Consumer Definitions of “Locally Grown” for Fresh Fruits and Vegetables

Catherine A. Durham, Robert P. King, and Cathy A. Roheim

Interest in locally produced foods has been rising steadily, in step with an increase in popular books and newspaper and magazine articles at both the local and national level. However, “local” remains undefined. As economists, we are inclined to want to measure what “local” is, or to define the space which is local. Retailers select their own definition of local, and many farmers markets establish distances from which sellers can bring their product. Market researchers also have weighed in. The Hartman Group (2008) recently reported that 50 percent of survey respondents selected “made or produced within 100 miles” as the statement best defining local product. Our work points out the difficulties with defining a distance, both because consumer opinion is quite varied and because there are differences between regions across the U.S.

For consumers, however, regardless how one defines the distance of “local,” it is evident that “buying local” may achieve a variety of goals. The top reason among survey takers for buying locally produced goods is “freshness and quality.” One empirical question is to determine if the distance necessary to achieve this and other goals differs across consumers, or if different goals lead to definitions of what is approximately different distances. Furthermore, the larger the consumer experience may influence the definition of a local area for food production.

The research described in this report was driven by strong interest in “local” expressed during pre-survey focus groups, in a project primarily concerned with ecobalancing of agricultural production. At the same time, definitions of local which differed from those traditionally used by marketers and other interested parties appeared. Thus the ecobalancing survey was designed, specifically, to include questions to study consumers’ beliefs and preferences for locally produced agricultural produce. This report presents our statistical findings about how consumers across the country define their local area, points out some of the contrasts between areas, and discusses why these regional contrasts may have occurred.

The surveys were administered during the summer of 2006 in the Minneapolis/St. Paul and Portland, Oregon greater metropolitan areas and throughout the state of Rhode Island. A total of 1,500 consumers were surveyed in conventional and natural food supermarkets and farmers markets, with the distribution approximately equal in each of the three states. Prior to defining their “local” area, respondents were asked if they preferred locally produced fresh fruits and vegetables, and if they so, to rank the reasons why. The reasons, which included “freshness and quality,” “supporting the local economy,” and so forth, are discussed in Durham and Roheim (2009).

One survey question focused on geographical definition of local, and it asked respondents to choose any three survey location to include six possible geographical appropriately choices each in Oregon and Minnesota and nine in Rhode Island. The material which follows provides the analysis of that question, including graphs of the percentage of consumers in each state who chose the available areas and a comparison between the states.

The focus groups showed that there were distinct differences in consumers’ perceptions of “local” among the three survey locations. Writing questions which could define these areas was challenging. Respondents were influenced by different factors in determining what meant “local” to them: for some, verbal definitions of the area were best defined using geographical boundaries (e.g. cities, states), while for others, distances were best defined using physical reference points.

Durations, while fairly commonly used in the West, are rarely used in the Northeast, where travel time is more commonly used. Furthermore, of the three locations, only Minnesota allows for a circular distance to be readily applied, as the area considered does not quickly run up against the mountains or ocean as in Oregon and Rhode Island. All three survey regions border on at least one other state. An additional distinguishing distance feature for the Northeast is that all of New England is roughly two-thirds the size of Oregon. Thus while Rhode Island is extremely close to Connecticut in terms of distance, the perception in a consumer’s mind may well be that out-of-state produce is not “local,” even though Rhode Island and Connecticut combined could easily fit within either Oregon or Minnesota. However, state boundaries were offered as choices in each survey. For example “a 50-mile radius around Minneapolis/St. Paul” is much smaller than the entire state of Minnesota, but it includes parts of Wisconsin, and “Northwest Oregon plus Southwest Washington” is substantially smaller than either state. The point of this was to examine whether consumers felt a state loyalty in defining locally grown.

Differences in terrain influenced the choices as well. Rhode Island, for example, is next to the ocean, so that almost all areas include water in any determination of a 50-mile radius. The Portland area is bounded by mountain ranges to the east and the ocean to the west, which affects the consideration of local because these features affect the areas actually considered. Furthermore, as compared in Table 1, there are only three possible responses across each survey location into three possible radius groups: up to 60 miles, between 60 and 175 miles, and over 175 miles.

