

Consumer Preferences for Organic Standards: Guiding Demand-Expansion Strategies for Organic Food

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Organic agriculture is a rapidly growing segment of the food industry. According to the Organic Trade Association, organic food sales totalled \$4 billion in 1997, having posted sales growths of 20 percent or greater for nine consecutive years. Nationwide, 31 percent of consumers state they buy organic at least once a month and 23 percent buy it once a week or more. Organic agriculture plays a prominent role states such as New York as well—one certifying agency, NOFA-NY, certifies 172 farms that produce a full array of farm products including fruits, vegetables, fruit juices, hay, grains, beef, transplants, dairy products, and eggs. Many farmers in the northeast see organic agriculture as a way of diversifying their operations, gain a premium and stay in business in this era of declining farm numbers.

The market for organic agricultural products is of interest to food marketers not only because of its rapid growth and importance to smaller growers but because of the interactions of public policy, private firm strategy, and consumer preferences. Organic is a credence good trait (Darby and Karni), i.e., a consumer cannot easily verify whether an item is truly organic either by observation (search goods) or consuming (experience goods) trait (Darby and Karni). Consequently, a third party is needed to verify such claims to protect consumers from fraud and to legitimate producers, processors, etc. Until late last year, this function was served by a number of independent certifying agencies, each of which potentially had a different definition of organic. Lohr observed that creating a unified national set of standards would help dispel the confusion over the exact meaning of *organic*, facilitating both international and domestic commerce of organic foods.

Beginning in the early 1990s the USDA began work on drafting such a set of standards. The origi-

nal proposed rule was met with much controversy. USDA received over 275,000 comments on the proposal, many of which expressed concern over the inclusion of what came to be known as the Big 3: Genetically Modified Organisms (GMOs), Biosolids (Municipal Sewage Sludge), and Irradiation. When the Final Rule was announced in early 2001, use of the Big 3 was not allowed for foods labeled organic. Given this controversy, it is important to know if this Final Rule actually reflects consumer preferences, and what implications it holds for private strategy and public policy.

This paper builds upon the empirical analysis of a survey administered to current consumers of organic food in Ithaca, NY, a town known for its vibrant market for organic food. It discusses the implications of this rule for public policy and private strategy. Three fundamental issues at hand are how much consumers are willing to pay to have or to avoid the Big 3 in organic food, the policy implications of these results, and how firms can use this information to guide marketing strategies.

Survey Findings

A survey was administered to current consumers of organic food in Ithaca, NY. The surveys were given at the two locations where organic food is sold most prominently: the local farmers' market and a cooperative "health food" market. The major supermarket in the area with a significant organic section declined to allow the surveying to take place there. Research has shown that a vast majority of organic food is bought in health food stores (Reicks et al.) rather than in supermarkets, and a large number of organic growers sell at the farmers' market, so patrons at these locations are likely to be typical of consumers of organic food in Ithaca.

The surveys were compiled over several sessions in the fall of 2000. The farmers market operates on Saturdays and Sundays. The market's board of directors only granted permission to collect data on Sundays. Data were collected on September 30

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and October 7, 2000. To reach people with a variety of shopping habits, the questionnaire was administered at the cooperative market on selected Tuesdays, Wednesdays, and Saturdays, both mornings and afternoons. Only people who currently buy organic food were included. A total of 122 usable surveys were compiled from both locations.

The surveys had three main components: a section on attitudes and shopping habits, including what and how much organic food shoppers buy, why they buy it, and what they believe ought to be included in the definition of organic; a Contingent Valuation component measuring their Willingness To Pay (WTP) to have or to avoid each of the Big 3 included in the definition; and demographic traits such as age, gender, education and income.

