

PBTC 05-03

**International Agricultural Trade and Policy Center****WHEN BUYING FRESH APPLES AND TOMATOES WILL  
CONSUMERS PAY EXTRA TO HAVE COUNTRY OF ORIGIN  
LABELING?**

By

Athur Mabiso, James Sterns, John VanSickle, &amp; Allen Wysocki

PBTC 05-03

August 2005

POLICY BRIEF SERIES

**UNIVERSITY OF  
FLORIDA**

Institute of Food and Agricultural Sciences

## **INTERNATIONAL AGRICULTURAL TRADE AND POLICY CENTER**

### **THE INTERNATIONAL AGRICULTURAL TRADE AND POLICY CENTER (IATPC)**

The International Agricultural Trade and Policy Center (IATPC) was established in 1990 in the Institute of Food and Agriculture Sciences (IFAS) at the University of Florida (UF). The mission of the Center is to conduct a multi-disciplinary research, education and outreach program with a major focus on issues that influence competitiveness of specialty crop agriculture in support of consumers, industry, resource owners and policy makers. The Center facilitates collaborative research, education and outreach programs across colleges of the university, with other universities and with state, national and international organizations. The Center's objectives are to:

- Serve as the University-wide focal point for research on international trade, domestic and foreign legal and policy issues influencing specialty crop agriculture.
- Support initiatives that enable a better understanding of state, U.S. and international policy issues impacting the competitiveness of specialty crops locally, nationally, and internationally.
- Serve as a nation-wide resource for research on public policy issues concerning specialty crops.
- Disseminate research results to, and interact with, policymakers; research, business, industry, and resource groups; and state, federal, and international agencies to facilitate the policy debate on specialty crop issues.

# When Buying Fresh Apples and Tomatoes Will Consumers Pay Extra to Have Country of Origin Labeling?

Athur Mabiso, James Sterns, John VanSickle and Allen Wysocki

## **COOL in Fresh Produce**

While disagreement continues over whether consumers value country-of-origin labeling (COOL) of food products, Congress has introduced and deliberated several bills that could make mandatory country-of-origin labeling (MCOOL) enacted law. As stipulated in the agricultural marketing act of 1946 and amended in May 2002, COOL will become mandatory for the fresh produce industry in September 2006 (U.S. Public Laws, 2002). U.S. producers and marketers of fresh produce are, however, still unsure if consumers are willing to pay a price premium for COOL and, if they are, how much they will pay. In addition, it is not clear if the “U.S.A. Grown” label would fare well against other country-of-origin labels.

Another issue up for debate concerns the factors that may be key determinants of consumer willingness to pay (WTP) for COOL. A common hypothesis is that consumers’ food safety concerns, food preferences and perceptions about quality and standards are key determinants of consumer WTP for COOL (Umberger et al., 2003). However, other factors may have an impact on the WTP for COOL and this has not been tested extensively (particularly in the fresh produce sector).

As U.S. producers of fresh apples and fresh tomatoes continue to contend with rising import competition, various prospects of enhancing domestic demand for U.S. fresh produce have been debated. One unexplored avenue is generic promotion of the label “U.S.A. Grown.” If consumers are willing to pay more for fresh produce labeled

“U.S.A. Grown” then promoting the label in the context of mandatory COOL policy could be beneficial to U.S. producers. However, in order for generic promotion of the label “U.S.A. Grown” to be plausible, its benefits would need to be shared across the fresh produce industry and among all firms that take part in such a program.

Answers to these questions/issues are needed for more informed decision-making by U.S. producers, marketers and policymakers. This paper specifically addresses these issues surrounding COOL and presents research findings to empirically answer these questions/issues.

### **Empirical Findings**

This paper summarizes findings from a study conducted in Florida, Michigan and Georgia, by the International Agricultural Trade and Policy Center of UF/IFAS. Using a Vickrey (fifth-price sealed-bid) auction in conjunction with a written questionnaire, data were collected in November 2003 to January 2004. Specifically, the Vickrey auction collected data on consumers’ actual willingness to pay (WTP) for “U.S.A. Grown” labeling in fresh apples and fresh tomatoes, while the written questionnaire solicited information on some of the factors influencing this WTP for COOL. In total, 311 observations were collected and used for the study.

