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# Beef Production, Markets, and Trade in Argentina and Uruguay An Overview

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## Abstract

Argentina and Uruguay (A/U) are significant beef exporters and among the world's greatest consumers of beef on a per capita basis. Between 13 and 20 percent of U.S. beef imports, on a tonnage basis, come from these two countries annually, and it is mostly grass-fed beef. Currently, only 10-20 percent of A/U beef production involves a feedlot. Both countries have recently implemented national animal identification systems, and their export slaughter facilities are up to the WTO's sanitary standards. Both countries are considered free from bovine spongiform encephalopathy (BSE) by virtue of their pasture-based production technologies, but wrestle with foot-and-mouth disease (FMD). Argentine cattle/beef markets and trade are clearly and significantly affected by Government interventions in the domestic market. In contrast, Uruguay focuses on exporting beef. This report summarizes information gleaned from government and cattle/beef industry sources during a trip to Argentina and Uruguay in March 2007.

**Keywords:** Argentina, beef, BSE, bovine spongiform encephalopathy, cattle, consumption, exports, feedlot, foot and mouth disease, FMD, grass-fed, imports, trade, Uruguay.

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Approved by USDA's  
World Agricultural  
Outlook Board

## Introduction

Argentina has more land than Uruguay, and the two countries differ in government treatment of the cattle/beef sectors and trade. The Argentine Government has a long history of intervening in beef markets through taxes on meat exports and flats in the domestic market place. About 30 percent of Argentines' disposable income is spent on food. Beef receives considerable attention from the Argentine Government because of its citizens' high per capita beef consumption and because beef prices account for about 4.5 percent of the Argentine inflation index. So, the ostensible objective of these interventions is to control domestic inflation. In contrast, the Government of Uruguay is oriented toward facilitating beef exports. This report summarizes information gleaned from government and cattle/beef industry sources during a fact-finding trip in March 2007.

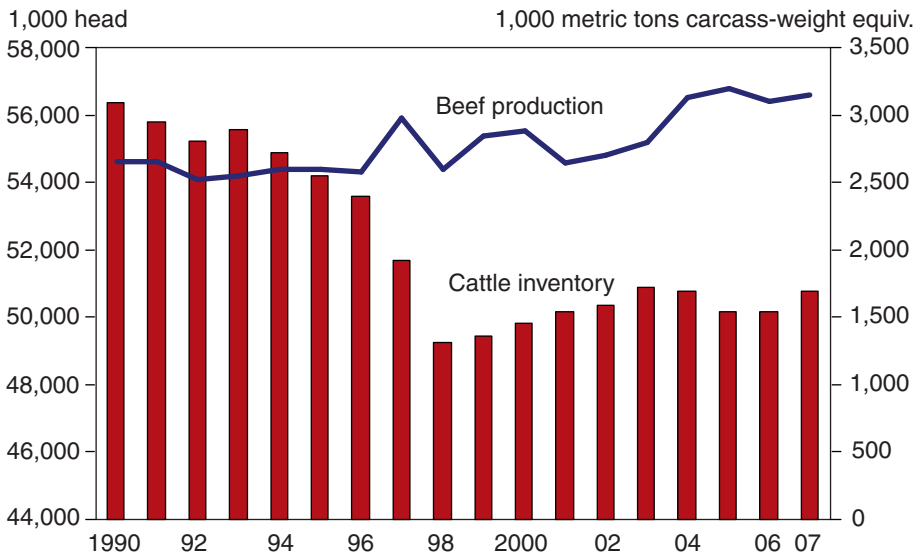
In 2006, Argentina's cattle population was about 52 million head and Uruguay's 12 million head, roughly half and one-ninth the size of the U.S. cattle population. There are about 190,200 cattle producers in Argentina. About 35 percent of Argentina's cattle are in the Province of Buenos Aires, with another 20 percent in the more northern Santa Fe and Entre Rios Provinces. Another 5 percent are in the Northwest region of the country, and 16 percent in the Mendoza/San Juan/San Luis/Cordoba region. The Northeast region accounts for 15 percent of the cattle herd, while just 2 percent are located in the southern third of the country. The Sociedad Rural Argentina maintains herdbook records for all breeds, which tend to be mostly Angus and Hereford.

