



NAVIGATING THE WAVES OF CHANGE

FARM BUREAU - CONFRONTING THE ISSUES

Antibiotics Policy Development May 2011

Issue:

Antibiotic resistance in human medicine is a serious and growing public health concern. While antibiotic use in health care increases, it is agriculture that continues to come under serious scrutiny for its production practices. Critics advocate for reduction and restrictions despite the absence of conclusive scientific evidence indicating a relationship between antibiotic use in livestock production and human antibiotic resistance.

Background:

The emergence and spread of antimicrobial-resistant strains of bacteria has become a major public health issue in the U.S. It is widely accepted that the use of antibiotics generally contributes to resistance problems by increasing selective pressure on bacterial populations; however, the degree to which specific uses of antibiotics contribute to resistance and, more importantly, to related human health challenges is a point of serious debate. The use of antibiotics in animal agriculture – particularly those classes of antibiotics that are important in treating infections in humans – has come under particular scrutiny. Last year, the Food and Drug Administration (FDA) released draft guidance on antibiotic use aimed at “providing a framework for policy regarding the appropriate or judicious use of medically important antimicrobial drugs in food-producing animals.” Briefly, this guidance suggested limiting the agricultural use of medically important antibiotics as well as requiring veterinary oversight and/or consultation in the use of antibiotics. Of course, the difficult debate on this issue involves differing assessments of what constitutes “appropriate or judicious” antibiotic use.

Antibiotic use in animal production falls into one of four different categories: disease treatment, disease control, disease prevention, and production uses. Disease treatment refers to the use of antibiotics to treat a specific animal that has been diagnosed with a disease. Disease control involves the use of antibiotics in populations where disease is known to be present. Disease prevention involves the use of antibiotics in populations that are at risk for a disease even though the disease may not be present at the time (e.g., prophylactic administration of antibiotics to a load of calves prior to shipping). Production uses refer to the administration of antibiotics, generally at low dosage levels administered through feed and/or water, to enhance production efficiency. Treatment uses of antibiotics are relatively non-controversial, though some have called for such uses to be more closely overseen by licensed veterinarians. Preventive uses of antibiotics in agriculture have become controversial. For example, the Preservation of Antibiotics for Medical Treatment Act (PAMTA) introduced in 2009 by Rep. Louise Slaughter (D-NY) would have withdrawn federal approval for antibiotic use in agriculture except where clinical signs of the disease were present.

Without a doubt, production uses of antibiotics in agriculture are the most controversial of all. Many in the medical community assert that the production use of antibiotics at subtherapeutic dosages is a major contributor to antimicrobial resistance. FDA basically endorses this view in Draft Guidance #209, opining that “...the overall weight of evidence available to date supports the conclusion that using medically important antimicrobial drugs for production purposes is not in the interest of protecting and promoting human health.” On the other hand, proponents of production uses note that low dose uses reduce animal morbidity, thus reducing the need for high-dose therapeutic administration. Moreover, the antibiotics administered for production uses tend to be older, less medically significant compounds. Another confounding factor is that low dose uses of antibiotics may reduce the likelihood of bacterial contamination during processing by improving the overall health of the animals being processed. This may reduce the likelihood of transmission of resistant bacteria from animals to humans.

At this point, it seems unlikely that the debate over production uses of antibiotics can be resolved with appeals to scientific evidence. Too much conflicting evidence, and competing interpretations of that evidence, exists. The issues of how resistance develops, how it spreads within a bacterial population, and the mechanisms by which those bacteria are transmitted from animal to human populations are quite complex and difficult to study in real-world conditions. This lack of consensus renders the debate unwinnable on scientific grounds: there is no conclusive proof that production uses of antibiotics do harm, but there is likewise no conclusive proof that they do not.

Ultimately, the loss of production uses of antibiotics would raise the costs of livestock production. There are a number of strategies for compensating for the loss of low dose antibiotic uses (e.g., improving biosecurity, increasing monitoring of animals, reducing stocking densities, improving sanitation, increasing intervals between flocks/herds), but all clearly entail higher costs and/or reduced productivity. Of course, these costs must be balanced against both the potential public health benefits of reduced antibiotic use, as well as the potential benefit of improving consumer acceptance of retail products. At this point, though, neither of these benefits has been clearly quantified.

From a strategic standpoint, it may be worth considering the various tradeoffs that may defuse this issue. For example, by agreeing to more comprehensive veterinary oversight, more comprehensive prohibitions on antibiotic use might be avoided. Similarly, a tradeoff between production uses and other preventive uses (i.e., disease control and disease prevention) of antibiotics might be considered. As noted, there have been efforts (PAMTA in 2009) to prohibit all but treatment uses of antibiotics in the past, and the trajectory of this issue suggests that such efforts will continue. The loss of preventive uses of antibiotics would represent a major disruption in commercial livestock production systems, greatly increasing management challenges and costs, as well as potentially impacting food safety. Of course, there could be no guarantee that any concessions on this issue would do any more than temporarily delay a push to restrict or eliminate preventive antibiotic uses. This makes the identification of common ground between the agricultural and public health communities a difficult and uncertain exercise.

Questions:

Is there common ground between public health professionals and agricultural professionals (i.e., farmers and veterinarians) on use of antibiotics in agriculture?

Should veterinary oversight of livestock antibiotics change? If so, what is the proper role of the veterinarian?

Farm Bureau Policy:

308 - Livestock and Poultry Health

Lines 1-5: We recognize the need for feed additives and medication in livestock, poultry, and minor species. We favor careful use and withdrawal restrictions of feed additives and therapeutics. We oppose the banning of such additives and therapeutics without adequate proof of danger.

Lines 34-36: We support legislation that would continue the ability of veterinarians to prescribe drugs and the accepted extra label usage of drugs needed for proper animal care.