



AgEcon SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.



Will Consumers Pay a Premium for Country-of-Origin Labeled Meat?

Wendy J. Umberger

Proponents of mandatory country-of-origin labeling (COOL) of meat argue that COOL would provide US producers with a competitive advantage in the marketplace. They contend that US consumers perceive domestic meat products to be higher quality than imported meat products. Therefore, because of its higher perceived quality, U.S.-labeled meat will garner a premium over imported meat. Advocates of mandatory COOL draw on the results of several recent academic studies to attest that US consumers support and are willing to pay for certified US products. Are the COOL advocates' assumptions regarding the higher perceived quality of US meat and subsequent premiums justified?

Is there Evidence to Support Premiums for Country-of-Origin Labeling of Meat?

Recent studies of US consumers and meat marketers have sought to determine if support exists for a mandatory country-of-origin labeling program for meat sold in the United States. In general, the studies find support for a mandatory country-of-origin labeling program and potential premiums for "Certified U.S." meat products. For example, 93% of Louisiana consumers surveyed supported mandatory COOL of fresh and frozen beef (Schupp & Gillespie, 2001a). The majority of Louisiana meat handlers surveyed also favored a mandatory COOL program; they were particularly supportive if they believed their customers would find the label valuable (Schupp & Gillespie, 2001b).

Three separate studies explore whether US consumers would value COOL by assessing whether consumers would be willing to pay a premium for "Certified U.S." meat. The first willingness-to-pay (WTP) study surveyed 243 Colorado consumers at supermarkets during spring 2002. Colorado consumers indicated that they were willing to pay an average of 38% and 58% more to obtain "Certified U.S." steak and hamburger, respectively

(Loureiro & Umberger, 2003). Additionally, the same set of Colorado consumers were asked to indicate their support for a mandatory COOL program, provided it would cost their household a specified amount. Consumers were willing to pay an average of \$184 per household for a mandatory COOL program.

The second WTP study on COOL, conducted in Chicago and Denver during summer 2002, used survey procedures and experimental auction methods to determine premiums for COOL (Umberger et al., 2003). In this study, 73% of the consumers surveyed indicated they would be willing to pay average premiums of 11% and 24% for COOL of steak and hamburger, respectively. However, after participating in an experimental auction, only 69% of the same consumers were willing to pay an average premium of 19% for a "U.S.A. Guaranteed" steak over an unlabeled, generic steak. Consumers expressed the following reasons for preferring US guaranteed beef over imported beef: food safety concerns regarding imported meat, a fear of meat from specific countries that had outbreaks of Bovine Spongiform Encephalopathy (BSE, or Mad Cow Disease), a preference for the general information provided by the label, a desire to support US producers, and a belief that the quality of meat from specific countries was better.

The third and most expansive WTP study was conducted in spring 2003 and surveyed households throughout the continental United States via mail. The contingent valuation methods employed in this study were similar to those of Loureiro and Umberger (2003); however, premiums for "Certified U.S." labeling of three different meat products were compared: beef steaks, pork chops, and chicken breasts. The continental US consumers surveyed were only willing to pay average premiums of 2.5–2.9% over the original market price to obtain "Certified U.S." chicken breasts, pork chops, and ribeye steaks (Loureiro & Umberger, in press).

Would These Premiums Actually Exist at the Supermarket?

As mentioned previously, some proponents of COOL interpret the results of these WTP studies to be evidence that premiums would exist at the supermarket for US meat products. Before reaching that conclusion, a number of other factors must be considered. All of the WTP studies utilized common contingent valuation or experimental auction methods, which have been shown to be very useful for determining values for both nonmarket and market goods. However, as with any contingent valuation or experimental research, the results obtained from these studies are estimates of potential values and are dependent upon both the methods used (research design) and the sample of the population studied. The potential for differences in WTP estimates due to elicitation method used is evident by the wide distribution of premiums across studies. The size of premiums for "Certified U.S." or "Guaranteed U.S." meat products decrease as a larger sample of the population is surveyed. The premiums elicited from the more expansive Chicago and Denver sample (Umberger et al., 2003) and the continental US sample (Loureiro & Umberger, in press) are much lower than the premiums obtained from the regional Colorado study (Loureiro & Umberger, 2003).

