Journal of Human Sciences and Extension

Volume 6 | Number 3 Article 2

10-31-2018

Guiding Diffusion among Local Food Clientele: Recommendations for Extension Programming

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Acknowledgments

A version of this manuscript was previously presented at the American Association for Agricultural Education National Conference. Additionally, this study was funded by a Florida Department of Agriculture and Consumer Services Specialty Crop Block Grant and was supported by the mission of the UF/IFAS Center for Public Issues Education

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The demand for local food has risen dramatically over the last decade, and many states have created brands to promote products grown within that state. However, the effect of state brands on consumer perceptions remains unknown. Extension agents serve as change agents and a bridge between science and the public to purvey information for adoption decisions. Thus, this study sought to determine if differences existed between consumers' perceptions of food labeled local and food labeled Fresh from Florida to inform Extension programming. Florida residents (N = 530) were surveyed utilizing a between-subjects experimental design. Respondents were asked questions about their attitudes, trust and transparency, and information preferences toward food labeled Fresh from Florida or local food, depending on the experimental treatment they received. Results of this study indicated that consumers shared similar perceptions of local and Fresh from Florida food, except for the belief that Fresh from Florida comes from larger farms, Fresh from Florida labeling is more trustworthy, and there is a greater desire to see a definition of Fresh from Florida food. When Extension agents develop programming on economic viability, information on local food and state brands should be included to help producers market their products and increase revenues.

Keywords: Local food, Extension programming, state brands, consumer perceptions

Introduction

Over the last decade, consumer concerns surrounding the origins of food and demand for locally grown food have climbed significantly (Conner, Colasanti, Ross, & Smalley, 2010; Zepeda & Li, 2006), influencing consumer food choices. Within Florida, local food has evolved into a multi-

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billion dollar industry that is still growing (Hodges & Stevens, 2013). As the industry continues to expand, producers will likely turn to Extension with questions involving important marketing decisions. Without proper information, Extension agents cannot serve stakeholders to their full potential or fulfill their role as change agents (Elbert & Alston 2005; Rogers, 2003).

Despite the recent growth in popularity, the phrase "local food" lacks a consistent definition among industry (USDA ERS, 2017), and consumers have yet to solidify a single definition of "local food" (Harris, Burress, Mercer, Oslund, & Rose, 2000; Wilkins, Bowdish, & Sobal, 2002). When asked how they would define local food, consumers identified it as originating from as close as within their own county to as distant as a neighboring state (Harris et al., 2000). Wilkins et al. (2002) found that consumers' most popular definition of local food was food grown within one's county or state.

A great deal of research dedicated to determining consumer perception of local food has occurred throughout recent years. Goodwin (2012) found consumer reasoning for purchasing local food included many extrinsic values such as social motivations, the desire to support local businesses and economy, and environmental benefits. Local food has also been perceived to be more affordable and of higher quality than non-local food. Similar to previous studies, Nyob (2012) found that consumers attributed local food as being chemical free, fresher, and less expensive. Despite the affordability expressed by some consumers, research has shown that consumers associate cost as a barrier to purchasing local food (Nyob, 2012).

Identification of customer perceptions of local food comprises a major aspect of product marketing. Megicks, Memery, and Angell (2012) examined how various influences affected local food buying behavior. They identified four primary drivers for purchasing local food: inherent quality of the food itself, support of the community, convenience/ease of procurement, and the sustainability of principles associated with local purchases. In addition to drivers, barriers to purchasing local food were also identified. Purchasing inconvenience and product distracters were identified as barriers to purchasing local food (Megicks et al., 2012). Convenience was identified as both a driver and barrier to purchasing local food Given these findings, product availability, market location, and other convenience-related issues likely influence local purchases in either a positive or negative manner.

A study by Hodges and Stevens (2013) estimated that local food purchases in Florida totaled $8.314 billion representing an average annual household expenditure on local food of $1,114. Hodges and Stevens (2013) also reaffirmed earlier work that showed consumers considered attributes of freshness, food safety, and nutrition when purchasing local food. These same studies also revealed that availability and high price were barriers to the purchase of local food (Goodwin, 2012; Megicks et al., 2012; Nyob, 2012). Hodges and Stevens (2013) found consumers expressed doubt that food labeled as local was truly locally produced, and Gao,

Swisher, and Zhao (2012) found that doubt about the origin of food may affect willingness to pay and consumer perceptions of the product.

