Part II: Policies on Antimicrobial Use in Selected Countries

Growing concerns about antimicrobial resistance have caused some U.S. trading partners and competitors including the EU, New Zealand, and South Korea to implement restrictions and prohibitions on the use of certain antimicrobials for subtherapeutic or nontherapeutic purposes in animal production.

Aspects of Antimicrobial Use

An understanding of the available information on country restrictions is often complicated by a divergence of policy objectives. There are three aspects of antimicrobial use that are regulated by U.S. authorities, and may also be regulated by most of U.S. trading partners. More specifically, policies on antimicrobials may include restrictions on:

1. The use of certain antimicrobial drugs in producing livestock and poultry for meat consumption. As reported by the U.S. Food and Drug Administration (FDA), scientific studies demonstrate a relationship between the use of antimicrobials in food-producing animals, antibiotic resistance in humans, and adverse health consequences. Studies also demonstrate that antimicrobial resistance among feedborne bacteria may cause prolonged duration of illness, and increased rates of bacteremia, hospitalization, and death. In the United States, FDA regulates these drugs and approves conditions of their use.

2. Residues of antimicrobial drugs remaining in meat tissues, which may exceed allowable standards, tolerance levels, or maximum residue levels. In some cases, even trace amounts of these drugs in meat and poultry products may pose a public health hazard for consumers who are allergic, or for some drugs that have been shown to cause other severe illnesses in some consumers. This problem is different from the problem of antimicrobial resistance in foodborne pathogens that may be transmitted through the meat and poultry products. In the United States, FDA sets tolerances or allowance limits in meat, and USDA’s Food Safety and Inspection Service (FSIS) samples the products to assure compliance.

3. The use of certain antimicrobial washes and pathogen reduction treatments (PRTs) for treating meat during packing and processing of food products. These processes typically involve products that are used to treat animal carcasses by meat packers and processors, and not drugs that are used in live animals. In the United States, products used in these processes are regulated by FSIS.

For example, the United States has had a longstanding trade dispute with the EU, when the EU first banned the use of antimicrobial rinses or pathogen reduction treatments (PRTs) on poultry, effectively shutting out U.S. poultry exports. In the United States, such treatments are approved by the federal government and routinely used in U.S. chicken and turkey plants. In a separate example, in 2008 and 2009, Russia has refused imports of meat products from several European countries and from several U.S. plants — including plants owned by Tyson Foods Inc. and a unit of Smithfield Foods — because trace amounts of tetracycline and oxytetracycline were found in some of the pork tested. These examples are different types of scenarios involving policies regarding antimicrobials and antibiotics in food animal production, and involve different sets of policy issues.

See, for example, “Russia bans five U.S. pork plants on antibiotic findings,” Meatingplace online, December 10, 2009, and “Russia bars pork imports from 70 EU companies,” Pig Progress.net, June 26, 2008.
To the extent possible, this memorandum focuses on available information on country restrictions on the first topic, namely the use of certain antibiotics in feed for growth promotion (subtherapeutic or nontherapeutic) purposes in food-producing animals.

Country Comparisons

The United States and many of its key trading partners and competitors differ in terms of their use and regulation of antimicrobials in food animal production. As highlighted in a 2004 report by the U.S. Government Accountability Office (GAO)\(^2\) countries differ in their use of antimicrobials in animal production in two areas: (1) the specific drugs that can be used for growth promotion and (2) the availability of these drugs to producers (prescription or over the counter). Such differences complicate a straightforward comparison of policies regarding the use of these drugs in food animals between the United States and its key trading partners and competitors.

Table 5 provides a summary of the policies regarding antimicrobial use in animal feed for selected countries. Since GAO conducted its summary, other available updated information for some countries is as follows:

- **European Union.** The EU prohibits the use of antibiotics for growth promotion in animal production. The EU’s effort is part of its overall strategy to address the emergence of bacteria and other microbes resistant to antimicrobials, due to their perceived overexploitation or misuse, by phasing out these drugs for non-medicinal purposes.\(^2\) This action was part of a broader EU regulation\(^2\) on the use of additives in animal nutrition that established rules for the authorization, marketing and labeling of feed additives. The regulation covers several feed additive categories, including technological, sensory, nutritional, and zootechnical additives, as well as the use of certain anti-parasitic drugs. In June 2001, the EU prohibited all but four antibiotics used for growth promotion; prohibition of the remaining four products went into effect as of January 1, 2006.\(^2\)

