

### **Resolution on Antimicrobials in Animal and Food Production**

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The World Health Organization has said that the “routine use of antimicrobials in vast numbers of healthy animals is likely to result in the emergence and spread of antimicrobial resistant bacteria, and cause resistant infections in animals and humans.”

The more antimicrobials are used, the more rapidly resistance develops. When resistance develops, bacterial growth can not be effectively stopped by the antimicrobial, and, thus, the antimicrobial is no longer useful for treating or curing the infection. Antimicrobial resistance can transform easy-to-treat infections to severe illnesses that require prolonged treatment, necessitate lengthy hospitalization or cause death.

Since the 1950s, farmers have been using antimicrobials as a production tool in raising livestock. They add antimicrobials to livestock feed and/or water to counteract the effects of crowded living conditions, poor hygiene, and to promote enhanced body weight of the animal and prevent illnesses. Such use causes the development of antimicrobial resistance among foodborne pathogens that can infect people who consume tainted foods or are in contact with infected animals. It can also result in antimicrobial resistance in non-pathogenic bacteria. Resistant-bacteria can transfer their resistance genes to disease-causing bacteria, resulting in antimicrobial resistant infections in people.

Antimicrobials are used in animals in three ways: therapeutic use (antimicrobial administered to treat animals suffering from a bacterial infection), prophylactic use (antimicrobial used to prevent bacterial infection and disease), and growth promotion (non-therapeutic antimicrobial used to improve the efficiency of animal feed digestion or absorption).

Several countries have banned or restricted antimicrobial feed additives. The United Kingdom banned the use of penicillin and tetracycline for growth promotion. Sweden then banned the use of antimicrobial feed additives in 1986, making the use of antimicrobials illegal without a veterinary prescription. The results of the Swedish ban demonstrated that it is possible to achieve competitive production results without the continuous use of antimicrobial growth promoters. The Danish decision to terminate the non-therapeutic use of antimicrobials in 1999 was also an important illustration of the successful phasing out of antimicrobials. Denmark is a major food producer in Europe and the world’s largest exporter of pork. Denmark’s antimicrobial use has significantly declined, and so have the incidences of antimicrobial resistance, despite its industrial scale meat production. Finally, in 2006, the European Union banned the use of most antimicrobials as feed additives for growth promotion, though some antibiotics are still allowed in broiler production to prevent coccidiosis. The U.S. and other European countries have not adopted this broad policy, but have withdrawn approval for some categories of drugs for use in food-producing animals.

### **Consumer concerns:**

Today, antimicrobial resistance is a growing public health threat. There is a grave worldwide concern among health authorities, physicians and researchers working in the field of infectious diseases that rapidly emerging antimicrobial resistance will significantly reduce possibilities of treating common infectious diseases in humans, with increased fatal consequences.

Consumers recognize that antimicrobials have a vital role to play in human and animal medicine. However, considering that new antimicrobials are not likely to become available in the near future, TACD believes action is urgently needed to control the emergence of resistant strains of zoonotic bacteria like *Salmonella*, *Campylobacter* and *E.coli*. These pathogens have developed resistance to multiple antimicrobials, and caused illnesses through the transmission of pathogens from animals to humans through the food supply. In the U.S., reports of foodborne outbreaks linked to antimicrobial strains of these common human pathogens have grown over the last 30 years. In the European Union, 25,000 people die each year because of problems related to resistant bacteria.

The major factors contributing to the problem are: excessive use of antimicrobials in animal husbandry, overuse of antimicrobials in human medicine, and use of antimicrobials in plants and for crop protection. With regard to animal farming, antimicrobials are not just used to cure infections, but are also routinely added to livestock feed and/or water to prevent infections in healthy animals and as growth promoters.

Resistance to one antimicrobial can lead to resistance to other related antimicrobials. For example, bacteria resistant to Avoparcin, an antimicrobial used in animal feed, may also be resistant to Vancomycin, the most powerful antimicrobial used against *Staphylococcus aureus*. Sweden stopped the use Avoparcin in the beginning of the 1980s and it was banned in the EU in 1997. The use of antimicrobial growth promoters encourages the colonization of resistant bacteria like *Salmonella*, *E.coli*, etc. in the gut of animals.

In conclusion, TACD urges governments in both regions to consider the recommendations of the World Health Organization to reduce the use of antimicrobials in food-producing animals.

### **Recommendations:**

- TACD calls for a total ban on the non-therapeutic use (including use as growth promoters) of antimicrobials in animal and food production, and a ban on the prophylactic use of antimicrobials, except where disease has been identified in an animal or within a group of animals.
- TACD urges governments to create and fund national systems to monitor antimicrobial usage in food-producing animals, and to share the findings of the surveillance promptly. Antimicrobial resistance surveillance systems should encompass a farm-to-table approach, and integrate the findings of public health, veterinary and food safety laboratories.

- TACD calls for all antimicrobial usage in animals to be subject to veterinary prescription. TACD urges the restriction or elimination of the use of antimicrobials identified as critically important in human medicine in food-producing animals, especially the use of floriquinolones, and third- and fourth-generation cephalosporins.
- TACD emphasizes the need to improve hygiene and health management on farms and improve animal housing by implementing new concepts for feed and animal management, which could reduce substantially the need to use antimicrobials. A coherent strategy should be developed, as well as research on alternative production methods.
- TACD calls for a total ban on the use of antimicrobials in plant/crop protection.
- TACD requests that the national health authorities implement a strategy to limit any unnecessary and uncontrolled consumption of antimicrobials, including the introduction of prescription only antimicrobials and a limitation of the consumption of broad-spectrum antimicrobials.

## **Resolution**

Antimicrobial resistance is a worldwide public health threat. Because of the potential risk to both human and animal health, the TACD calls on the U.S. and the EU to develop a common approach to addressing antimicrobial resistance, and adopt the recommendations of the World Health Organization. Specifically, TACD requests that all antimicrobial usage in animals be subject to veterinary prescription and that the use of critically important drugs to human medicine in animals be significantly reduced or eliminated.