At present, A/U are designated free of foot-and-mouth disease (FMD) with vaccination (the Patagonia region in Argentina is FMD-free without vaccination) by the World Animal Health Organization (OIE). The United States currently allows importation of fresh, chilled, frozen, and thermoprocessed (heat treated) Uruguayan beef, but only thermoprocessed beef from Argentina. Because of their pasture-based production technologies and their long prohibition against using animal byproducts in feed, both countries are considered free from bovine spongiform encephalopathy (BSE).

The most recent beef market interventions by the Argentine Government included the imposition of taxes and other restrictions on exports, a list of maximum prices that slaughterers are allowed to pay for animals, and minimum slaughter weight restrictions for steers and heifers (currently suspended). Generally, these interventions have slowed growth in the country's cattle and beef sectors (fig. 1) and precipitated beef shortages in 2007. Until recently, the Liniers market in the city of Buenos Aires accounted for about a fifth of the fed cattle sold in Argentina. After the Government implemented price controls, the number of cattle sold in the Liniers market dropped an estimated 60 percent as some producers were able to sell directly to packers or in markets not so rigidly controlled by the Government. Currently, the market is less controlled and trade is almost back to normal. Increasing world prices for corn, sorghum, and soybeans have caused some cattle areas to shift into grain and oilseed production.

Figure 1

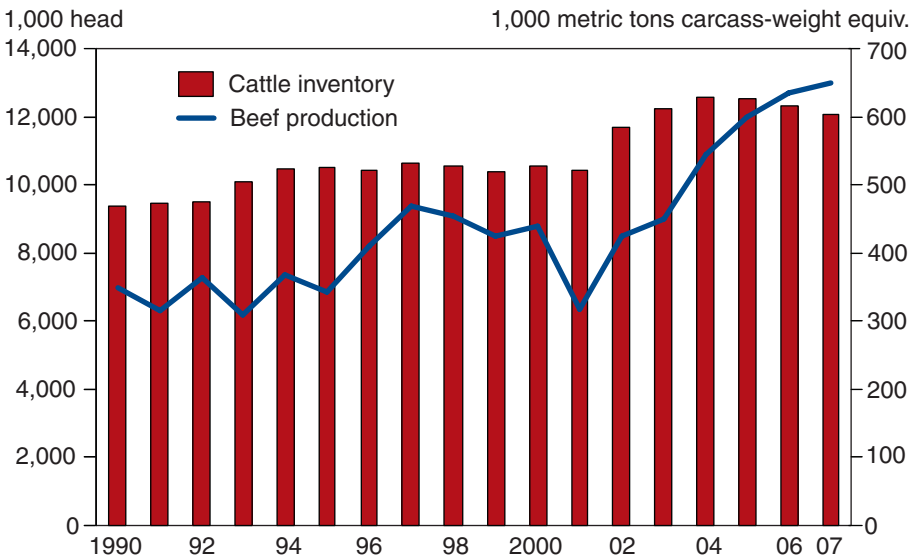
**Argentine cattle numbers are flat lately, but beef production is trending slightly up**



Compiled by ERS using data from the *Global Trade Atlas* (Global Trade Information Services).

Figure 2

**Uruguayan cattle numbers are trending up, but beef production is increasing faster**



Compiled by ERS using data from the *Global Trade Atlas* (Global Trade Information Services).

Recently, Uruguay’s Government has operated in a more export- and market-friendly manner (fig. 2). This less intrusive approach has enabled Uruguay to gain market shares in most international markets. Beef exports are one of Uruguay’s main sources of income.

## Production Technologies

### Cattle Raising and Finishing

About 10 percent of cattle in Argentina are dairy cows, primarily Holsteins. About 50 percent of cattle are Angus, 25-30 percent Herefords, and the remainder are mostly Brahman or Brahman-crosses with Angus or Hereford. While Argentine bulls are widely used, semen is also purchased from the United States (about 80 percent) and Canada, mostly for dairy cows.

In Uruguay, the Hereford breed accounts for approximately 75 percent of beef cattle. Angus accounts for almost 20 percent, with dairy cows accounting for 5-7 percent of the total herd.

In both Argentina and Uruguay, calving percentages average about 60 to 65 percent of cow inventories, with higher rates—up to 71 percent—reported in the Province of Buenos Aires. The calving percentage is higher for dairy cows, averaging 80 to 85 percent. The relatively low calving percentages are due to seasonal nutrient profiles in pastures and the failure to supplement cows during periods of low nutrient intake. As a result, cows are not sufficiently fortified to rebreed readily.