One could argue that the local food movement originated in the Farmer-to-Consumer Direct Marketing Act of 1976 and received subsequent support under the Reagan administration when many federal programs to connect farmers with consumers were given over to the states (Nganje, Hughner, & Lee, 2011). At that time, in an effort to promote and identify state-grown agricultural products, the first state brands were created (Halloran & Martin, 1989). The state of Wisconsin adopted the first state brand in 1983, followed by New Jersey with Jersey Fresh in 1984. Other brands quickly followed, and today, state brands help consumers identify and define local agricultural products as well as provide assurance to qualities that are commonly associated with local produce (Nganje et al., 2011).

The Florida Agricultural Promotional Campaign began the Fresh from Florida program in 1990. The hallmark of the program is the Fresh from Florida logo, which is displayed on packaging and signage for state-grown agricultural products and is only usable by members of the program. Producers have the opportunity not only to make use of the Fresh from Florida logo but also to tie-in to supermarket promotions featuring Florida products. To qualify to use Fresh from Florida, producers must pay a $50 annual fee (Florida Department of Agriculture and Consumer Services, 2013).

In an examination of local food and public awareness of Fresh from Florida, Nyob (2012) found that only 41% of the participants representing the Florida residents were aware of the Fresh from Florida logo. Although the awareness of Florida's state brand was found to be low, consumers may be willing to pay more for state-branded food. In a study conducted in Arizona, consumers reported they were willing to pay an $0.18 per pound premium for spinach and a $0.10 per pound premium for carrots that were labeled as "Arizona Grown" when compared to those labeled "locally grown" (Nganje et al., 2011). In addition, consumers were also willing to pay higher prices for local produce labeled "Arizona Grown" when compared to produce labeled "USDA-certified" (Nganje et al., 2011).

Consumer willingness to pay for state-branded and local food could have a major impact on both the effort to create a sustainable agricultural environment as well as to improve farmers' long-term viability. However, to achieve these benefits, it is important for Extension educators to be active in the promotion of such practices. Extension educators have the unique ability to affect change in the community by problem-solving and making information from universities available to everyone through education (Harder, Israel, & Lamm, 2011; Rasmussen, 1989). Although Extension has prided itself in the ability to provide information, the changes in social, environmental, and economic conditions have created barriers to achieving this goal (Ladewig & Rohs, 2000; Scheer, Cochran, Harder, & Place, 2011). The ability of Extension to be successful

in this environment depends on the ability of agents to interface with stakeholders and provide services that coincide with stakeholder interests and knowledge (Harder, Lamm, & Strong, 2009; Harder, Mashburn, & Benge, 2009), such as their ability to sell products locally.

Knowledge of consumer perceptions of Fresh from Florida and local food is important for Extension educators to be able to promote sustainable agriculture practices through the adoption of Fresh from Florida and local food. For Extension agents to advise clientele about the innovations of local and Fresh from Florida food, this study sought to compare consumer attitudes, trust, and information preferences for local and state-branded food to further inform Extension program development around the issue. Findings from this study can be utilized to guide the efforts of Extension educators when assisting producers and agribusiness professionals in decisions concerning the adoption of local or state-branded food to ensure future sustainability of agriculture.

Theoretical Framework

While local food can play a significant part in ensuring the practice of sustainable agriculture, it cannot function properly unless adopted by the community. Therefore, the theoretical framework for this study was the Theory of Diffusion (Rogers, 2003), which states that to facilitate the adoption of a practice, a change agent must have proper knowledge of the innovation. Rogers (2003) identified five characteristics of innovations that help to influence a person's willingness to adopt or reject an innovation. These characteristics are relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). Relative advantage discusses how much better an innovation is than what is already available to the individual. Compatibility is the ability of an innovation to be assimilated into the individual's pre-existing work. Complexity is how difficult an innovation is to understand or utilize. Trialability is a characteristic that defines how able users are to test the innovation before deciding on adoption. Finally, observability is how able individuals are to observe the results of an innovation. Rogers (2003) suggested that innovations strong in at least some of these characteristics are more likely to be adopted than those that are not.