The Contingent Valuation portion elicited open-ended responses to the Willingness To Pay (WTP) question. The baseline was a food item that they normally buy organic and that costs \$1. It is certified organic, but by agencies that allow the use of GMOs, biosolids, and irradiation, respectively. Respondents were asked how much they would pay for a bag of the same item, identical in appearance, nutrition, freshness, etc., but that is certified by an agency that does not allow the use of GMOs, etc. Results of the survey show that consumers favor a strict definition of organic. When asked if each of the Big 3 ought to be allowed, 85, 80, and 76 percent of respondents said that GMOs, biosolids, and irradiation, respectively should not be allowed; the remaining percent replied either it should be allowed, no opinion or don't know. Similarly, 63, 80, 95, and 76 percent say that manure from non-organic farms, antibiotics, growth regulators, and confinement of animals, respectively, should not be allowed.

Consumers are willing to pay to avoid the Big 3 in organic foods. The mean and median premiums they will pay for GMO-free organic food are \$0.75 and \$0.50. For biosolid-free the mean is \$0.78 and the median \$0.50; for irradiation-free, the mean is \$0.75 and the median is \$0.50. Note that they are willing to pay these sums over and above the organic premium to avoid the Big 3, and the median figure implies a majority are willing to pay a positive amount.

These WTP measures were regressed on the various demographic and attitudinal characteristics to discover market segments for organic foods free

of the Big 3. Results indicate that women, older people, those who spend a larger percentage of their current food budget on organic, and those who live in counties with metro areas (as defined by the U.S. Census) are likely to pay a larger amount to avoid the Big 3 in organic food.

These findings have two main implications. First, for the most part the USDA National Organic Program's Final Rule largely reflects consumer preferences, especially the exclusion of the Big 3. In fact, of all the practices and inputs listed on the survey (all of which a majority of respondents did not want to be included), only manure from non-organic farms is actually allowed under the Final Rule (and it had the smallest majority favoring its ban).

Second, avoidance of the Big 3 is important to consumers, and organic foods that expressly state the absence of these practices may provide another niche market. As discussed below, some firms are placing a small "GMO-free" label on their product, along with the "certified organic" seal to highlight this trait of their good, in spite of the fact that it is, in a sense, redundant: organic already implies GMO-free. The fact that firms incur the extra cost of printing the GMO-free label on the package implies several beliefs about consumers: that many consumers are not aware that organic implies GMO-free, that firms believe the increased revenue gained from providing this information is greater than the extra labeling cost, and that people with a preference for organic food are likely to have an aversion to GMOs as well.

Public-Policy Implications

Theoretically, any time government provides information in the marketplace the goal is to facilitate the market, e.g., lower transaction costs by providing information that the market will not or cannot provide, etc. Given the asymmetry of information between the producers and consumers on how the good was produced and the credence good quality of organic, the potential gains from a coherent, mutually understood and accepted set of organic standards are vast.

Originally, the organic label was largely producer oriented. In New York State, certification was done by NOFA-NY, a producer organization, who determined what practices were allowable, and

charged a fee to each farm for the right to label their food as "certified organic by NOFA-NY." Without certification, these farms would likely have had to sell their produce as conventional and would have received no organic price premium despite possibly incurring greater production costs. Without certification, any buyer would assume that the item was not organic. This label and process help to protect legitimate producers by preventing others from falsely claiming items were organic and receiving the premium price.

For consumers, who ultimately pay for the certification by paying a premium for organic food, the label serves as a source of information that facilitates the market. Without such a process the only way a consumer can guarantee she is consuming organic food is to either grow all her own food or be present at every stage of production and processing for every food item she buys. Both of these options entail prohibitively high costs for most consumers.

The organic label is one of several examples of cases where firms tout some credence good trait, a trait they believe will be of value to the consumer. Examples include cruelty-free cosmetics, dolphin friendly tuna, "green" labeled goods, etc. Items not so labeled can be assumed to be tested on animals, harmful to dolphins, more polluting, etc. These labels assume that there is a segment of society concerned enough about the issue at hand to pay a premium (sufficient to cover the labeling expense and, in most cases, reflecting a more expensive production process) for this type of good. A key role for public policy is to guarantee the veracity of these claims. Hadden discusses a continuum of policy actions to assist consumers in managing risk, with no action at one end of the spectrum, a ban at the other end and in between a range of actions from voluntary labeling to mandatory labeling to performance and process standards.