It is also important to note that the labels and certification methods used to elicit WTP values in the studies mentioned above are likely different than those that would be used in the mandatory COOL program. The WTP studies essentially compare a US product to an unlabeled or generic beef product. The 2002 Farm Bill's COOL provision explicitly states that only animals born, raised, and slaughtered or pro-

cessed in the United States can qualify for a US country-of-origin label (USDA AMS 2002). Under the current AMS COOL guidelines (released in October 2003), imported beef products from cattle produced entirely (born, raised, and processed) in any country other than the United States would be labeled as "Imported from Country X." However, "blended-origin" meat products such as hamburger, which may contain meat products from multiple countries, would contain a label indicating in alphabetical order the different countries of origin of the meat. Additionally, under these 2003 labeling guidelines, meat produced from "mixed-origin" animals, such as feeder calves imported into the United States from a country such as Mexico and finished in a US feedlot, would be labeled as "From Animals Born in Mexico, Raised and Processed in the U.S.A." (USDA AMS 2003).

Therefore, under a mandatory COOL program, all fresh meat products sold at a supermarket would carry some kind of country-of-origin label. At the retail level, US beef products could potentially be marketed next to beef products from countries such as Canada, Australia, New Zealand, Mexico, and South American countries. How would the perceived quality of US meat compare to meat imported from other countries? Would consumers choose a US product over an imported one? In order to answer this question, it is important to understand the factors influencing the perceived quality of meat.

What Determines Consumers' Perceptions of Meat Quality?

Quality is a rather ambiguous term, meaning different things to different people depending upon their prefer-

ences for the various attributes of a product. Consumers tend to use multiple attributes to evaluate the quality of, and subsequently determine their preference for, one food product over another. When evaluating food product quality, consumers use both *intrinsic* and *extrinsic* quality cues. Intrinsic cues are attributes inherent to the product that cannot be changed without changing the physical properties of the product. Extrinsic cues are attributes only related to the physical product. Product attributes are typically further categorized as *search*, *experience*, or *credence* attributes. Search attributes are quality attributes that can be evaluated by the consumer at the point of purchase and prior to consumption. For meat products, color, leanness, and marbling (intramuscular fat) are intrinsic search characteristics. Examples of extrinsic search characteristics include brand name, price, and country of origin (Grunert).

Experience attributes are observable during or following consumption and include the eating quality (texture, juiciness, flavor, and smell) of a meat product as well as food safety (e.g., whether there is an adverse effect immediately following consumption). Credence attributes are quality attributes that the consumer may value but cannot discern when purchasing a product or even after normal use. Process and production attributes, such as country of origin, organic, animal welfare, environmentally friendly, and free-range, are examples of credence attributes. Credible and auditable labeling systems are necessary for verification of credence attributes.

Research on consumers' perceived meat quality suggests that consumers use a multitude of intrinsic and extrinsic search attributes as well as experience and credence attributes

to determine the quality of a product. The relative importance of different types of attributes to consumers differs depending on sociodemographic characteristics and the location of consumers. For example, various segments of the population prefer and are willing to pay more for COOL than others, and the importance of country of origin in a consumer's assessment of perceived value has been shown to differ depending upon the particular country where the study was conducted (Davidson, Schroder, & Bower; Grunert).

Therefore, given the multitude of factors which consumers may use to assess a product's quality, the premiums for COOL and "Certified U.S." meat over unbranded products may be inflated, because consumers were specifically asked to focus only on the country-of-origin attribute rather than on other meat quality attributes, which may be equally (or more) important to consumers. For example, in the contingent valuation studies, consumers were not able to use other extrinsic cues (such as price, brand, and USDA grade) or any intrinsic cues (such as color or marbling) to determine the value of the products.

In evaluating the ability of the premiums elicited in the WTP studies to be good predictors of premiums that might be obtained in the actual marketplace, one should also consider the importance of country of origin and source assurance relative to other experience and search attributes. In each of the three consumer WTP studies, consumers were asked to rate, in terms of importance in their meat purchasing decision, a series of meat product attributes commonly used as meat quality cues. Food safety inspection and freshness were rated as the two most important beef quality attributes in all three

studies. Other attributes, such as leanness, color, tenderness assurance, quality grade, and price, generally received higher average ratings than country of origin or source assurance (Loureiro & Umberger, 2003, in press; Umberger et al., 2003).