King and Rollins (1995) examined the motivations to the diffusion and adoption or nonadoption of pre-sidedress nitrogen testing. Farmers in this study tended to assess the innovation primarily on an economic relative advantage basis. King and Rollins (1995) also identified technical efficiency as a barrier to adoption suggesting compatibility, or lack thereof, may play a major role in the potential diffusion of innovation. Another factor in the adoption of pre-sidedress nitrogen testing was the knowledge of Extension educators and their presentation of the innovation. King and Rollins (1995) noted that when Extension professionals failed to present the relative economic advantages of pre-sidedress nitrogen testing in a manner that was both interesting and accessible to farmers, there was a lower rate of adoption.

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Adrian, Northwood, and Mask (2005) conducted a similar study to examine producer perceptions and utilization of precision agriculture. The study found producers who expected to generate a profit by adopting a precision agriculture practice were more likely to adopt the innovation – demonstrating that relative advantage was a strong indicator of adoption. Cannarella and Piccioni (2010) examined how risk played a factor in the diffusion of organic agriculture practices among farmers. The study found that farmers were very risk averse when adopting innovations. However, by watching the success or failure of other farmers in adopting organic practices and perceiving a relative advantage, producers may be more willing to adopt (Cannarella & Piccioni, 2010).

Rogers (2003) described the role of Extension in the diffusion process as acting as a bridge between the scientific and practical worlds. Effectively fulfilling this role requires Extension educator awareness of, and ability to convey, the relative advantages and other information concerning an innovation to stakeholders (Rogers, 2003). A 2009 study of the barriers experienced by Extension agents pinpointed limited access to resources as an obstacle to fulfilling the role of change agent (Brain, Irani, Hodges, & Fuhrman, 2009). This study concluded that improved access to and training on utilization of available resources would benefit Extension agents in fulfilling this role (Brain et al., 2009). In 2005, Elbert and Alston conducted a study of the role of Extension in aiding stakeholders in the adoption of digital resources. The study found that continuing education of Extension faculty aimed at furthering their knowledge and promoting their ability to serve as change agents should be provided. In the case of local food, Extension should be capable of advising producers about decisions to adopt local food or state branded food. Additionally, being equipped with this information will allow Extension educators to educate consumers regarding locally available food.

Purpose and Objectives

The purpose of this study was to identify differences in consumer perceptions of food branded local versus Fresh from Florida. The findings of this research can be used to assist Extension educators in providing research-based information that will help their clientele in becoming successful when choosing to adopt a marketing strategy. The objectives of this research were to

1) Determine consumer attitudes toward food labeled local food and food labeled Fresh from Florida.
2) Determine the level of trust and transparency consumers have toward food labeled local food and food labeled Fresh from Florida.
3) Determine consumers' information preferences for food labeled local food and food labeled Fresh from Florida.

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Methods

An online survey was used to fulfill the purpose and objectives of this study. Due to the comparison of food labeled local food and food labeled Fresh from Florida, Florida residents 18 and older were the population of interest. The survey included a between-subjects experimental design comparing consumer perception of two treatments, food labeled local food and food labeled Fresh from Florida. Each respondent was exposed to only one experimental treatment (Keppel & Wickens, 2004). For this study, local food was defined as food coming from within Florida.

Respondents were asked questions about their attitudes, trust and transparency, and information preferences toward either food labeled local food or food labeled Fresh from Florida, depending on the experimental treatment they received. Previous qualitative research on consumer perceptions of local food (Goodwin, 2012) informed the survey instrument. Additionally, the attitude measure was adapted from the association categories identified by Roininen, Arvola, and Lähteenmäki (2006). Respondents' attitude was measured utilizing a 15-item, five-point bipolar semantic differential scale. Some of the adjective pairs included not fresh/fresh, unsafe/safe, and unavailable/available. A complete list of the adjective pairs can be found in Table 2. Positive adjectives were coded as 5, and negative adjectives were coded as 1.

Information preferences were measured using an 11-item, Likert-type scale with response options of 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Disagree nor Agree*, 4 = *Agree*, 5 = *Strongly Agree*. This same Likert-type scale ranging from *Strongly Disagree to Strongly Agree* was also used for six-items measuring respondents' trust toward and perceived transparency of food labeled local food or food labeled Fresh from Florida. Last, respondents were asked to answer general demographic questions, including age, sex, education, income, race, and area of residence.