The definition of “local” that comprised the smallest area—in other words, the closest to point of purchase—for essentially includes the entire state of Rhode Island (Figure 1). Respondents in the Rhode Island survey did in fact indicate that local could mean a precision of Rhode Island, even though the state itself is of course much smaller than either of the two other states (Roheim et al. 2007). It is difficult to explain exactly why this should occur.

Those surveyed in northern Rhode Island thought produce from northern Rhode Island was local, while those surveyed in southern Rhode Island believed southern Rhode Island produce was local.

Figure 2 shows that more than half of those in the Minneapolis/St. Paul metropolitan area define “local” as the surrounding area closest to this metropolitan area, or the 50-mile radius around the metropolitan area. However, in approximately equal number of cases the “Metro” was defined as the largest radius area—outside 175 miles. This is in contrast to the respondents in the Portland, Oregon and Vancouver, Washington metropolitan area, who were more inclined to use the smaller-radius definition. Southern Minnesota was selected less often than the smaller-radius but overlapping “East-Central Minnesota/West-Central Wisconsin” choice, and “Minnesota plus Wisconsin” was more often chosen than was Minnesota alone.

From Figure 3 it is quite clear that in the Portland, Oregon metropolitan area the state boundary is not a factor for many decision-makers in considering the area which is local. “NW Oregon” is selected far less than the full circle including a portion of Washington state across the Columbia River. “Oregon plus Washington” is more often selected than is Oregon alone.

Figure 4 compares responses in the regions of the country after aggregating the possible selections into the three radius groups shown in Table 1. This demonstrates more clearly the differences among the respondents in the three areas. While the declining order of survey area size changes, the results, in particular, the fact that the size of the 50-mile circle and the next larger group are not very different. Some demographic factor seems to explain these differences, and somewhat to our surprise these distributions are not very different between farmers markets and conventional stores within a state. Nor are they very different by age. It appears that state differences are stronger than many demographic aspects of the consumer.

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The research described in this report was driven by interest in “local” expressed during previous survey focus groups, in a project primarily concerned with ecolabeling of agricultural production. At the same time, definitions of local which differed from those traditionally used by marketers and other interested parties appeared. Thus the ecolabeling survey was designed, specifically, to include questions to study consumers’ beliefs and preferences for locally produced agricultural produce. This report presents our statistical findings about how consumers across the country define their local area, points out some of the contrasts between areas, and discusses why these regional contrasts may have occurred.

The surveys were administered during the summer of 2006 in the Minneapolis/St. Paul and Portland, Oregon greater metropolitan areas and throughout the state of Rhode Island. A total of 1,500 consumers were surveyed in conventional and natural food supermarkets and farmers markets, with the distribution approximately equal in each of the three states. Prior to defining their “local” area, respondents were asked if they preferred locally produced fresh fruits and vegetables, and if they so, to rank the reasons why. The reasons, which included “freshness and quality,” “supporting the local economy,” and so forth, are discussed in Durham and Roheim (2009).

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The focus groups showed that there were distinct differences in consumers’ perceptions of “local” among the three survey locations. Writing questions which could define these areas was challenging. Respondents were influenced by different factors in determining what meant “local” to them: for some, verbal definitions of the area were best defined using geographical boundaries (e.g., cities, states), while for others, distances were best defined using physical reference points.

Distances, while fairly commonly used in the West, are rarely used in the Northeast, where travel time is more commonly used. Furthermore, of the three locations, only Minnesota allows for a circular distance to be readily applied, as the area considered does not quickly run up against the mountains or ocean as in Oregon and Rhode Island. All three survey regions border on at least one other state. An additional distinguishing distance feature for the Northeast is similar to that of New England is roughly two-thirds the size of Oregon. Thus while Rhode Island is extremely close to Connecticut in terms of distance, the perception in a consumer’s mind may well be that out-of-state produce is not “local,” even though Rhode Island and Connecticut combined could easily fit within either Oregon or Minnesota. However, state boundaries were offered as choices in each survey. For example “a 50-mile radius around Minneapolis/St. Paul” is much smaller than the entire state of Minnesota but it includes parts of Wisconsin, and “Northwest Oregon plus Southwest Washington” is substantially smaller than either state. The point of this was to examine whether consumers felt a state loyalty in defining locally grown.