In some cases, third parties verify these claims. In such cases, the producers agree to conform to an existing set of standards in exchange for the "seal of approval" from the outside agency. This practice is similar to the way that signatories of the Sullivan Principles agreed to practice non-racist business practices in apartheid-era South Africa; members of the Valdez Principles agree to maintain high environmental standards to gain the positive publicity of being a signatory of this accord.

Economic theory states that a system of grades and standards can facilitate the market by condensing a great deal of information about a product into a single and universally accepted convention. A universally understood definition of organic that reflects consumer preferences provides information that greatly decreases transaction costs and coordination problems for both consumers and producers in this market. The empirical data presented above suggest that the USDA Final Rule reflects the preferences of organic consumers. However, there is evidence of problems as well. First, the presence of the redundant GMO-free label on organic corn chips indicates that the label definition of organic is not understood by many consumers. A public campaign aimed at educating consumers about what "organic" means is indicated. Second, it is clear that many consumers wish to avoid consuming GMO foods, but whether or not they will have the opportunity to buy GMO-free foods is in doubt. The "Starlink" corn incidents of 2000 demonstrated how ill-equipped our food system is to segregate Genetically Modified (GM) corn from non-GM corn, even in the case where that variety of GM corn was not approved for human consumption. Furthermore, the risk of contamination of organic or non-GM crops by drifting pollen is immense, particularly for crops such as corn which produce pollen that can travel huge distances. Some producers are even concerned that if pollen from a GM corn field drifts into an organic farmer's field and fertilizes his sweet corn he may sacrifice his organic certification, since organic certification requires that no banned substances or practices be used for three years prior to certification, will he lose his certified status if GM corn pollen infects his field?

Clearly, some sort of policy is needed to ensure that producers and consumers who want to grow and buy GMO-free foods are able to do so. Reasonable "buffer zones" must be established and liability assigned to protect GMO-free producers: seed companies should be liable if contamination occurs despite the maintenance of the buffer zone, and producers who fail to respect these zones must be liable as well. Furthermore, since to some extent the proverbial horse is already out of the barn, maximum tolerances of GM content in food labeled GMO-free and/or organic must be formulated and enforced. Such standards must reflect both consum-

ers right not to consume GM foods and producers' rights to continue to operate their businesses as they see fit. In other words, standards must be stringent enough to make the GMO-free claim meaningful but not so restrictive that the degree of contamination so far precludes any U.S. grower from making this claim. Similar guidelines exist for pesticide residues on organic food resulting from spillover contamination rather than from direct application by the growers. This would be a good template to use for the basis of GMO-free status.

On a more general note, policy can do much to ensure the continued growth of the market for organic goods. Given the plethora of positive externalities associated with organic agriculture (e.g., environmental, social, and economic), public policy that facilitates this market is bound to generate a lot of social good. Organic agriculture is not only widely believed to be more environmentally benign (Reganold et al.), it is also associated with smaller farms and therefore healthier community societies and economies (Ikerd, 1999a, 1999b, 1999c; Strange; Goldschmidt). In a sense, organic producers internalize many of the external costs associated with the conventional, industrialized, chemical-intensive production system. Organic agriculture also provides many public goods even beyond those of conventional agriculture. Economic theory justifies public policies that support organic agriculture: government intervention is needed in markets where externalities are present if the socially optimal allocation of resources is to be achieved.

Policies to promote organic food include information on its food safety, environmental impacts, and contributions to community development. Governments could sponsor generic advertising for organic food. Additional resources should be put into researching organic production and distribution, and policies that favor the conventional should be amended to offset the huge advantage that the latter method has enjoyed due to present policy. Finally, venues at which small organic growers sell, such as farmers' markets, could be eligible for tax breaks and public investment.

