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Regulation and Trade of Genetically Modified Products

Luc Veysiere
Iowa State University

Konstantinos Giannakas
University of Nebraska-Lincoln

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CORNHUSKER ECONOMICS

July 12, 2006

University of Nebraska–Lincoln Extension

Institute of Agriculture & Natural Resources
Department of Agricultural Economics
<http://agecon.unl.edu/pub/cornhusker.htm>

Regulation and Trade of Genetically Modified Products

Market Report	Yr Ago	4 Wks Ago	7/7/06
<u>Livestock and Products,</u>			
<u>Weekly Average</u>			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight	\$81.61	\$80.60	\$83.22
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb	146.84	130.48	144.05
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb	117.90	113.13	121.28
Choice Boxed Beef, 600-750 lb. Carcass	135.60	154.27	153.43
Western Corn Belt Base Hog Price Carcass, Negotiated	67.42	73.14	69.05
Feeder Pigs, National Direct 45 lbs, FOB	48.14	49.16	50.73
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean	65.45	72.23	77.30
Slaughter Lambs, Ch. & Pr., 90-160 lbs., Shorn, Midwest	*	80.00	*
National Carcass Lamb Cutout, FOB	253.10	212.17	230.26
<u>Crops,</u>			
<u>Daily Spot Prices</u>			
Wheat, No. 1, H.W. Imperial, bu	3.03	4.34	4.67
Corn, No. 2, Yellow Omaha, bu	1.94	2.05	2.20
Soybeans, No. 1, Yellow Omaha, bu	6.73	5.56	5.66
Grain Sorghum, No. 2, Yellow Columbus, cwt	3.21	2.98	3.41
Oats, No. 2, Heavy Minneapolis, MN , bu	1.92	2.15	2.24
<u>Hay</u>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton	117.50	130.00	135.00
Alfalfa, Large Rounds, Good Platte Valley, ton	37.50	65.00	87.50
Grass Hay, Large Rounds, Good Northeast Nebraska, ton	52.50	55.00	82.50
* No market.			

The emergence of agricultural biotechnology and the subsequent introduction of genetically modified (GM) products into the food system have been among the most controversial issues surrounding the increasingly scrutinized agri-food system. While agricultural producers have responded to the agronomic benefits associated with the producer-oriented, first generation of GM products and have been adopting GM crops in increasing numbers, consumers around the world have expressed an aversion to food products containing GM ingredients. Consumer opposition to GM products varies significantly both between and within countries and is founded on health, environmental, ethical and/or philosophical concerns about agricultural biotechnology.

Similarly diverse have been the countries' regulatory responses to GM products with the issue of labeling being a focal point in policy forums around the world. For instance, while the United States opposes the labeling of GM products arguing the "substantial equivalence" between the current, producer-oriented GM products and their conventional counterparts, the European Union has introduced mandatory labeling of GM products on the basis of its "precautionary principle" and the expressed consumer aversion to these products.

Consumer opposition to GM products (or its lack thereof) is often cited as the primary force behind countries' decisions on the labeling of these products. While consumer reaction is certainly important, there are other factors that are also significant in shaping the regulatory responses to products of biotechnology. In particular, given the high volume of trade of agricultural and food products and the intense competition between the major suppliers for access in the world market, a country's decision on its labeling regime can be expected to affect and be affected by the regulatory and labeling regimes of the other major

suppliers of the product(s) in question. Interestingly, this strategic interdependence between the major producers of agri-food products has been ignored by the relevant literature.

In an article that was published in the January 2006 issue of the *Journal of Agricultural & Food Industrial Organization*, we examine the effect of the strategic interdependence between countries on their regulatory responses to products of biotechnology. In particular, we analyze the strategic effects of national regulatory decisions on labeling of GM products and identify the determinants of the equilibrium labeling regimes in the countries that have adopted the GM technology.

Analytical results show that the equilibrium configuration of labeling regimes in countries that have adopted the GM technology depends on (1) the distribution of consumer preferences and the level of consumer aversion to GM products; (2) the size of the segregation and labeling costs in these countries; (3) the relative productive efficiency and the cost effectiveness of the GM technology; (4) the market power of the life science companies; and (5) the strength of intellectual property rights in these countries.

Specifically, the greater (lower) is the consumer aversion to GM products and/or the smaller (greater) is the size of the segregation costs associated with a labeling regime in these countries, and/or the greater (smaller) is the cost effectiveness of the new technology, and/or the lower (greater) is the market power of the life science sector, and/or the weaker (stronger) are the intellectual property rights in these countries, the more likely it is that GM producing countries will find it optimal to label (not label) their products.

While a similarity in these market and agronomic characteristics leads to uniform labeling standards in the GM producing regions, a divergence in the segregation costs, productive efficiency, cost effectiveness of the GM technology, market power and/or enforcement of intellectual property rights between the different countries can lead to different regulatory responses to products of biotechnology. Different market and/or agronomic characteristics can, therefore, provide an explanation for the different approaches to labeling adopted in different countries around the world.

Note: This article is based on Veysiere's M.Sc. thesis at the University of Nebraska-Lincoln.

Journal Citation:

Veysiere, L. and K. Giannakas. "Strategic Labeling and Trade of GMOs." *Journal of Agricultural & Food Industrial Organization*, Vol.4 (2006): Article 1.

Luc Veysiere, (515) 294-4611
Ph.D. Student of Economics
Iowa State University

Konstantinos Giannakas, (402) 472-2041
Professor of Agricultural Economics
University of Nebraska-Lincoln
kgiannaka2@unl.edu