

# Economic Impacts of Evolving Red Meat Export Market Access Requirements for Traceability of Livestock and Meat

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### **Introduction**

International market access for U.S. red meat exports is continually being confronted by a number of issues including sanitary, phytosanitary, and related traceability protocols. The United States lags many other countries in adopting livestock and meat traceability systems. As major meat importing and exporting countries adopt mandatory animal and meat tracking systems, the United States risks becoming less competitive and risks losing market access. This publication summarizes results and implications from a study that estimated the impacts of potential changes in U.S. meat access to global markets and costs associated with possible increases in domestic adoption of traceability programs.<sup>1</sup>

### **Methods**

An economic model was developed to simulate the effects of industry costs incurred through adoption of additional traceability programs on U.S. livestock and meat producers and consumers. Specifically, an age and source verification program was considered as a potential requirement for future access to specific beef export markets and a comparable pork traceability

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<sup>1</sup> Additional related information including the full report is available at <http://www.agmanager.info/livestock/marketing/AnimalID/default.asp>

program. The economic assessment considered supply and demand impacts for beef, pork, lamb, and poultry sectors. The economic impact of adjustments in the U.S. livestock and meat industry were evaluated for several scenarios that could represent future realities for industry stakeholders. All impacts were estimated relative to 2009 average prices and quantities.

## **Results**

If the United States were to lose access to the South Korean beef and pork export markets (a 7.3% and 6.3% decline in total U.S. beef and pork exports, respectively), model estimates suggest that the beef and pork industries would lose \$1,792 million and \$518 million dollars, respectively, while U.S. meat consumers would gain \$610 million over a ten-year period.

Incorporating lamb and poultry producer losses of \$127 million dollars, estimates suggest a net loss to society of \$1,828 million. Producers lose value and consumers gain value because the price of domestic meat (and, by extension, livestock) would decline. Furthermore, the loss of market access to all countries except Canada and Mexico (a 48.7% decline in U.S. beef exports and 68.3% decline in U.S. pork exports) results in notably larger impacts with beef and pork industries incurring losses of \$12,582 million and \$5,505 million, respectively, U.S. meat consumers gaining \$6,094 million, and society experiencing a net loss of \$13,044 million. These estimates quantify the potential damage to domestic livestock industries if the United States loses access to key foreign markets.

It is possible that enhanced traceability systems may increase international consumer confidence in the U.S. red meat industry. Hence, we estimate the increase in exports needed to offset direct costs associated with adopting domestic traceability. The increases in 2009 export volumes

required to "break-even" (i.e., trade gains exactly offset aggregate costs of traceability program participation) are equivalent to gaining (or losing) access to a single major export market. For instance, to offset costs of expanding cattle and swine traceability programs that would encompass a participation rate of 20% of production, an increase in beef exports of 1% (19.5 million lbs.) and pork exports of 0.5% (21.7 million lbs.) would be required. To put these values into perspective, the United States exported 140 million lbs. and 258 million lbs. of beef and pork to South Korea, respectively, in 2009 (tables 1 and 2). Thus, the costs of expanding traceability could be easily offset by gaining access, or not losing access, to a single country. The costs of implementing a full (100% participation) traceability system in the beef and pork industries could be offset by increasing beef exports by 29.5% (571 million lbs.) and pork exports by 3.4% (139 million lbs). In 2009, the United States exported over 625 million lbs. of beef to Mexico. To make full traceability investment economically viable, the United States would need to gain (or avoid the loss of) market access to one country such as Mexico for beef or South Korea for pork.

**Table 1. U.S. Beef and Veal Exports by Destination, Carcass Weight (Thousand Pounds).**

	2005	2006	2007	2008	2009	2010
Canada	105,895	238,556	339,106	389,250	363,189	390,213
China (Taiwan)	22,394	67,364	70,684	85,397	84,399	122,916
Hong Kong	2,034	12,624	32,223	32,363	82,226	133,388
Japan	17,496	51,639	159,411	231,070	274,341	350,991
Mexico	464,024	660,454	586,434	758,534	628,464	500,487
Russia	1,441	142	114	47,725	13,435	79,997
South Korea	1,077	1,283	77,919	152,095	140,693	277,103
Vietnam	11,058	10,383	41,869	121,925	148,332	114,460
Others	71,740	102,428	126,205	177,941	199,681	330,210
Total	697,158	1,144,875	1,433,964	1,996,299	1,934,759	2,299,765

Source: Livestock Marketing Information Center.

**Table 2. U.S. Pork Exports by Destination, Carcass Weight (Thousand Pounds).**

	2005	2006	2007	2008	2009	2010
Canada	302,211	324,935	367,584	422,266	406,840	433,293
China (Mainland)	123,222	111,943	228,021	361,562	54,039	156,582
China (Taiwan)	62,828	59,425	33,219	56,704	75,612	64,739
Japan	1,045,956	1,015,423	1,072,788	1,323,719	1,273,628	1,284,966
Hong Kong	23,452	49,929	127,026	489,799	300,897	203,797
Mexico	538,227	608,937	451,407	658,144	890,179	1,037,053
Russia	94,099	208,744	244,311	429,908	284,068	153,853
South Korea	190,085	293,416	264,854	296,967	258,288	220,245
Caribbean	20,873	27,329	33,538	47,937	69,757	74,277
Others	265,162	295,014	318,434	564,458	480,804	598,045
Total	2,666,116	2,995,096	3,141,181	4,651,464	4,094,112	4,226,850

Source: Livestock Marketing Information Center.

### Implications

Animal identification and traceability programs have experienced a bumpy road in the United States in recent years. Results from this study illustrate the economic implications if the United States loses access to a single major export market by falling further behind global traceability standards. This study also estimates the increase in export demand needed to offset additional costs of enhanced traceability systems. Given the increasing role of international trade in livestock and meat industries, these findings warrant serious consideration by U.S. industry leaders and policymakers.