To ensure face and content validity, a panel of experts reviewed the survey instrument before data collection. The panel of experts included the Director of the UF/IFAS Center for Public Issues Education, an assistant professor specializing in agricultural extension, the Executive Director of a state commodity organization, and two graduate students who had been studying local food.

A public opinion survey research company utilized nonprobability sampling to recruit respondents for this study. Nonprobability sampling is a common sampling method for public opinion research (Baker et al., 2013). Although nonprobability samples can have limitations in external validity, previous literature has shown that data from nonprobability samples is comparable and in some cases superior to probability samples when conducted with measures to decrease the threats to validity (Abate, 1998; Twyman, 2008; Vavreck & Rivers, 2008).

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Quota sampling was used to increase the representativeness of this sample, matching respondents to the 2010 U.S. Census data for sex, race/ethnicity, and age. Quota sampling has been shown to reduce bias associated with nonprobability sampling (Baker et al., 2013).

A sample of 725 individuals was obtained, with 530 (73.1%) respondents providing complete and usable responses. Respondent demographics were compared to the target population to check for nonresponse bias. No significant differences were found between the sample and population, indicating that respondents were representative of the target population. The local food treatment included 275 respondents, and the Fresh from Florida treatment included 255 respondents. The demographic characteristics of the participants are presented in Table 1. Respondents were nearly equally split between males and females. The majority of respondents were white, and just under half were between the ages of 30 and 49.

Table 1. Demographics of Respondents

Characteristic	***n***	**%**
Sex		
Female	270	50.9
Male	260	49.1
Race		
African American	72	13.6
Asian	18	3.4
Caucasian (Non-Hispanic)	408	77.0
Native American	5	0.9
Other	27	5.1
Hispanic Ethnicity	81	15.3
Age		
20-29	90	17.0
30-39	114	21.5
40-49	135	25.5
50-59	95	17.9
60+	96	18.1

The data were analyzed for descriptive statistics using SPSS ® 21.0. Independent *t*-tests were used to compare the attitudes, trust and transparency, and information preferences of those who received the local food treatment versus those who received the Fresh from Florida treatment.

Results

Consumer Attitudes

Respondents were asked to rank their attitudes toward food labeled local or food labeled Fresh from Florida on a bipolar semantic differential scale (Table 2). Eleven or more of the attitude

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treatments had a mean above 3.50 for both treatments. Mean differences between treatments were significant for one attitude measure, "comes from small farms: comes from large farms" ($p < 0.01$) indicating the perception that food labeled Fresh from Florida come from larger farms. Yet, despite the significance of this measure, the means were within .26 of each other.

Table 2. Attitudes of Respondents Toward Food Labeled Local or Fresh from Florida

Attitude	Fresh from Florida *M* (*SD*)	Local *M* (*SD*)	*t*	*Mean Difference*
High transport costs: Low transport costs	3.72 (1.13)	3.53 (1.17)	-1.811	0.19
Available: Unavailable [1]	4.19 (1.01)	4.02 (1.01)	-1.857	0.17
Nutritious: Not Nutritious [1]	4.17 (0.97)	4.03 (1.01)	-1.627	0.14
Natural: Un-Natural [1]	4.06 (0.96)	3.93 (0.99)	-1.473	0.13
Not trustworthy: Trustworthy	4.11 (0.90)	3.99 (0.90)	-1.544	0.12
Pesticide Free: Has Pesticides [1]	3.13 (1.01)	3.03 (1.01)	-1.154	0.10
High Quality: Low Quality [1]	3.98 (0.90)	3.88 (0.97)	-1.155	0.10
Un-Safe: Safe	4.17 (0.90)	4.07 (0.93)	-1.306	0.10
Fresh: Not Fresh [1]	4.37 (0.80)	4.28 (0.91)	-1.167	0.09
Clean: Dirty [1]	4.08 (0.90)	4.00 (0.94)	-1.032	0.08
Inconvenient: Convenient	3.93 (0.98)	3.86 (1.11)	-0.712	0.07
Wholesome: Not Wholesome [1]	4.26 (0.84)	4.24 (0.92)	-0.269	0.02
Cheap: Expensive [1]	2.98 (0.85)	3.02 (1.00)	0.569	-0.04
Not Organic: Organic	2.81 (1.02)	2.90 (1.14)	0.881	-0.09
Comes from small farms: Comes from large farms [1]	3.27 (1.07)	3.53 (1.02)	2.803	-0.26**