Findings of the study show that surveyed consumers were willing to pay an average price premium of \$0.48 for one pound of fresh apples labeled “U.S.A. Grown” over an identical pound of fresh apples without a country-of-origin label. Similarly, the surveyed consumers were found to be willing to pay an average price premium of \$0.44 for one pound of fresh tomatoes labeled “U.S.A. Grown” over an identical pound of fresh tomatoes without a country of origin label. It was also found that 79% of the surveyed

consumers were willing to pay some price premium for the fresh apples labeled “U.S.A. Grown”. In the case of fresh tomatoes, 66% of the consumers surveyed were willing to pay a price premium for “U.S.A. Grown” labeling, over the fresh tomatoes without COOL.

When these average price premiums for fresh apples and fresh tomatoes were tested for statistical equivalency, they were found to be equivalent. This implied that the \$0.04 difference was insignificant. Thus, it did not matter statistically what type of produce was under consideration; consumers were willing to pay the same average price premium for a “U.S.A. Grown” label on their fresh produce (when choosing between labeled and identical but unlabeled fresh produce.)

As for the factors that determine consumers’ WTP for the labeling “U.S.A. Grown,” it was established that consumers’ concerns about food quality were prominent determinants. Consumers who were more concerned about food quality were found to be willing to pay more for produce labeled “U.S.A. Grown,” implying that they view U.S. fresh produce as having better quality than foreign fresh produce. In addition, the consumers’ location (i.e. state of residence) turned out to be a key determinant of how much consumers would be willing to pay, as shown in Table 1. Consumers in Michigan were willing to pay a considerably lower price premium than consumers in Georgia or Florida. Interestingly enough, consumers in Georgia were found to be willing to pay more for COOL in fresh apples than in tomatoes, while consumers in Florida exhibited the opposite.

Table 1. WTP for produce labeled “U.S.A. Grown” by location

	Gainesville, FL	Lansing, MI	Atlanta, GA	Combined across all locations
	(\$/Lb)	(\$/Lb)	(\$/Lb)	(\$/Lb)
Apples	0.40	0.18	0.63	0.48
Tomatoes	0.68	0.19	0.38	0.44

The level of trust that consumers have for information they receive from U.S. government agencies such as the FDA, USDA, EPA, etc. also turned out to be an important determinant; similarly, consumers’ food preferences (level of openness to unfamiliar foods) was a statistically significant factor. Consumers who were more trusting of the information they received from U.S. government agencies were likely to pay a price premium for “U.S.A. Grown” labeling while those who were more open to unfamiliar foods were less likely to pay. Consumer food safety concerns were also found to be important. Consumers who rated themselves as more thoughtful about food safety when purchasing fruits and vegetables were willing to pay more for produce labeled “U.S.A. Grown.” This implied that consumers viewed U.S. produce as safer. The consumers’ age was also found to be a significant variable, with older consumers less willing to pay for the label “U.S.A. Grown.”

In terms of country-to-country comparison, Table 2 gives a synopsis of the findings that were made. Consumers had initially been asked to bid the price premium they were willing to pay in order to exchange their unlabeled apples or tomatoes for identical apples or tomatoes labeled “U.S.A. Grown.” The average of this amount is indicated in the first column of Table 2. The second column shows the amount that the same consumers were willing to pay for produce labeled “U.S.A. Grown” after being told where their unlabeled apples or tomatoes came from. Thus the difference between what

they were willing to pay before and after release of this foreign country information is shown in the third column.

