3% more weight gain in livestock. With this additional profit being taken away from producers, this is a lot to consider. In an industry where profits are measured in pennies per pound, this is a large margin (PBS, 2014). In the event producers are found not in compliance with their veterinary feed directives, the penalties can include imprisonment of up to a year, monetary penalties of \$1,000 to \$10,000, and seizure of property. For veterinarians, the penalties can include a loss of their license (Dowell, 2016). Specifically in Lincoln County — the number one cattle producing county in the state of Tennessee — these regulations are having a large impact on the local economy including every sector of the industry (Census, 2012).

While this lays a heavy hand on the farmers and veterinarians, VFDs are also taking a toll on feed distributors. Locally speaking, it is affecting Tennessee Farmers Cooperative, with one example being the loss of 15,000 tons of premixed feed at the beginning of these regulations (J. Huffine, personal communication, January 22, 2017). The feed supplier, veterinarian, and producer must also keep copies of all VFD forms for two years (Lashmet, 2016).

This also affects the consumer by causing a 1.6% increase in overall food prices in the US; however, in turn this is giving the agriculture industry the opportunity to further their trust in production agriculture (Rohleder, 2015). As consumers began to voice their concerns about antimicrobial resistance, regulatory agencies began addressing these issues. By addressing these issues, it is showing the consumers that agriculturalists care about the consumers wants, and they are continuing to provide Americans with the safest food supply possible.

What are the risks? There are many risks involved with these new restrictions. One of the risks — which is seen following the application of the new antimicrobial resistant laws — is the effect it will have financially on producers and consumers. It is more expensive to produce, raise, and distribute various types of livestock due to the increased difficulty of obtaining antibiotics. The producers now have to pay veterinarian fees on top of the cost of the medication, with the average cost ranging from \$140 to \$360 per hour (Food and Drug Administration, 2015). Veterinary Feed Directives are only valid for up to two years, with refills maxing out at six months (Food and Drug Administration - Center, 2016). Producers will be required to keep these directives and prescriptions up to date, or they will become void. This will be another added expense for producers. Due to the increase in expenses for the producer, consumers will also see a rise in the cost of meats and products.

Furthermore, the damage done to the genetics of antibiotic resistant bacteria will not simply disappear. Resistant bacteria develop in two ways: 1) by a genetic mutation or 2) by acquiring resistance from another bacterium. Some mutations enable the bacteria to produce potent chemicals that inactivate antibiotics. They can also develop resistant bacteria by undergoing a simple mating process called "conjugation" where bacteria can transfer genetic material, including genes encoding resistance to antibiotics from one bacterium to another (Alliance, 2014). These genetic mutations are causing issues that are seemingly irreversible. The effects will be long lasting and seen in generations to come.

What are the benefits? Antibiotic resistant genes are seen as a danger to producers and consumers, due to the fact that they cannot be treated or taken into control. Antibiotic resistant genes have the ability to enter the environment through discharge from animal waste which can lead to contamination of water, soil, and food. (Ying, 2016). The goal of these added restrictions on antibiotics is to prevent the issue to stay limited to the genes which are currently affected rather than continuing to spread.

Is there a strong disagreement on how this should be solved? As previously discussed, there are many sides to this complicated issue. Antibiotic resistance is a real issue in our society, but implementing these changes affects many sectors of the industry along the way, including producers, consumers, feed distributors, veterinarians, and many more. By many perspectives, antibiotic resistant bacteria are affecting everyone. We are only at the beginning of these new regulations, and the effects of the Veterinary Feed Directives will continue to unfold and be discussed for years to come.



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Date	Time	Location	Audience
January 24, 2017	12 p.m.	Best Western- Fayetteville, Tennessee	Fayetteville Rotary Club
February 6, 2017	5 p.m.	Fayetteville City Municipal Building- Fayetteville, Tennessee	Fayetteville City Schools Board of Education
February 7, 2017	6:15 p.m.	Ms. Betty's Restaurant- Park City, Tennessee	Fayetteville Lions Club
February 7, 2017	7 p.m.	Blanche Store- Blanche, Tennessee	Lincoln County Cattleman's Association
February 13, 2017	6:30 p.m.	Lincoln County Farm Bureau- Fayetteville, Tennessee	Lincoln County Farm Bureau Board
February 15, 2017	12:30 p.m.	Cahoots Restaurant- Fayetteville, Tennessee	Kiwanis Club
February 27, 2017	8 a.m.	Chamber of Commerce	Chamber of Commerce Committee
February 24, 2017	9 a.m.	Lincoln County Court House	Lincoln County Mayor, Bill Newman
March 27, 2017	11 a.m.	Fayetteville Municipal Building	Representative Pat Marsh



In our first forum with the Fayetteville Rotary Club, we were given the opportunity to speak with a wide variety of community members. We were able to answer questions from veterinarians, producers, and everyday consumers. The variety of questions allowed us to gain an understanding of how heavily our community is being impacted by Veterinary Feed Directives, and how important it is that we keep them informed.



