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Dangers of Agricultural Antibiotics

By Sue Jarrett and David Wallinga

Recently, something completely unprecedented happened at the U.S. Food and Drug Administration that should be of interest to beef industry representatives attending the U.S. Department of Agriculture's Marketing Service listening session in Denver on this week on marketing claims for naturally raised livestock.

For years, medical experts have warned that the widespread use of antibiotics in raising the animals that we eat - cattle, chickens, pigs - hurts the effectiveness of these drugs in fighting serious bacterial infections in people. Using these antibiotics in agriculture promotes bacterial resistance to these drugs and reduces their effectiveness in human medicine.

In light of human health concerns, an FDA panel of experts has rejected a proposal by the maker of a new antibiotic for selling the drug to treat respiratory disease in beef cattle. The decision was the first rejection of its kind by the FDA's Veterinary Medicine Advisory Committee (VMAC) and an important step towards protecting the efficacy of antibiotics in human medicine.

Cefquinome, the drug rejected by VMAC, is a fourth-generation cephalosporin. This class of antibiotics includes the important human drug cefepime, used to treat pneumonia and resistant infections, especially in children. The panel said that using such a drug in cattle could not be considered safe for human health.

Given the increased scrutiny on the FDA and its drug approval processes, VMAC's action is both surprising and welcome. The U.S. Centers for Disease Control and Prevention calls antibiotics resistance "one of the world's most pressing public health problems."

In Europe, cefquinome has already been approved and is being used in livestock under the brand name Cobactan. Since its approval, resistance to this drug has emerged among E. coli and Salmonella bacteria isolated from livestock, two major causes of food poisoning. In the U.S, where fourth-generation cephalosporins have not been approved for use in animal agriculture, this resistance has not been detected in animals and has very rarely been found in humans.

Last year, the FDA re-examined the human health impact of using the antibiotic Baytril to treat respiratory disease in poultry and found that this use in animals was undercutting the effectiveness of the antibiotic Cipro to treat serious bacterial illness in humans. After a five-year process complicated by legal challenges by

Baytril's manufacturer, Bayer, the FDA withdrew approval for this use.

If the FDA, which has said it will render a decision this month, heeds these experts' findings, that using Cefquinome in beef cattle is not safe, then the two decisions could signal the emergence of a new FDA, one that is aggressive in preserving the effectiveness of antibiotics in treating human disease.

VMAC includes both human and animal health experts. It is an independent scientific body created by the FDA as a reality check on its decisions, so the FDA rarely ignores its recommendations. However, there is a chance that the FDA may reject the independent scientific advice that it sought from VMAC, as it has done before during the Bush administration. If that happens, the FDA would continue a recent disturbing trend of placing science and human health second to commercial interests. Concern about the FDA's decision prompted the chairwoman of the House Rules Committee, U.S. Rep. Louise Slaughter, D-N.Y., the only microbiologist in Congress, to send a letter this week to the FDA, urging it to follow its scientific advisory committee's recommendation.

Regardless of its decision on Cefquinome, the FDA has yet to take action to curtail the much more widespread use of antibiotics important in human medicine as farm animal feed additives. The Union of Concerned Scientists estimates that 70 percent of all antibiotics used in the U.S. - nearly 25 million pounds annually - are used as feed additives for chicken, hogs and beef cattle.

Antibiotic feed additives are used to promote slightly faster growth and to compensate for overcrowded and unhealthy conditions in industrial-scale concentrated animal feeding operations. The FDA continues to allow these non-therapeutic uses, even though such use appears to violate the safety standards in the FDA's own official guidance on agricultural antibiotics. More than half of these drugs belong to classes of antibiotics that are important in human medicine.

Only three new classes of antibiotics have been developed during the last 25 years. We must preserve the few we have left in order to protect human health. ▣

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