Table 2. Comparison of mean bids: U.S.A. Grown versus Other Country labels

	WTP for U.S. Label		<i>Mean Difference</i> (\$/Lb)	Paired Samples Test t-value	Number of Observations
	Before Information	After Information			
<b><i>Apples</i></b>					
U.S.A. Grown versus No label	0.48	-	-	-	136
U.S.A. Grown versus Chile	0.42	0.41	-0.01	-0.240	59
U.S.A. Grown versus China	0.37	0.46	<b>0.09</b>	<b>2.658</b>	39
U.S.A. Grown versus New Zealand	0.71	0.88	<b>0.17</b>	<b>2.043</b>	38
<b><i>Tomatoes</i></b>					
U.S.A. Grown versus No label	0.44	-	-	-	175
U.S.A. Grown versus Canada	0.34	0.38	0.04	1.475	67
U.S.A. Grown versus Mexico	0.58	0.93	<b>0.35</b>	<b>4.432</b>	86
U.S.A. Grown versus the Netherlands	0.56	0.67	<b>0.11</b>	<b>1.941</b>	22

**Note:** Bold indicates statistical significance

Essentially, the third column displays how much more consumers were willing to pay for produce labeled “U.S.A. Grown” compared to identical produce from the foreign country that they were told their unlabeled produce came from. As shown in Table 2, in most cases consumers were willing to pay more for fresh produce labeled “U.S.A. Grown” over the foreign country fresh produce. Only in the case of Chilean fresh apples versus U.S. fresh apples, were consumers willing to pay on average \$0.01 less for a pound of fresh produce labeled “U.S.A. Grown.” However, this difference was statistically insignificant (as shown by a t-value of -0.240). The difference in price premiums for Canadian fresh tomatoes and U.S. fresh tomatoes was also statistically insignificant, even though consumers proved to be willing to pay marginally more for fresh tomatoes labeled “U.S.A. Grown.”

Since different countries of origin were mentioned to different groups of participating consumers, the sample size automatically became smaller for each direct comparison of “U.S.A Grown” versus foreign country-of-origin. This information is shown in the last column in Table 2. Consequently, these findings are less robust and should be treated with caution. Further research with far larger sample sizes is needed in order to substantiate these preliminary findings.

### **Conclusions**

Several conclusions can be drawn from the findings made by the study. Firstly, U.S. consumers were shown to be willing to pay a premium for fresh apples and fresh tomatoes labeled “U.S.A. Grown,” implying that they desire to know the origin of their fresh produce. Thus, COOL is partially justified with respect to consumers’ desire for country-of-origin information; however, costs associated with implementing COOL need to be calculated to see if they can be offset by the consumers’ WTP.

Secondly, the study established that consumers’ WTP for COOL in fresh apples was statistically equivalent to that for fresh tomatoes. This suggested that consumers’ WTP for the label “U.S.A. Grown” is not produce-specific and may imply that generic promotion of the label “U.S.A. Grown” would be a plausible way of enhancing domestic demand for U.S. produce. The country-to-country comparison also showed that U.S. consumers were willing to pay more for U.S. produce. Though preliminary, this finding augments the concept that promoting the “U.S.A. Grown” label in fresh apples and tomatoes would be beneficial to U.S. producers.

With respect to major factors of WTP for COOL, several were found, including consumer food quality perceptions, food safety concerns, and regional differences within



the U.S. Most consumers viewed U.S. produce as safe and having better quality. This implies that there is an advantage for U.S. producers if they promote the label “U.S.A. Grown,” because it could be developed into a recognizable image of high quality and safety. Overall, “U.S.A. Grown” labeling in fresh apples and tomatoes was found to be of value to U.S. consumers.

## **References**

- Umberger, W.J., Feuz, D.M., Calkins, C.R. and Sitz, B.M., “Country-of-Origin Labeling of Beef Products: U.S. Consumers’ Perceptions.” *Journal of Food Distribution Research*, 34(03) (2003):103-116
- U.S. Public Laws, 2002, H.R. 2646 “The Agricultural Marketing Act of 1946”, Sec. 10816, [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107\\_cong\\_public\\_laws&docid=f:publ171.107.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107_cong_public_laws&docid=f:publ171.107.pdf), queried and accessed July 28, 2005