Note: Responses based on semantic differential scale from 1 = *Not Wholesome* to 5 = *Wholesome*.
[1]Reverse-coded item. ** $p < 0.01$

Level of Trust and Transparency

Respondents identified their level of agreement with six statements on a Likert-type scale regarding their trust and transparency toward food labeled local and Fresh from Florida (Table 3). For example, a statement from this scale was, "I trust the production practices of farmers who produce local food" and "I trust the production practices of farmers who produce food labeled Fresh from Florida." Mean differences between treatment groups were nonsignificant, except for trust in the labeling of food products ($p < 0.05$). Respondents indicated a higher level of trust in food labeled Fresh from Florida than in food labeled as local.

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Table 3. Respondent Levels of Trust and Perceived Transparency of Food Labeled Local and Fresh from Florida

Category	Fresh from Florida *M (SD)*	Local *M (SD)*	*t*	*Mean Difference*
I trust the labeling of food products*	3.72 (0.85)	3.55 (0.84)	-2.284	0.17*
Farmers are transparent about practices	3.30 (0.84)	3.26 (0.79)	-0.656	0.04
I trust the production practices of farmers	3.63 (0.87)	3.66 (0.82)	0.414	-0.03
I trust the safety of food bought directly from farmers	3.73 (0.82)	3.75 (0.83)	0.263	-0.02
I trust farmers	3.74 (0.87)	3.76 (0.80)	0.246	-0.02
I trust the safety of food bought from grocery stores	3.70 (0.88)	3.71 (0.86)	0.132	-0.01

Note: Responses based on Likert-type scale of 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Disagree nor Agree*, 4 = *Agree*, 5 = *Strongly Agree.* * $p < 0.05$

Determine Consumers' Information Preferences

Respondents identified their level of agreement with ten statements on a Likert-type scale regarding their interest in obtaining information about food labeled local food and food labeled Fresh from Florida (Table 4). For example, a statement was, "When I see information about local food I want to see facts and figures" and "When I see information about food labeled Fresh from Florida I want to see facts and figures." Mean differences between treatment groups were not significant, except for the desire to receive definitions of local or Fresh from Florida food ($p < 0.01$). Respondents had a greater desire for a definition of Fresh from Florida food than local food.

Table 4. Preferences of Respondents for Types of Information on Food Labeled Local or Fresh from Florida

Type of Information	Fresh from Florida *M (SD)*	Local *M (SD)*	*t*	*Mean Difference*
Definitions	3.89 (0.96)	3.67 (1.03)	-2.491	0.22**
Facts and figures	3.74 (0.97)	3.65 (0.99)	-0.983	0.09
Production methods	3.85 (1.01)	3.76 (1.04)	-1.003	0.09
Safety	3.86 (1.01)	3.82 (1.06)	0.384	0.04
Effect on me	3.57 (1.12)	3.59 (1.08)	0.211	-0.02
Effect on my family	3.50 (1.13)	3.54 (1.07)	0.417	-0.04
Effect on the community	3.52 (1.10)	3.59 (1.04)	0.794	-0.07
Effect on the environment	3.44 (1.12)	3.53 (1.07)	0.967	-0.09
The farmers who produced my food	3.40 (1.18)	3.52 (1.13)	1.233	-0.12
How to provide feedback	3.52 (1.13)	3.65 (1.08)	1.352	-0.13

Note: Responses based on Likert-type scale of 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Disagree nor Agree*, 4 = *Agree*, 5 = *Strongly Agree.* ** $p < 0.01$

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Conclusions and Implications

Results of this study showed respondents had similar attitudes toward food labeled local food when compared to food labeled Fresh from Florida. The only attitude that significantly differed was the notion that food labeled Fresh from Florida originated from larger farms, while food labeled local originated from smaller farms. Previous research has shown that originating at smaller farms has a positive association with local food (Nyob, 2012). This suggests that there is a slightly more positive attitude toward food labeled local. However, respondents had similar attitudes about the freshness, quality, affordability, and nutrition of food labeled local and food labeled Fresh from Florida. These attributes were previously identified as major drivers in the purchase of local food (Goodwin, 2012; Hodges & Stevens, 2013; Megicks et al., 2012; Nyob, 2012). These findings imply that the use of the Fresh from Florida label holds little benefit over labeling food as local.