Floor-vs.-Ceiling Issue

Although the Final Rule meshes well with consumer preferences as revealed in the survey and its deci-

sion to ban the Big 3 met with the approval of most producer groups, many of these farm organizations still find fault with the Rule. Specifically, as NOFA-NY states, they wanted a floor while the Final Rule is a ceiling. In other words, the Rule does not allow individual agencies (e.g., NOFA-NY) to require standards more stringent than the federal standards—farms cannot be required to meet extra requirements beyond federal standards to qualify for NOFA certification. Another fault in the Rule, according to NOFA-NY, is that the federal government has a monopoly on the word "organic"—no firm is able to call their product "organic" unless it has been certified by an agency approved by the USDA. In the past, many smaller farms, for example, sold "organic" food without being certified.

Implications for Private-Firm Strategy

Marketing strategy employed by private firms within the food marketing system makes use of product standards to differentiate their offerings from their competitors' and to signal to customers the unique image of their products. Until recently, unified public standards for organic food products were nonexistent; as a result, standards imposed by private firms were largely off the radar screen—they existed within local markets with little notice from marketing researchers. Now that organic foods have an explicit public standard, are private strategies consistent with public standards? Do private strategies for organic food reflect our understanding of the consumer's willingness to pay for selected organic food attributes? Private strategies will be influenced by public policy, structure of the firm, and product life cycles.

With respect to the organization of the firm/market institutions, three alternatives can be examined: industrial food systems (investor owned retail food store), farmers' markets, and cooperatively owned health food store outlets. These institutions differ in how they address consumer preferences. In industrial nations like the US and those in Western Europe, the retail food store has emerged as the dominant organization used by consumers to conduct food shopping. Through retail outlets, thousands of new food products are introduced each year. With the help of information technology (e.g., scanner data, "preferred shoppers cards," etc.) the modern retail food system consistently monitors

their consumers' purchases to meet their changing preferences and realigns itself to strategically coordinate (vertically and horizontally) the industrial food system.

Perhaps the most widespread market institution for horticultural produce (a major organic food category) is the local farmers' market (for example, the Ithaca Farmers' Market). Comprising both wholesale and retail exchanges, the institution exhibits a variety of forms depending on the particular geographic location and the legal and economic environments. A distinguishing characteristic of a farmers' market is the mixture of formal and informal sector operators and activities that co-exist for almost all commodities. They are also marked by a great deal of familiarity and trust between growers and customers.

The establishment of food cooperatives (for example, Ithaca's Green Star) as an institutional remedy for market failures has been an accepted policy alternative for most countries. Scarcely a nation in the world is without a "cooperative" organization. Socialist or capitalist, industrialized or developing, all countries claim them and most countries nurture them. Many governments grant cooperatives special legal privileges; lines of credit; and public, technical, and sometimes promotional support. A cooperative may be defined as a business organization in which the same group of people own, control, and use the services as members of the organization. Members acting collectively are able to influence the market and create demand for goods reflecting their unique tastes that would be difficult for them to purchase as individuals.

Before identifying firm strategies associated with each organization, a brief discussion of how the product life cycle (PLC) can influence firm strategy is appropriate. The PLC asserts that products enter four distinct stages (introduction, growth, maturity, and decline) over time; a prescribed marketing strategy is associated with each stage of the cycle. The PLC tool is problematic for several reasons, but chief among them is determining the appropriate stage in which a product falls. For the purpose of our presentation, we assume that organic food products are in the introductory stage of the PLC. In the introductory stage of the cycle the price and promotion elements of the "marketing mix" become relatively more useful to the firm in shaping its strategy than do product and place elements.