- **New Zealand.** New Zealand claims that its “regulatory control of antimicrobials remains one of the most stringent in the world” and that its prohibitions are effectively similar to the EU’s in the extent to which antibiotic use is regulated.\(^2\) All antibiotics must be registered and approved for use by the New Zealand Food Safety Authority (NZFSA) and

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\(^2\) Ibid. Appendix IV: Information on Selected Countries’ Activities to Address Animal-Related Antibiotic Resistance. Major U.S. trading partners include Canada, China, Hong Kong, Japan, Mexico, Russia, and South Korea; selected competitors include the EU, Australia, Brazil, and New Zealand.


cannot be used unless there is a veterinary prescription (except for those antibiotics that are not relevant to the resistance problem). Registrations specify the veterinarians’ responsibilities to ensure that they prescribe these drugs in a prudent manner, and only approved traders are allowed to sell these drugs to ensure that access to them is effectively limited by the prescription condition. These products may not be promoted or advertised to the public. Further action on New Zealand’s restrictions and registration process is proceeding, and more updated information is available at NZFSA website.  

- South Korea. In 2008, reports indicated that Korea’s Ministry for Food, Agriculture, Forestry and Fisheries (MIFAFF) was tightening restrictions on the use of antibiotics in animal feed. USDA reported that Korea would phase down the number of allowable drugs over the period of 2008 to 2011 as a way to reduce their overall use in compound feed that are premixed during the production of compound feeds. USDA reported that Korea would still allow these drugs to be used through other methods, such as injection. Other available information indicated that the types of drugs in animal feed that would be initially phased out were penicillin, neomycin, chlorotetracycline, colistin, oxytetracycline, lincomycin and bacitracin zinc. These policies followed other legislation enacted in 2007 regarding Korea’s requirements for labeling meat products as “antibiotic free” or “organic.”

- Other Southeast Asian Countries. Other media reports indicate that similar bans might also have been enacted or are being considered in several other Southeast Asian countries, including Singapore, Japan, South Korea, Thailand, Taiwan, and Malaysia. Whether or not such restrictions have actually been implemented is difficult to confirm. Direct comparisons with prohibitions in the EU and New Zealand are not straightforward.

- South American Countries. Some U.S. meat export competitors, such as Argentina, Brazil, and Uruguay, likely do not use much antimicrobials in food-producing animals, given that these countries raise livestock are mostly rangeland or grass-fed.

- Other Countries. Several countries such as the United States, Canada, and Australia continue to review and monitor antimicrobial use in food-producing animals.

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29 As reported by The Pew Charitable Trusts, “Statement from The Pew Charitable Trusts on South Korea’s Ban on Using Certain Antibiotics in Animal Feed,” http://www.pewtrusts.org/news_room_detail.aspx?id=44232. CRS has contacted Dr Kwang-Jick Lee, Senior Researcher at the National Veterinary Research & Quarantine Service for the Republic of Korea (leekwj@nvrqs.go.kr) for more information, but have not received a reply.


31 See, for example, “Malaysia’s Sunzen leads fight against antibiotic-tainted meat,” The Malaysian Insider, June 9, 2009, http://www.themalaysianinsider.com/index.php/business/28987-malayas-sunzen-leads-fight-against-antibiotic-tainted-meat. CRS has contacted Dr. Thongchai Chalermchaikit, Associate Dean of Academic Affairs, Faculty of Veterinary Science, at Chulalongkorn University in Bangkok, Thailand (thongchai.c@chula.ac.th) for more information, but have not received a reply.

32 See, for example, Joshua M. Sharfstein, FDA Principal Deputy Commissioner of Food and Drugs, July 13, 2009, testimony before the House Committee on Rules, and Linda Tollefson, FDA Assistant Commissioner for Science, June 28, 2008, testimony before the Senate Committee on Health, Education, Labor, and Pensions.