*Fayetteville Rotary Club
District 6780*

To Whom It May Concern:

The Fayetteville City FFA Agriculture Issues Team presented their forum regarding Veterinary Feed Directives to the Fayetteville Rotary Club on January 24, 2017 at 12 p.m. at the Best Western.

Sincerely,


Frank C. Tuttle, Sr.
2015-2016 President

Serve Above Self

Fayetteville
Lions
Club

P. O. BOX 217 FAYETTEVILLE, TENNESSEE 37334

February 13, 2017

To Whom It May Concern

The Fayetteville City FFA Agriculture Issues Team presented their forum regarding Veterinary Feed Directives to the Lions Club on February 7, 2017 at 6:15 p.m. at Ms. Betty's Restaurant in Park City. The meeting was attended by 27 Lions Club members listed below:

Marshall Amey
Don Combs
Blake Copple
Chet Dailey
Emily Dailey
Stacy Flynt
Hank Humphreys
Bill Jackson
Buford Jennings
Vincent Kearns
Mark Kelso
Rickey Kimbrough
Ray Landman
Willis Mason

Jerry Meredith
Jim Neale
Calvin Perkins
Jean Pittinger
Chuck Reed
Myrna Reed
Larry Robertson
Chris Ross
Bernadette Selph
Bill Thomison
Melody Thompson
Regina Usery
Gary Wright

Sincerely,



Jim Neale
Program Committee Chair
Fayetteville Lions Club

In our meeting with the Fayetteville Lions Club, we were able to speak to many different community leaders. We got to speak with them about how VFDs are impacting their day to day life. They were also able to tell us how it was effecting Lions Club members from all across the state.



Fayetteville City Schools
 110 Elk Avenue, South, Suite 200
 Fayetteville, Tennessee 37334
 (931) 433-5542
 Fax (931) 433-7499

Jeff Whitmore, Chairman
Mark Clark
Joyce Eady

Janine M. Wilson
Director of Schools

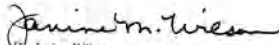
Thomas H. Holland, Jr., Vice Chairman
Alice B. Palacio
Sarah M. Raby

February 13, 2017

To Whom It May Concern:

The Fayetteville City FFA Agriculture Issues Team presented their forum regarding Veterinary Feed Directives to the Fayetteville City School Board on February 6, 2017 at 5 p.m. at the Fayetteville City Central Office. The board was attended by Jeff Whitmore (Board Chairman), Alice Palacio (Board Member), Mark Clark (Board Member), Sara Raby (Board Member), Tommy Holland (Vice Chairman), Danny Bryant (Ex-Officio Board Member for the Board of Mayor and Alderman), Janine M. Wilson (Director of Schools), Ron Perrin (Transportation Supervisor), Sarah Spray (Federal Programs Supervisor), Fran Rawleigh (PreK & Early Learning Supervisor), Rajena Dotson (Secondary Ed. & CTE Supervisor), Eric Jones (FHS Principal), Steve Giffin (FMS Principal), Bridgette Jones (RAS Principal), Eli Wright (Leadership Lincoln Youth Board), Justin Sisk (Leadership Lincoln Youth Board), Amy Cobb (Leadership Lincoln Youth Board), Mason Mullins (Leadership Lincoln Youth Board), Nathan Simmons (Leadership Lincoln Youth Board), Faith Brunton (Leadership Lincoln Youth Board), Will Eldridge (Leadership Lincoln Youth Board), Rachel Pierce (Leadership Lincoln Youth Board), Emily Steelman (Leadership Lincoln Youth Board), Jack Robinson (Leadership Lincoln Youth Board), Joann Scott (Board Secretary), and Sandy Williams (Elk Valley Times.)

Sincerely,



Dr. Janine Wilson
Director
Fayetteville City Schools

While meeting with the Fayetteville City School Board of Education, we were able to enhance our quality of presentation and question answering due to their ability to give us specific feedback. They also helped up gather a stronger knowledge of the public's perception of this issue.



LINCOLN COUNTY FARM BUREAU

P.O. box 602 • Fayetteville, Tennessee 37334-0602 • 931-433-5789 • 931-433-5791 Fax



February 14, 2017

To Whom It May Concern:

The Fayetteville City FFA Agriculture Issues Team presented their forum regarding Veterinary Feed Directives to the Lincoln County Farm Bureau Board on February 13, 2017, at 6:30 P.M. at the Farm Bureau Office in Fayetteville Tennessee.

The Board was attended by: Cheri Ashby, Randy Ashby, Farris Beasley, Gary Byers, Glenn Beech, Phillip Coble, Garry Corder, Beth Dickey, Jimmy McAllister, Tommy Monks, Josh Ogle, George Steuart, Kathy Varner, Glenn Varner, Randy Whitehead, Vicki McAllister, Beth Jennings, Sherry Bartlett, Roberta Kidd, Pam Crabtree, Phyllis Johnson, Elma Beasley, Jane Simmons, Barbara Bledsoe, Lynn Priest, Tina Biles, Karen Whitehead, Julieanna Ogle, Helen Shelton, Lynn Dunn, Cindy Presley, Adam Brown, Nancy Hopson, Chris O'Connor, Matt Slayton, and Bryan Neece.