When examining the perceived trust and transparency associated with food labeled local and food labeled Fresh from Florida, both respondent groups revealed similar levels of trust and transparency. However, respondents indicated a significantly greater level of trust regarding the label of Fresh from Florida over the label of local. The increased trust consumers placed in the labeling of Fresh from Florida reflects previous branding efforts through the Farmer-to-Consumer Direct Marketing Act of 1976 and subsequent endeavors in state branding (Nganje et al., 2011). Additionally, this finding is consistent with previous research that has indicated consumers have a lack of trust in the labeling and origins of local food (Gao et al., 2012; Hodges & Stevens, 2013). This distrust can affect both perceptions of and willingness to pay extra for local food (Gao et al., 2012; Hodges & Stevens, 2013). Hodges and Stevens (2013) postulated that controlling the labeling of local food could increase consumer trust and willingness to pay. This implies that producers should consider adoption of the Fresh from Florida label because consumers have increased trust of Fresh from Florida – this label holds a relative advantage over food labeled local (Rogers, 2003).

In this study, respondents indicated their interest in the same types of information for food labeled local and food labeled Fresh from Florida. The only significant difference between the two treatments appeared when respondents who received the Fresh from Florida treatment indicated a greater interest in the definition of Fresh from Florida. Previous research found respondents' lacked interest in a definition for local food (Harris et al., 2000). Since the food label "local" has no universally agreed upon definition, consumers have shown flexibility in their definitions of local food (Harris et al., 2000; Wilkins et al., 2012). In the present study, consumers desired similar information about both treatments implying that the growth seen in local food labeling (Connor et al., 2010; Zepeda & Li, 2006) has resulted in a similar growth pattern among food labeled Fresh from Florida.

The results show consumers share similar perceptions of food labeled local and food labeled Fresh from Florida with the exception of label trust. Consumers showed a higher level of trust in food labeled Fresh from Florida. Extension agents should be aware that this increased trust in the Fresh from Florida label may yield enough relative advantage to indicate producers should consider adopting it. However, the relative similarities overall between the treatments suggests that change agents can advise producers on the advantages and disadvantages of adopting the different food labels. The results imply that Extension agents can utilize Rogers's (2003) characteristics of innovation such as relative advantage, compatibility, complexity, trialability, and observability to aid in the adoption of food labeled Fresh from Florida and local food.

One limitation of this study deserves a special note – the definition of food labeled local. Food labeled local was defined as food produced within Florida, giving these foods the same boundaries as food labeled Fresh from Florida. However, consumers may define local food differently (Harris et al., 2000; Wilkins et al., 2002). Thus, by giving both labels the same bounds, the comparison may be different than one conducted where the respondents define local.

Recommendations

The findings from this study show a slight advantage to food labeled Fresh from Florida versus food labeled local, because consumers trust the labeling of Fresh from Florida over food labeled local. Conversely, food labeled local is seen with a slightly more positive attitude as respondents perceived it as coming from smaller farms.

Extension educators can present the differences between labeling food as local or as a state brand to producers in a manner that could encourage adoption (King & Rollins, 1995). However, Extension educators must also be aware of the barriers to adopting local and state brands as labeling mechanisms for producers' products (Ladewig & Rohs, 2000; Scheer et al., 2011). Based on this research, there is little advantage in choosing one labeling mechanism over the other, however each application results in positive consumer perceptions. Extension educators should present information on the advantages and disadvantages of both labels when educating producers on strategic marketing decisions.

Extension agents developing economic viability programs for producers should discuss both labeling options. Doing so will provide producers with background information on the availability of state brand programs and whether or not the expense of using the label is worth the investment. Following the suggestions of Harder et al. (2009), Extension educators may also provide similar information through brochures and pamphlets, which are easily distributed at programs, events, and through the Extension office. Extension educators could also incorporate articles into their existing newsletters presenting information on the importance of making an educated decision on labeling that would assist in the diffusion process.