Most production inefficiencies in both countries are attributed to cattlemen's ingrained cultural practices, though innovative technologies consistent with pasture- and silage-based systems have become more common in recent years. Heifers on some operations are inseminated with semen from Canadian or U.S. animals for their first calves. Some operations practice "temporary weaning," where 60-day-old calves are fitted with a plastic device that prevents them from nursing for 7 to 11 days, and "early weaning" where the calves are weaned at 60 days. Both temporary and early weaning enable nursing cows to recover body condition before rebreeding, thus improving conception rates.

Beef animals in both countries are finished either solely on pasture (fig 3), on pasture with supplemental feeding (in most cases, corn or sorghum silage), or in feedlots. In recent years, finishing animals on pasture alone has been less common. Pasture quality is seasonal, with peaks during late winter-spring (September-November) and again in late summer-early fall (February-April). On some operations, harvested forages are fed to steers on pasture during periods of reduced nutrient content.

Pasture-finished cattle end up on high-quality pasture—often including legumes such as alfalfa, lotus, and red/white clovers—and are marketed at about 400 kilograms (kg) for the domestic market to 480 kg for the export market. Some are placed in confinement and fed grain (about 1 percent of body weight per day, compared with the U.S. feedlot average of 2 percent or more of body weight) until they reach a weight of about 460 kg.

In the pasture-based finishing system, "confinement" generally means cattle are placed in smaller pastures where they are fed supplemental grain and forages, typically corn silage, or other feedstuffs. However, about 3 million

Figure 3

**Uruguayan steers finished on alfalfa pasture are nearly ready for slaughter**



Photo credit: Ken Mathews, USDA/ERS.

cattle in Argentina are finished in feedlots very similar to U.S. feedlots. Only 3 or 4 cattle feedlots in Argentina have capacity of 20,000 head or more; about 1,000 can house 100 to 300 head. Biosecurity measures at some feedlots require that all incoming cattle have proper papers. In addition, all cattle receive FMD vaccinations upon arrival at some feedlots.

In Argentina, heifers weighing roughly 150 kg are fed grain for about 3 months. These grain-fed heifers sell at prices about 20 percent higher than for grass-fed heifers, and are marketed for slaughter at about 250 kg. About 80 percent of Angus and Hereford steers in Argentina are supplemented on pasture for 15 to 20 months, with about 1 percent of their live weight in corn fed for the last 3 to 4 months. These steers are sold weighing 380 kg or more, primarily for the domestic market. Under heavy feeding regimes, cattle may be fed to 450 kg or more, primarily for the export market. Rumensin and similar products are fed, but growth hormone implants have not been allowed in Argentina since 2004. In Uruguay, cattle may be fed to 400 to 550 kg, with most heavy carcasses destined for export. A ban against growth hormone implants dates back to 1978.

Carcass dressing percentages for feedlot cattle in Argentina can be 59-60 percent of live weight, versus the U.S. average of about 63 percent. Argentine steers and heifers finished for slaughter using pasture systems dress lower: steers at 57-58 percent and heifers at 56-57 percent. In Uruguay, representative dressing percentages are 53 percent for steers and 49 percent for heifers.

Neither Argentina nor Uruguay have the formal equivalent of USDA's Extension Service. However, there are experiment stations throughout the countries, often run by the government, universities, and systems of producer groups that collect and disseminate information. The National Institute for Agricultural Technology (INTA, Argentina) and the Instituto Nacional de Investigacion Agropecuaria (INIA, Uruguay) are run by the government, supplemented by agreements from the private sector to conduct primarily production-oriented research and disseminate information.

From 1914 to 1959, agricultural research in Uruguay was conducted by the Government. INIA was created in 1959 by law as a public nongovernmental organization. Each station's governing board consists of two members appointed by the Minister of Agriculture and two producers. There are five experiment stations in the Uruguayan system, one in each major agricultural production area of the country. Today, each station focuses on specific crops or livestock species. The system is funded by a producer levy of 0.4 percent of sales, which the Government matches, by law. A sister organization carries out extension-like activities.

## Beef Production

Slaughter facilities and retail outlets are modern and clean—by European Union (EU) systems and standards—in both Argentina and Uruguay. Exports to the EU and United States require export certification. Sanitary sampling is conducted regularly in export-oriented plants to meet company standards and market demands rather than merely to safeguard against threats of liability. Tests are routinely conducted for *Listeria*, *Salmonella*, and *Eschericia coli* H7:O157, and cross-testing is done by both industry and government laboratories.