The results of the aggregate attribute rankings indicate that although some consumers indicate they are willing to pay a premium for the source assurance provided by country-of-origin labels, the premiums would only exist if US beef were perceived to be safer and of higher quality (in terms of non-safety-related meat quality attributes) than beef from other countries. According to the results of a national survey, 80% of the 819 US consumers surveyed believed that food produced or raised in the United States is fresher and safer than food imported from global food sources (Wimberley et al.). Results from the continental US consumer study conducted by Loureiro and Umberger (in press) also indicate that US meat is perceived to be the safest relative to meat from Argentina, Australia, Canada, Denmark, Mexico, and New Zealand. Nonetheless, meat from Canada, Australia, and New Zealand still received an average rating of "safe," but meat produced in Mexico and Argentina was not rated as safe.¹

In terms of other quality attributes, US meat initially may be perceived to be of higher quality than imported meat. However, some consumers may actually prefer meat from other countries, particularly after experiencing it and being provided with additional labeling information on specific process- and production-related credence attributes. Consider, for example, a beef product labeled as "Certified US corn-fed beef" marketed next to a product labeled as "Certified Australia-

lian grass-fed beef." If given the choice, what product would consumers prefer and which one would they potentially pay a premium for?

In blind taste tests, 23%, 17%, and 34% of consumers studied preferred the flavor of, and were willing to pay a premium for, Argentine, Australian, and Canadian beef, respectively, relative to US beef (Umberger et al., 2002; Sitz et al.). The Australian and Argentine beef products used in the taste panel studies were from grass-fed cattle. Most of the beef imported into the United States from these countries is grass-fed, whereas US beef is typically corn-fed. In addition to the flavor attribute, some consumers perceive grass-fed beef to be of higher quality in terms of nutritional content. Consequently, if US consumers view Australian beef to be comparable to US beef in terms of food safety, then consumers who prefer the perceived nutritional benefits and/or taste attributes of grass-fed beef relative to corn-fed beef may consider a US beef product to be lower quality than the Australian product. If they also now have the opportunity at the supermarket to choose between a US beef product and an Australian product,

1. *It is important to note that these surveys were conducted prior to the December 23, 2003 case of BSE (Mad Cow Disease) in Washington State. A separate survey of 1,001 US consumers conducted in January 2004 determined that 85% of those surveyed were knowledgeable of the December BSE case; however, the majority of the knowledgeable consumers indicated that their confidence in the US beef supply remained unchanged (Hallman, Schilling, & Turvey).*

then consumers who find the Australian beef to be of superior quality may actually discount the US product.

Premiums Under a Voluntary vs. a Mandatory COOL Program

A final aspect of a mandatory COOL program that must be considered when determining if retail premiums exist for U.S.-labeled meat products is the market share of US meat products relative to the share of imported meat products. Although the results of the WTP studies suggest a potential premium for U.S.-labeled meat products over unlabeled meat, the premium only exists at the retail level if the quantity of U.S.-labeled meat supplied is less than the quantity demanded. Given the current production capabilities of US producers, the supply of "Certified U.S." meat under a mandatory COOL program would exceed the quantity demanded, and there would be no premiums for "Certified U.S." meat products at the retail level. For instance, in the case of COOL of beef, about 89% of the supply of US beef steaks and roasts would qualify to be labeled as a product of the United States (Plain & Grimes). Therefore, if only 69% of the consumers were willing to pay a premium for US beef (as indicated by Umberger et al., 2003), premiums for US beef would not exist.

Conversely, under a voluntary program, not all retail meat would be labeled with country-of-origin information, and marketers of meat products would be more likely to receive a premium for "Certified U.S." products over a product with no country-of-origin label. We do not mean to imply that under a voluntary program a premium would exist for "Certified U.S." meat, or that all con-

sumers would pay a premium for "Certified U.S." meat products. In the WTP studies discussed previously, not all consumers were willing to pay a premium for COOL. However, there were identifiable segments of consumers that indicated they would be more likely to be willing to pay a premium for "Certified U.S." products. These consumers represent target markets where premiums might exist for "Certified U.S." meat products (Loureiro & Umberger, 2003, in press; Umberger et al., 2003).