County Extension websites may also prove to be a viable place to share information about labeling food as local, emphasizing the pros and cons of doing so in a way that producers can easily access updated information. Additionally, a tool to help producers decide which method is best for their products as well as to indicate if marketing as local or state brand is beneficial, in general, could be made available from a county Extension website. These and other methods of communication could allow clients to easily access information thus increasing the success of Extension educators in conveying the information. All information presented by Extension educators should assist producers in determining which labeling method presents the greatest opportunity for viability or even if labeling would be beneficial.

State Extension specialists could also work closely with their state department of agriculture to develop and enhance new or existing state brands. Together, these groups can effectively transfer information on state brands to producers. Through collaborative work between Extension educators, Extension specialists, and state brand agencies, state brands may contribute to the future sustainability of local food products and producers.

It is important to recognize that the difference between consumers' perceptions of state-branded food and food labeled local may vary by state. Researchers should replicate this study in other states that have a state food brand to examine if differences between state brands and food labeled local are consistent with these findings. Research examining Extension education efforts focused on teaching producers about selecting and marketing local food products would further identify the impact Extension educators have in this area. An experimental design comparing the marketing success of producers that have worked with Extension educators to develop strategic local food marketing plans and those who have not could provide data showing the programmatic worth of Extension efforts and their potential to enhance the industry.

References

Abate, T. (1998). Accuracy of online surveys may make phone polls obsolete. *The San Francisco Chronicle*, pp. D1.

Adrian, A. M., Northwood, S. H., & Mask, P. L. (2005). Producers' perceptions and attitudes toward precision agriculture technologies. *Computers and Electronics in Agriculture, 48*(3), 256–271. doi:10.1016/j.compag.2005.04.004

Baker, R., Brick, J. M., Bates, N. A., Battaglia, M., Couper, M. P., Dever, J. A., . . . Tourangeau, R. (2013). *Report of the AAPOR task force on non-probability sampling.* Retrieved from http://www.aapor.org/Education-Resources/Reports/Non-Probability-Sampling.aspx

Brain, R. G., Irani, T. A., Hodges, A. W., & Fuhrman, N. E. (2009). Agricultural and natural resources awareness programming: Barriers and benefits as perceived by county Extension agents. *Journal of Extension, 47*(2), Article 2FEA3. Retrieved from http://www.joe.org/joe/2009april/a3.php

Cannarella, C., & Piccioni, V. (2010). Do the right thing: Innovation diffusion and risk dimensions in the passage from conventional to organic agriculture. *Journal of Central European Agriculture, 11*(1), 113–130. doi:10.5513/JCEA01/11.1.831. Retrieved from http://hrcak.srce.hr/55709

Conner, D., Colasanti, K., Ross, R., & Smalley, S. (2010). Locally grown foods and farmers markets: Consumer attitudes and behaviors. *Sustainability*, *2*(3), 742–756. doi:10.3390/su2030742

Elbert, C. D., & Alston, A. J. (2005). An evaluative study of the United States Cooperative Extension Service's role in bridging the digital divide. *Journal of Extension, 43*(5), Article 5RIB1. Retrieved from http://www.joe.org/joe/2005october/rb1.php

Florida Department of Agriculture and Consumer Services. (2013). *"Fresh from Florida" industry membership.* Retrieved from http://www.freshfromflorida.com/Divisions-Offices/Marketing-and-Development/Agriculture-Industry/Fresh-From-Florida-Industry-Membership

Gao, Z., Swisher, M., & Zhao, Z. (2012). A new look at farmers' markets: Consumer knowledge and loyalty. *HortScience, 47*(8), 1102–1107. Retrieved from http://hortsci.ashspublications.org/content/47/8/1102.abstract

Goodwin, J. N. (2012). *Local choice focus groups report*. (Report No. PIE2011/12-19a). Gainesville, FL: University of Florida/IFAS Center for Public Issues Education.

Halloran, J. M., & Martin, M. V. (1989). Should states be in the agricultural promotion business? *Agribusiness*, *5*(1), 65–75. doi:10.1002/1520-6297(198901)5:1<65::AID-AGR2720050108>3.0.CO;2-8

Harder, A., Israel, G. D., & Lamm, A. J. (2011). Getting to the bottom line: How using evaluation results to enhance Extension programs can lead to greater levels of accountability. *Journal of Agricultural Education, 52*(4), 44–55. doi:10.5032/jae.2011.04044

Harder, A., Lamm, A., & Strong, R. (2009). An analysis of the priority needs of Cooperative Extension at the county level. *Journal of Agriculture Education, 50*(3), 11–21. doi:10.5032/jae.2009.03011