Introductory-stage marketing strategies are suggested for each market organization described above. Pricing strategy varies across the organizational forms to reflect a "premium pricing strategy" for industrial food retail outlets and cooperative outlets. Farmers' markets are more likely to pursue a "competitive pricing strategy". Promotion strategies observed at the Ithaca Farmers' Market followed only the "organic standard". This result seems contrary to our empirical findings that support the notion that consumers are willing to pay a premium for GMO-, biosolid-, and irradiation-free food. Yet, none of these attributes is widely used by food-marketing outlets within the supply chain.

Data from this paper indicate that there is an untapped market for GMO-free foods among organic consumers and that many consumers of organic do not realize that organic implies GMO-free. There is an opportunity for organic producers and distributors to take advantage of this by highlighting avoidance of GMOs as a feature consumers get "for free" when they buy organic. Organic can also be promoted as the surest way to avoid GMOs even for those who do not currently buy organic. Promotion efforts should be targeted at the segments mentioned above as well as at the demographic group the Hartman Group identifies as the "True Naturals," those who make up the core of the demand for organic.

Conclusions

The organic label serves a vital function in the market, protecting producers and decreasing transaction costs for consumers who prefer this kind of food. Survey results indicate that the USDA's Final Rule is in accord with consumer preferences and that consumers are willing to pay a price above the organic premium to avoid the "Big 3" in organic food. However, voluntary labeling efforts by certain corn-chip makers suggest that the labels' meaning is not well understood by consumers; these firms have highlighted a trait of their product ("GMO-free") that is already implied by the organic label.

This lack of understanding both necessitates public policy to educate consumers and provides opportunities for private firms to differentiate their products to conform to consumer preferences. Public efforts to inform the public about the meaning

of the organic label and the benefits of buying organic products are needed. Firms can employ either a premium price strategy (exploiting the consumers' stated willingness to pay to avoid GMOs) or a competitive price strategy (emphasizing that consumers are getting GMO-free at no extra cost by buying organic).

References

- Darby, M. and E. Karni. 1973. "Free Competition and the Optimal Amount of Fraud." *Journal of Law and Economics* 16 (1) 67-88
- Goldschmidt, W. 1978. *As You Sow*. Allanheld, Osmund and Co., Montclair, NJ
- Hadden, S. 1986. *Read the Label: Reducing Risk by Providing Information*. Westview Press, Boulder CO and London.
- The Hartman Report. 1996. *Food and the Environment: A Consumers' Perspective. Phase I*. Prepared for The Food Alliance. The Hartman Group, Bellevue, WA.
- The Hartman Report. 1997. *Food and the Environment: A Consumers' Perspective. Phase II*. Prepared for The Food Alliance. The Hartman Group, Bellevue, WA.
- Lohr, L. 1998. "Welfare Effects of Eco-Label Proliferation: Too Much of a Good Thing?" (Presented at the FAMC Conference on New Approaches to Consumer Welfare, Alexandria VA, January, 1999)
- Ikerd, J. 1999a. *Sustainable Agriculture As A Rural Economic Development Strategy*. <http://www.ssu.missouri.edu/faculty/JIkerd/papers/sa-cdst.htm>
- Ikerd, J. 1999b. *Sustainable Farming and Rural Community Development*. <http://www.ssu.missouri.edu/faculty/JIkerd/papers/ND-SFCD.html>
- Ikerd, J. 1999c. *Sustainable Agriculture: A Positive Alternative To Industrial Agriculture*. <http://www.ssu.missouri.edu/faculty/JIkerd/papers/ks-hrtld.htm>
- NOFA-NY (ny.nofa.org)
- Organic Trade Association (<http://www.ota.com>)
- Reganold, J., J. Glover, A. Andrews, and H. Hinman. 2001 "Sustainability of three apple production systems." *Nature* 410, 926-930 (2001)
- Reicks, M., P. Splett, and A. Fishman. 1997. "Shelf Labeling of Organic Foods: Effects of Customer Perceptions and Sales." Working paper 97-03, The Retail Food Industry Center, University of Minnesota.
- Strange, M. 1988. *Family Farming: A New Economic Vision*. University of Nebraska Press. Lincoln and London.