An additional and related concern is consumers' interpretation of the COOL program. It appears that a number of the consumers who preferred COOL in the consumer studies interpreted the program to provide them with additional food safety assurances and enough traceability information to allow a meat product to be completely traced back to the farm of origin. Based on how the provision was written in the 2002 Farm Bill, a mandatory COOL program is no more than a food-labeling program and would only allow identification of a meat product's country of origin by stage of production. On the other hand, the guidelines for a voluntary program could specify complete traceback and possibly other credence attributes, further increasing consumers' quality perceptions and possibly creating actual market premiums. Voluntary COOL marketing strategies would only be successful if the labeled product met the consumers' expectations of higher quality and safer meat. Thus, for COOL to be a viable marketing strategy, US meat suppliers would have to continually work to maintain consumers' safety and quality perceptions.

Will consumers pay a premium for COOL meat? Research results

indicate that although some consumers indicate they are willing to pay a premium for the source assurance provided by country-of-origin labels, the premiums would only exist if US beef was perceived to be safer and of higher quality (in terms of non-safety-related meat quality attributes) than beef from other countries. So, it remains unclear whether or not premiums would exist for COOL.

For More Information

- Davidson, A., Schroeder, M.J.A., & Bower, J.A. (2003). The importance of origin as a quality attribute for beef: Results for a Scottish consumer survey. *International Journal of Consumer Studies*, 27(2), 91-98.
- Grunert, K.G. (1997). What's in a steak? A cross-cultural study on the quality perception of beef. *Food Quality and Preference*, 8(3), 157-74.
- Hallman, W.K., Schilling, B.J., & Turvey, C.G. (2004). Public perceptions and responses to mad cow disease: A national survey of Americans. Rutgers University Food Policy Institute. Available on the World Wide Web: <http://www.foodpolicyinstitute.org/docs/summary/madcowsum.pdf>.
- Loureiro, M.L., & Umberger, W.J. (2003). Estimating consumer willingness to pay for country-of-origin labeling. *Journal of Agricultural and Resource Economics*, 28, 287-301.
- Loureiro, M.L., & Umberger, W.J. (in press). Assessing consumer preferences for country-of-origin labeled products. *Journal of Agricultural and Applied Economics*.
- Plain, R., & Grimes, G. (2003). *Benefits of COOL to the cattle industry* (working paper AEW 2003-2). Columbia, MO: University of

- Missouri Department of Agricultural Economics. Available on the World Wide Web: <http://agebb.missouri.edu/mkt/cool.htm>.
- Schupp, A., & Gillespie, J. (2001a). Handler reactions to potential compulsory country-of-origin labeling of fresh or frozen beef. *Journal of Agricultural and Applied Economics*, 33, 161-71.
- Schupp, A., & Gillespie, J. (2001b). Consumer attitudes toward potential country-of-origin labeling of fresh or frozen beef. *Journal of Food Distribution Research*, 33, 34-44.
- Umberger, W.J., Feuz, D.M., Calkins, C.R. & Killinger, K. (2002). U.S. consumer preference and willingness-to-pay for domestic corn-fed versus international grass-fed beef measured through an experimental auction. *Agribusiness: An International Journal*, 18(4), 491-504.
- Umberger, W.J., Feuz, D.M., Calkins, C.R., & Sitz, B.M. (2003). Country-of-origin labeling of beef products: U.S. consumers perceptions. *Journal of Food Distribution Research*, 34(3), 103-116.
- United States Department of Agriculture Agricultural Marketing Service. (2002). *2002 farm bill provisions, subtitle D—country of origin labeling*. Available on the World Wide Web: <http://www.ams.usda.gov/cool/subtitled.htm>.
- United States Department of Agriculture Agricultural Marketing Service. (2003). Mandatory country of origin labeling of beef, lamb, pork, fish, perishable agricultural commodities and peanuts. *Federal Register*, 68(210). Available on the World Wide Web: <http://www.ams.usda.gov/cool/ls0304.pdf>.
- Wimberley, R.C., Vander Mey, B.J., Wells, B.L., Ejimaker, G.D., Bailey, C., Burmeister, L.L., et al. (2003). *Food from our changing world: The globalization of food and how Americans feel about it*. Available on the World Wide Web: <http://sasw.chass.ncsu.edu/global-food>.

Wendy J. Umberger is an assistant professor in the Department of Agricultural Economics at Colorado State University.