33 See, for example, Health Canada, “Antimicrobial Resistance (AMR) Frequently Asked Questions,” http://www.hc-
Table 5. Overview of Selected Country Policies on Antimicrobial Use in Animal Production

<table>
<thead>
<tr>
<th>Country</th>
<th>Overview of Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Allows use of some drug classes in feed that are important in human medicine, but is reviewing its policies for approved uses. Establishing a comprehensive surveillance system. Limited information is available on its data collection system.</td>
</tr>
<tr>
<td>Brazil</td>
<td>Limited information suggests that Brazil does not currently restrict the use of these drugs in feed. Information is not available to determine if Brazil has surveillance and data collection systems in place.</td>
</tr>
<tr>
<td>Canada</td>
<td>Allows use of some drug classes in feed that are important in human medicine, but is reviewing its policies for approved uses. Establishing a comprehensive surveillance and data collection system.</td>
</tr>
<tr>
<td>China</td>
<td>Limited information on current activities, as well as information on existing surveillance and data collection systems.</td>
</tr>
<tr>
<td>European Union</td>
<td>Prohibits use of antibiotics in feed for growth promotion. Most Members have established surveillance and data collection systems.</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Limited information on current activities, as well as information on existing surveillance and data collection systems.</td>
</tr>
<tr>
<td>Japan</td>
<td>Some unconfirmed media reports indicate that Japan has increased or is considering increasing restrictions on antimicrobial use in food animal production. While other reports indicate it is continuing its review. Has established surveillance and data collection systems.</td>
</tr>
<tr>
<td>Mexico</td>
<td>Limited information suggests that Mexico does not currently restrict the use of these drugs in feed, Limited information also suggests Mexico is developing a surveillance and data collection system.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Prohibits use of antibiotics in feed for growth promotion. Has established surveillance and data collection systems.</td>
</tr>
<tr>
<td>South Korea</td>
<td>USDA reports that Korea will gradually phase down the number and types of antibiotics allowed in animal feed. Limited information is available on its surveillance and data collection systems.</td>
</tr>
<tr>
<td>Thailand</td>
<td>Some unconfirmed reports indicate that Thailand has increased or is considering increasing restrictions on antimicrobial use in food animal production. Information is not available on its surveillance and data collection systems.</td>
</tr>
<tr>
<td>United States</td>
<td>Allows use of some drug classes in feed that are important in human medicine, but is reviewing its policies for approved uses. Has established surveillance and data collection systems.</td>
</tr>
</tbody>
</table>


Notes: Appendix IV of the GAO study report provides information for selected countries, including an (1) overview of activities, (2) antibiotic-resistance surveillance systems, and (3) antibiotic use data collection systems.

As discussed in its report, GAO had difficulty obtaining information comparing policies across countries, given the limited availability or submission and varying responses from these countries, reporting errors and other administrative issues, and an inability to independently verify this information, among other

(...continued)


Part III: Potential Trade Implications for U.S. Exports

In its 2004 report, GAO addressed the question of whether restrictions on antimicrobial use in food animals had affected U.S. trade and whether such policies might become an issue in the future. GAO stated that, according to officials of USDA's FAS, the Office of the U.S. Trade Representative, the USMEF, and the U.S. Poultry and Egg Export Council, “antibiotic resistance associated with use in animals has not been a significant factor affecting U.S. trade in meat products.” GAO concluded however that there was evidence that country restrictions on the use of these drugs could become an issue in the future and affect U.S. export markets for livestock and poultry products.

At issue is whether increased restrictions and prohibition on the use of certain drugs in animal feed in some countries, including the EU, New Zealand, and South Korea, could affect or may already be affecting international trade in livestock and poultry products from countries, such as the United States, that do not actively restrict the use of these drugs for growth promotion in animal production.

At this time, it is not possible to provide a quantitative assessment of the potential trade implications on future restrictions on antimicrobial use in food animal production for reasons outlined in the following sections. Instead, following is a discussion of three possible scenarios regarding the potential trade implications on U.S. livestock and poultry exports from tightened restrictions or prohibitions on the use of these drugs in animal feed for growth promotion:

- a scenario in which tightened restrictions or prohibitions in key U.S. export markets result in lower U.S. exports of meat products that do not meet certain country requirements;
- a scenario in which tightened restrictions or prohibitions in key U.S. export markets result in lower U.S. market share in key export markets, given lower U.S. exports of meat products that do not meet certain country requirements; and
- a scenario in which tightened restrictions or prohibitions in key U.S. export markets, including prohibitions in the United States on the use of antimicrobials in animal feed for growth promotion, that might increase meat exports from the United States.

36 CRS communication with USMEF staff, November 9, 2009.
37 CRS communication with USDA Foreign Agricultural Service (FAS) staff, November 11 and December 7, 2009. FAS staff also checked available information on food safety portals at FAO and OIE.