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The influence of retail outlet and FSMA information on consumer perceptions of and willingness to pay for organic grape tomatoes

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ABSTRACT

The primary objective of this research was to determine the effect of retail outlet (supercenter, supermarket, farmers market, fresh format) on consumer perceptions of and willingness to pay (WTP) for organic grape tomatoes. Also examined was whether information on the proposed Food Safety Modernization Act (FSMA) regulations, with and without information on tomato safety, altered these aspects across retail outlets. Field experiments were conducted with 207 participants in two U.S. states in fall 2014 to address these questions. Consumers' perceptions and WTP varied significantly by retail outlet, with farmers markets and fresh format stores receiving the most favorable evaluations and supercenters the least. With FSMA information, safety perceptions fell significantly for the favored outlets and mostly increased for supercenters. Participants' felt no producers should be exempt from the FSMA and viewed farmers markets vendors as most likely to be exempt. Unexpectedly though, these changes seldom translated into changes in WTP. Further, in treatments with added tomato safety information, supercenters saw no safety rating benefit. Overall, it was clear the organic label was not viewed equally across different retail outlets.

1. Introduction

Not long ago, the primary purveyors of organic food were relatively small natural food stores, leaving interested consumers with few choices in retail outlets. As organic food became more popular, though, the options for purchasing locations began to grow. With the passage of the National Organic Program (NOP) in 2002 creating uniform USDA standards, the industry has grown tremendously in terms of size and product scope (Economic Research Service (ERS), 2014). The list of grocery outlets offering organic alternatives now includes supermarkets and major retailers such as Walmart, Target, and Aldi (Ewoldt, 2013; Tuttle, 2013; Wohl, 2014). These newer venues compete for organic food sales with such seemingly

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disparate outlets as Whole Foods and Natural Grocers as well as more local farmers markets, food co-ops, and community supported agriculture (CSAs).

The rise in the organic food market has led to several studies on consumer perceptions and willingness to pay (WTP) for such foods. These consistently show a higher WTP for organic foods over their conventional counterparts (for a review see Rödiger & Hamm, 2015), with reasons for interest in them ranging from personal concerns including health, safety and taste to those regarding the environment and animal welfare (for a review on motivations for organic purchases, see Hughner, McDonagh, Prothero, Shultz, & Stanton, 2007). These studies, however, typically treat organic with the unstated assumption that an organic food purchased from one outlet is no different from one purchased at another outlet. Typically though, due to elements such as differences in economies of scale and store images, consumers will not pay the same price for organics at different venues. For example, organic food at a fresh format store will likely sell at a higher price point than at a supercenter, but it is currently unclear what this means for consumer perceptions and WTP. Worstall (2014) contends that for some consumers, organic foods may function as a Veblen good such that the organic good's higher price is a clear signal of the good's higher quality. Thus, by low-cost retailers offering organics at lower price points they may be inadvertently informing consumers they are of lower quality. Such differing views based on venue, if they exist, suggest that asking about consumers' interest in organic food generally may be suboptimal and lead to potentially misleading conclusions. Specifically it remains to be seen whether consumers perceive organic products to be comparable across different retail outlets.

To date there have been few studies that consider purchasing venue to some extent in relation to organic purchases. In France, Ngobo and Jean (2012) found that a low-price store image decreased the rate of private-label organic purchases. In the U.S., Onken, Bernard, and Pesek (2011) found that consumers were willing to pay more for strawberry preserves sold at a farmers market compared to a grocery store. Further, within the same category of store (supercenters), Ellison, Duff, Wang, and White (2016) found that a more hedonic retailer like Target may be better for promoting organic vice products (such as cookies) whereas a more functional retailer like Walmart may have more success promoting organic virtue products (such as strawberries). While these studies provide some initial evidence that the retail outlet (venue) has an impact on preferences, this will be the first study, to the researchers' knowledge, to compare consumer perceptions and WTP of an organic product across a broad spectrum of retail outlets, which more accurately reflects today's organic market.

Concurrent with the growth of the organic market, interest in food safety has increased. The Centers for Disease Control and Prevention (CDC) estimates that one in six Americans (approximately 48 million people) get sick every year from foodborne illnesses, leading to 128,000 hospitalizations and 3000 deaths (Centers for Disease Control & Prevention (CDC), 2014). Further, since 2010, there has been an average of 11.6 multistate foodborne outbreak investigations per year with the majority of these investigations for fruits and vegetables, meats, and dairy products (Centers for Disease Control & Prevention (CDC), 2015).

Research has also shown consumers place a high value on the safety of the food they consume. Lusk and Briggeman (2009) found that safety is the most important food value (relative to taste, nutrition, price, etc.) to U.S. consumers. Similarly, Ellison and Lusk (2011) found that U.S. consumers would like to see more USDA budget dollars allocated toward food safety relative to other budget segments. Additionally, research has found consumers were willing to pay more for products with enhanced food safety attributes (Angulo & Gil, 2007; Baker, 1999; Boccaletti & Nardella, 2000; Enneking, 2004; Latouche, Rainelli, & Vermersch, 1998; Loureiro & Umberger, 2007; McCluskey, Grimsrud, Ouchi, & Wahl, 2005 Henson, 1996; Misra, Huang, & Ott, 1991), though it should be noted the WTP premiums for food safety are often small in magnitude (less than 10%). Which food safety attributes are studied, however, varies by the product in question. Several studies have focused on food safety attributes related to beef in light of the bovine spongiform encephalopathy (BSE) scares (Angulo & Gil, 2007; Latouche et al., 1998; Loureiro & Umberger, 2007; McCluskey et al., 2005). However, there are also studies that consider food safety attributes (e.g., pesticide-free) for produce (Boccaletti & Nardella, 2000; Misra et al., 1991). Further, research suggests that consumers often ascribe enhanced safety benefits with other credence attributes such as organic (Hughner et al., 2007), non-GMO (Costa-Font, Gil, & Traill, 2008), and country-of-origin labeling (Lusk et al., 2006), so valuation studies of these attributes may also be partially identifying consumers' valuation of food safety.

In response to food safety concerns in the U.S., President Obama signed the Food Safety Modernization Act (FSMA) into law in 2011. The act represents the first reform to food safety laws in over 70 years and shifts the focus to attempts to prevent contamination rather than responding to outbreaks (Food & Drug Administration (FDA), 2015a). Under FSMA, there are seven proposed rules related to various aspects of food safety, including preventive controls for human and animal food, sanitary transportation, foreign supplier verification programs, food safety audits, intentional adulteration, and produce safety. To date, five of the seven rules have been finalized; the remaining two rules (related to sanitary transportation and intentional adulteration) are expected to be released in spring 2016 (Food & Drug Administration (FDA), 2015b).

The FSMA rules will impact organic and conventional producers, processors, and manufacturers alike. There are, however, differences based on operation size. Small and medium-sized operations have expressed concerns over potential costs of implementation (Satran, 2012) for which the Food and Drug Administration (FDA) has provided a number of exemptions to ensure the guidelines can be implemented by farms regardless of size (Food & Drug Administration (FDA), 2015c; Satran, 2013). The two key exemptions under the produce rule relating to size considerations (based on sales) are: (1) farms that have an average annual value of produce[1] sold during the previous three-year period of $25,000 or less, and (2) farms that

[1] Under the originally proposed rule, the FDA proposed that the value of *food* (not produce) sold during the previous three-year period must be $25,000 or less in order to be exempt (Food & Drug Administration (FDA), 2013). At the time of this study, the final rule had not been released; thus, our information treatments reflect the exemption language from the proposed rule.