Harder A., Mashburn, D., & Benge, M. (2009). An assessment of Extension education curriculum at land-grant universities. *Journal of Agricultural Education, 50*(3), 22–32. doi:10.5032/jae.2009.03022

Harris, B., Burress, D., Mercer, S., Oslund, P., & Rose, C. (2000). *Kaw Valley focus groups on local and organic produce* (Report No. 254B). Lawrence, KS: University of Kansas, Institute for Policy and Social Research. Retrieved from http://www.ipsr.ku.edu/resrep/pdf/m254B.pdf

Hodges, A. W., & Stevens, T. J. (2013). *Local food systems in Florida: Consumer characteristics and economic impacts*. Gainesville, FL: University of Florida, Food and Resource Economics Department.

Keppel, G., & Wickens, T. D. (2004). *Design and analysis: A researcher's handbook* (4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

King, R. N., & Rollins, T. (1995). Factors influencing the adoption decision: An analysis of adopters and nonadopters. *Journal of Agricultural Education, 36*(4), 39–48. doi:10.5032/jae.1995.04039

Ladewig, H., & Rohs, F. R. (2000). Southern Extension leadership development: Leadership development for a learning organization. *Journal of Extension, 38*(3), Article 3FEA2. Retrieved from http://www.joe.org/joe/2000june/a2.php

Megicks, P., Memery, J., & Angell, R. J. (2012). Understanding local food shopping: Unpacking the ethical dimension, *Journal of Marketing Management, 28*(3-4), 264–289. doi:10.1080/0267257X.2012.658838

Nganje, W. E., Hughner, R. S., & Lee, N. E. (2011). State-branded programs and consumer preference for locally-grown produce. *Agricultural and Resource Economics Review, 40*(1), 20–32. doi:10.1017/S1068280500004494

Nyob, D. I. (2012). *Consumer perception of local food: A study of students of the University of Florida in the United States* (Master's thesis). University of Florida, Gainesville, FL. Retrieved from http://ufdc.ufl.edu.lp.hscl.ufl.edu/UFE0045128/00001

Rasmussen, W. D. (1989). *Taking the university to the people: Seventy-five years of Cooperative Extension.* Ames, IA: Iowa State University Press.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York, NY: Free Press.

Roininen, K., Arvola, A., & Lähteenmäki, L. (2006). Exploring consumers' perceptions of local food with two different qualitative techniques: Laddering and word association. *Food Quality and Preference, 17*(1-2), 20–30. doi:10.1016/j.foodqual.2005.04.012

Scheer, S. D., Cochran, G. I., Harder, A., & Place, N. T. (2011). Competency modeling in extension education: Integrating an academic Extension model with an Extension human resource management model. *Journal of Agriculture Education, 52*(3), 64–74. doi:10.5032/jae.2011.03064

Twyman, J. (2008). Getting it right: YouGov and online survey research in Britain. *Journal of Elections, Public Opinions and Parties, 18*(4), 343–354. doi:10.1080/17457280802305169

United States Department of Agriculture Economic Research Service (USDA ERS). (2017). *Local foods overview.* Retrieved from https://www.ers.usda.gov/topics/food-markets-prices/local-foods/

Vavreck, L., & Rivers, D. (2008). The 2006 cooperative congressional election study. *Journal of Elections, Public Opinion and Parties, 18*(4), 355–366. doi:10.1080/17457280802305177

Wilkins, J. L., Bowdish, E., & Sobal, J. (2002). Consumer perceptions of seasonal and local foods: A study in a US community. *Ecology of Food and Nutrition, 41*(5), 415–439. doi:10.2080/03670240214066

Zepeda, L., & Li, J. (2006). Who buys local food? *Journal of Food Distribution Research, 37*(3), 5–15. Retrieved from http://ageconsearch.umn.edu/bitstream/7064/2/37030001.pdf

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Acknowledgements

A version of this manuscript was previously presented at the American Association for Agricultural Education National Conference. Additionally, this study was funded by a Florida Department of Agriculture and Consumer Services Specialty Crop Block Grant and was supported by the mission of the UF/IFAS Center for Public Issues Education.

Journal of Human Sciences and Extension Volume 6, Number 3, 2018