Argentina slaughters 12 to 14 million head per year in about 400 slaughter plants; the 2 largest plants account for less than 10 percent of slaughter. About 55 percent of cattle slaughter occurs near the densely populated city of Buenos Aires. In Uruguay, packing plants operated at about 75 percent capacity as of March 2007.

In Argentina, carcasses are labeled rather than rolled (marked with an inked stamp that rolls a row of marks down a carcass, similar to a rolling lint remover for clothing), but the label is not part of a traceback program. Rather, the label contains carcass information, like sex, grade, fat, and weight.

There is little effort to promote domestic beef consumption in either Argentina or Uruguay because per capita beef consumption in both countries is high. Beef promotion in Argentina is primarily for exports and is carried out by the Instituto de Promocion de la Carne Vacuna Argentina (IPCVA). Cattle producers pay a levy of about 1.25 Argentine pesos and beef packers contribute another 0.65 peso per head (a total of roughly 60 cents U.S.). There is very little premium for certified Angus beef, possibly because Angus constitute such a large share of the cattle herd. In Uruguay, the Intstituto Nacional de Carnes (INAC) oversees quality control and certification, provides technical advice to the cattle/beef industry, and maintains and publishes data and statistics.

## Domestic Consumption

Argentina has the highest per capita beef consumption in the world, about 141 pounds (carcass weight basis) in 2006. Uruguay's per capita beef consumption of about 87 pounds is on par with U.S. consumption (95 pounds (USDA/FAS, 2007).

About 80 percent of the beef produced in Argentina is consumed domestically. In Uruguay, the situation is almost the exact opposite: exports account for about 80 percent of total beef production.

Consumers in both countries are very particular about their beef. They prefer fresh beef (aging of beef is not a typical practice). Half or partial carcasses are usually cut up at the retail outlet, either a butcher shop or grocery store. About 70 percent of retail beef is purchased from a butcher, 30 percent from supermarkets. A/U consumers prefer beef from young female animals because of their smaller cut sizes and because the meat is generally more tender. The most popular cuts are from the “flag,” which consists of the ribs and stomach muscles.

In upscale supermarkets like Jumbo in Argentina, about 10 percent of the beef sold is as store-branded beef, including kosher. In Jumbo, 80 percent of beef is wrapped and packaged for self-service sale, including at least some of the store-branded product. Some customers prefer the personal service of a butcher and will pay higher prices than for packaged meat in the display case. As part of their low-cost food campaign, the Argentine Government currently mandates that stores offer ground beef that is 40 percent fat, but customers purchase very little of it in upscale stores.

## Food Safety and Security Issues

### Traceability

Traceability in Argentina has consisted primarily of packers, producers, and retailers all knowing where their cattle come from and where they go. Reputation accounts for a great deal, and the system works relatively well. However, Argentina implemented a compulsory animal identification program in 2007, and calves born from now on will have to carry official tags. The total herd will be identified in an estimated 8-10 years.

Uruguay has an impressive government-sponsored national animal identification program aimed at animal disease control, quality beef production, and marketing. Data collection as part of a pilot program for an animal identification system has been underway since about 1973. Until 2006, the system consisted of branding cattle each time they were moved, with paperwork filed at local police stations. With Uruguay's dependence on beef exports, animal identification has been increasingly supported by all segments of the beef industry in order to build markets, especially given the possibility of FMD.

In September 2006, Uruguay moved to a mandatory system of ear tags for calves before they reach 6 months of age or are moved from the farm of birth. Two tags are now required for all cattle, one highly visible and one electronic, along with the appropriate paperwork that tracks cattle from birth to slaughter. Lost tags must be replaced. Currently, the Uruguayan Government pays for the required tags, but plans to shift that cost to producers. INAC hopes to have all herds registered and all cattle tagged by 2010. A planned second phase of this system would track carcasses beyond slaughter. If achieved, producers would then be able to obtain carcass and other performance data for their cattle to compare with national averages while maintaining producer confidentiality.