Sincerely,

Glenn Varner, President

During our time with Lincoln County Farm Bureau, we got to hear many different examples of how VFDs are effecting local operations, veterinarians, and CO-OP employees. We were also able to help clarify some of the confusion with the issue.



While meeting with the Fayetteville Kiwanis Club, we met with many different professionals from our community, including doctors and nurses. They were able to help provide us with insight on how VFDs are impacting their practices.



February 15, 2017

To Whom It May Concern:

The Fayetteville City FFA Agriculture Issues Team presented their forum regarding Veterinary Feed Directives to the Kiwanis on February 15, 2017 at 12:30 p.m. at the Cahoots Restaurant in Fayetteville Tennessee. The board was attended by:

Paul Braden
Steve Broadway
Gay Dempsey
Carolyn Denton
Alan Drewry
John Fanning
Donna Gill
Carol Gleghorn

Tammy Graham
Darryl Hamilton
Ley Jean
John Karby
Brie King
Mary Ann Marsh
Sharon Moffett
Jason Nix

Janie Parker
Steve Parks
Cheryl Pendergrass
Mary Jane Porter
Ed Simms
Steve Swindall
Curtis Vibbert

Sincerely,

Fayetteville Kiwanis Club

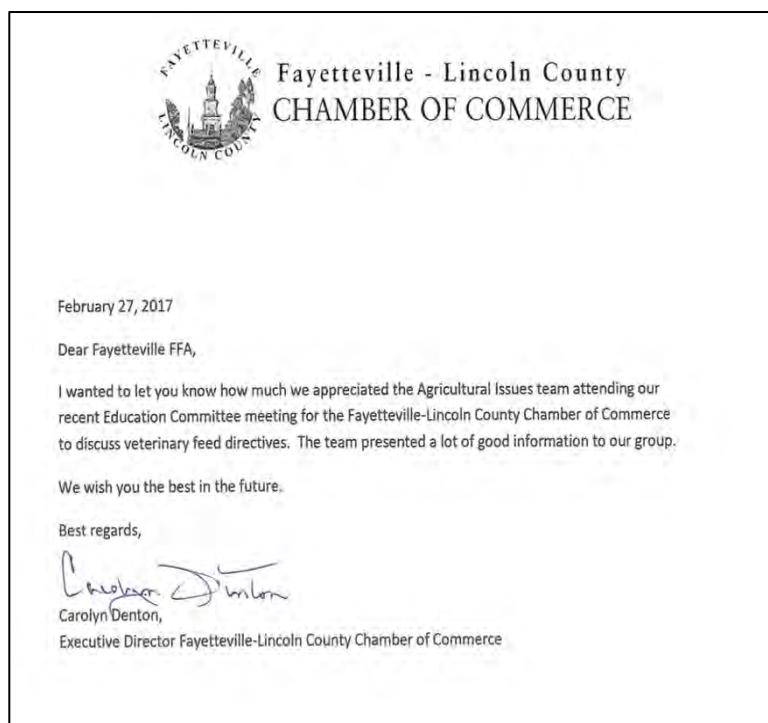
Sharon Moffett
Kiwanis Secretary



While meeting with Representative Pat Marsh, we were able to speak with him in small groups to get a better understanding of the political side of our issue. He was also able to tell us about his own operation.



The Chamber of Commerce is a mix of industry leaders from all across the county. With such a vast knowledge for public speaking, the agriculture industry, and the importance of positive perception, they were able to help ensure that our presentation was quality and ready to be taken to state.





February 7th, 2017

Dear Fayetteville FFA Chapter,

The Lincoln County Livestock Association board members enjoyed learning about what the Agricultural Issues Team presented to us at the LCLA monthly meeting in February. Your discussion about the Veterinary Feeds Directives was great information to our group and will directly impact livestock production in the future. Thank you for sharing this knowledge with Livestock Producers.

Sincerely,

Lincoln County Livestock Association

A handwritten signature in black ink, appearing to read "Bryan Davis".

Bryan Davis,

LCLA Secretary

Team members converse with members of the Lincoln County Livestock Association about how VFDs are affecting our livestock industry locally in Lincoln County.



BILL NEWMAN

County Mayor - Lincoln County, Tennessee

February 24, 2017

FFA Ag Issues Team
Fayetteville High School
1800 Wilson Parkway
Fayetteville, TN 37334

Dear Ag Issues Team:

I really appreciate being able to have conversations with all of you about veterinarian feed directives. As a former veterinarian, it was great to be able to discuss this ag topic.

Best wishes on your upcoming competition.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Newman".

Bill Newman
Lincoln County Mayor

BN/dab

Mayor Newman was able to enhance our knowledge on Veterinary Feed Directives from a veterinarian's perspective. He also helped us brainstorm ways to help inform our community of this developing issue.