### Disease

Historically, FMD has been an ongoing threat for livestock industries in many South American countries, including Argentina and Uruguay. In 1996, Uruguay was the first South American country to obtain OIE classification as FMD-free without vaccination. (OIE is the official acronym for the World Organization for Animal Health, formerly Office International des Epizooties.) It lost this status with the advent of an FMD outbreak in 2000. Argentina and Uruguay are considered to be FMD-free with vaccination. Argentina's Patagonia is classified by OIE as FMD-free without vaccination. Other than Patagonia, all cattle in Argentina are vaccinated twice a year against FMD. The cost to vaccinate cattle is about 50 cents (U.S.) per head. In addition, all Argentine cattle in a 10-mile strip along the Argentine border with Paraguay, Bolivia, and Brazil are subject to animal identification requirements.

The pasture-based production technologies used in A/U bypass the use of meat-and-bone meal in cattle rations. In fact, Federal laws in both countries have prohibited the use of meat-and-bone meal in livestock feed since at least 1996. As a result, both countries are considered free from BSE.



## Trade

Although Argentina consumes most of its own beef production, historically it has been one of the leading beef exporters. Argentina trailed only Brazil, Australia, and India in 2006 with exports of 556,000 metric tons, carcass-weight equivalent. Since 1990, Argentine exports have ranged from 10 to 24 percent of total domestic production (USDA/FAS).

Historically, the EU has been Argentina's best customer on a value basis. Argentina typically obtains 28,000 metric tons, or 47 percent, of the EU's High Quality Beef Quota (the so-called "Hilton quota"). Plants that export to the EU must be certified, and standards are higher for export beef than for domestic beef. In recent years, Argentina's exports to Russia have surpassed its exports to the EU in terms of volume. Argentina has been unable to make serious inroads in major Asian markets due to its intermittent problems with FMD. Chile, Israel, Morocco, Venezuela, and Brazil are Argentina's other top customers for frozen and fresh/chilled beef. Frozen beef represents about 70 percent of Argentine beef exports (*Global Trade Atlas*, Global Trade Information Services, accessed May 2007).

The United States currently imports only thermo-processed beef from Argentina due to concerns about FMD. Since 2000, annual U.S. imports from Argentina have ranged from 85 million to 131 million pounds, carcass-weight equivalent. Earlier in 2007, USDA proposed regulations that would relax its trade prohibition by recognizing southern Argentina (its territory south of 42°S, commonly known as Patagonia) as FMD-free, which would permit imports of non-thermal processed bovine and sheep products from this region. However, beef production in Patagonia is limited, as it is primarily a sheep-producing area. USDA accepted comments on this proposed rule through March 2007, but has not issued a final rule as of September 2007.

Argentine beef exports were limited in 2006 and 2007 by government policies ostensibly intended to control domestic inflation. The Argentine Government's current policy is to target 2007 exports at 70 percent of their 2005 level, or about 500,000 metric tons (carcass-weight basis).

Uruguay's beef industry is oriented toward the export market. Since 2002, Uruguay has exported more than 60 percent of its annual beef production, with the share in recent years nearing 80 percent. With more than 600,000 metric tons (carcass-weight basis) of projected exports in 2007, Uruguay has joined the top tier of beef-exporting countries. Uruguay's domestic beef consumption declined after the economic crisis and recession of 2001-02, while exports expanded. Domestic beef consumption began recovering in 2006, and Uruguayan per capita consumption remains among the world's highest.

About 80 percent of Uruguay's beef exports have been frozen product in recent years (fig. 4), with the United States its chief customer (*Global Trade Atlas*). Most beef imported into the United States is lean processing beef. Other important customers for Uruguayan frozen product include Russia, Israel, South Africa, Algeria, and Canada. Brazil's and Argentina's troubles with disease-related export restrictions in 2006 and a beef export ban estab-

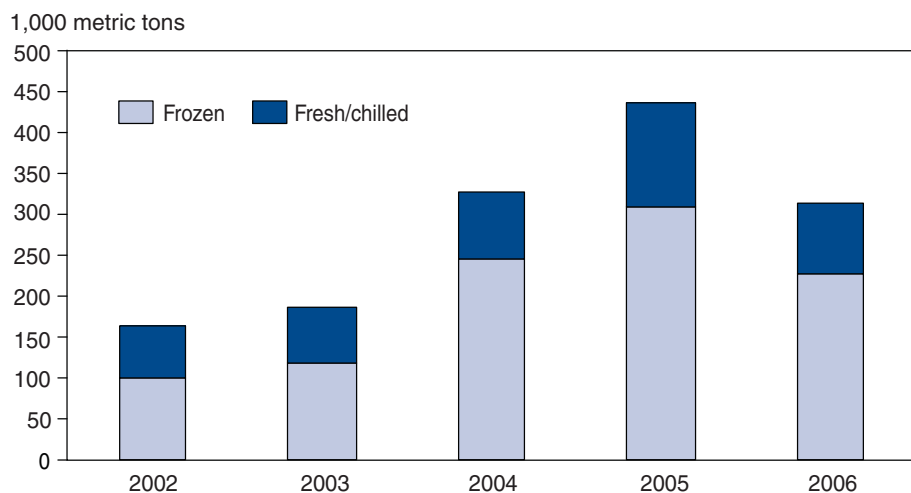
lished by the Government of Argentina allowed Uruguay to gain market share internationally, but it has had difficulty defending those gains against competitors in 2007.

Promotional efforts by the Uruguayan beef industry are geared toward more highly valued fresh/chilled (versus frozen or processed) product. These marketing efforts emphasize Uruguay's natural, grass-fed beef production. However, fresh/chilled beef represents only about 20 percent of Uruguay's beef exports, with heavy competition in this high-value market. Uruguay's biggest customers for fresh/chilled beef have been Chile, Brazil, the UK, Germany, and the United States.

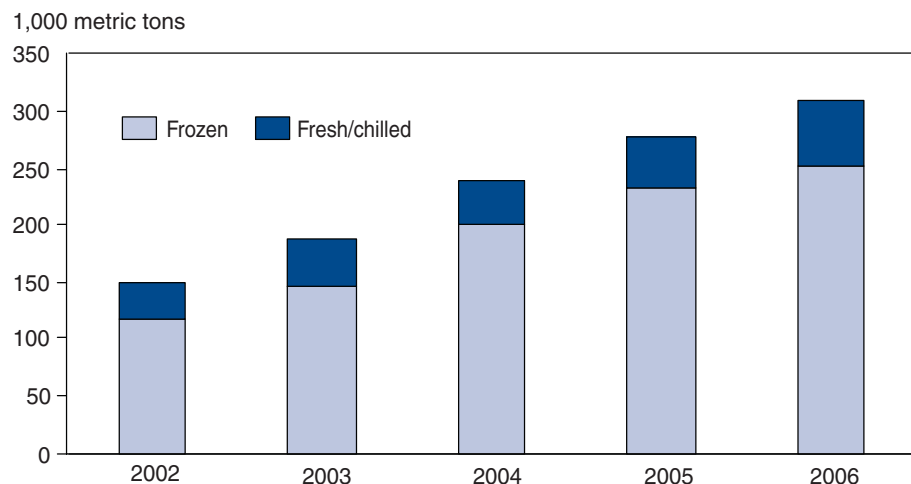
Because Uruguay's beef industry is so export-dependent, it is also quite sensitive to interruptions related to disease outbreaks. Uruguay last experienced an FMD outbreak in April 2001 (after Argentina and Brazil reported outbreaks in August 2000), and its beef production and exports dropped significantly in 2001. The United States did not accept beef imports from Uruguay again until 2003. Uruguay's beef production in 2007 is expected to

Figure 4

**Frozen beef accounts for about 70 percent of Argentina's exports...**



**...and about 80 percent of Uruguay's**



Compiled by ERS using data from the *Global Trade Atlas* (Global Trade Information Services).

be more than double its 2001 level, and beef exports more than triple. Uruguay is currently classified FMD-free with vaccination by the OIE. Though USDA does not consider Uruguay to be FMD-free, it does allow beef imports to the United States under specific conditions (see United States Code of Federal Regulations, Title 9, section 94.22).

## Outlook

High worldwide grain prices, domestic government policies, and disease issues will influence beef exports for both Argentina and Uruguay. Additional factors include each country's ability to retain its international market share and how rapidly institutional rigidities can be overcome to improve production technologies. Domestic government policies and market interventions remain a significant obstacle for Argentina's cattle producers. With high worldwide grain prices, market interventions by the Argentine Government will continue to result in conversions of pasture into cropland. Both countries face significant disease threats because of their neighbors' inability to control animal diseases, particularly FMD. Because of its export orientation, avoiding disease-related issues and interruptions is a higher priority for Uruguay.

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