Differences in terrain influenced the choices as well. Rhode Island, for example, is next to the ocean, so that almost all areas include water in any determination of a 50-mile radius. The Portland area is bounded by mountain ranges to the east and the ocean to the west, which affects the consideration of local because these features affect the areas actually considered local. Furthermore, while Rhode Island and the fairly unimporand smooth terrain in the Northwest seem fairly natural, the nearly equal number of respondents choosing the smallest and the largest areas in Minnesota seems to need further explanation. Perhaps this distribution is due to the fact that the size of the 50-mile circle and the next larger group are not very different. No single demographic factor seems to explain these differences, and somewhat to our surprise these distributions are not very different between farmers markets and conventional stores within a state. Nor are they very different by age. It appears that state differences are stronger than many demographic aspects of the consumers.

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Figure 1. Rhode Island. When selecting fresh fruits and vegetables which of the regions below most closely signifies locally grown to you? * indicates category extends beyond state boundaries.

Indeed, 100 miles makes Connecticut produce local for Rhode Island, and the majority of Rhode Islanders did not consider Connecticut to be local. Furthermore, it is equally clear that distance is not the single determining factor of “local”—otherwise, one might expect more similarity among responses across states. However, respondents seem to be influenced by geographical factors as well as physical and possibly psychological or cultural factors in defining “local.” More research seems warranted in order to make maximum use of this term in marketing.
Table 1. Radius Groups of Consumers’ Self-Declared Definitions of "Local" Across Regions.

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References


Differences in Willingness to Pay for Safer Meat and Vegetables

Enefio Ekanem, Mary Mafuyai-Ekanem, Fisseha Tegge, and Surendra Singh

With numerous food recalls in the last few years, food safety has become an important concern for the food industry and consumers. Millions of people are sickened and thousands die each year from consuming contaminated and unsafe food in the U.S. This paper compiles information on the profile of respondents to a survey on willingness to pay for safer meats (beef and poultry) and fruits and vegetables, and examines factors that influencing consumers' willingness to pay. A telephone survey was used to collect data from 1,000 participants in Alabama, North Carolina, and Tennessee. Results indicate that 22.3 percent of respondents definitely would pay more for safer food, while 29.2 percent said they were more likely to do so. About nine percent of the respondents said they likely would not pay for safer food and 33.4 percent indicated that they were somewhat willing to pay more. Only 4.4 percent showed no interest in paying more for safer food. Chi-square methodology was used to examine factors explaining differences in willingness to pay for safer meats and fruits and vegetables. The Statistical Package for the Social Sciences (SPSS) was used in analysis. Willingness to pay for safer food was significantly related to gender, education, ethnicity, and marital status.

Numerous articles document consumer willingness to pay for safer foods. Many of these studies apply a variety of methodologies using different commodities and products (Mukhopadhyay et al. 2004; Goldberg, Reosen, and Naya 2006). Although consumers want safer foods, they are not always willing to pay for the cost. In a 2008 choice experiment study of 844 Danish consumers, it was shown that consumers' willingness to pay for safer meat depended on the method used in reducing salmonella risks and the price of the product (Mærkbak, Christensen, and Gyrd-Hansen 2008). Miller and Unnevehr (2001) examined factors influencing consumer willingness to pay for safer pork. Their telephone survey of 609 households, conducted in spring 1995, showed that most consumers were willing to pay a price premium for safer pork. The authors used a logistic regression model to determine that willingness to pay for safer pork was related to gender, age, and income, and that urban residency had the most significant effect on willingness to pay for safer pork.

Methodology

Data used in this study were collected from telephone survey of consumers in three states. The telephone survey consisted of 1,000 interviews with residents of Tennessee, Alabama, and North Carolina. A random-digit-dialing sample frame was generated for the designated survey area. The computer system used a random-selection procedure to select the initial set of potential participants. The survey interviewers used at least three call-back attempts to each number dialed for which there was no answer; this process enhanced the validity of the research results. Five specific items in the 43-item questionnaire developed for this study were analyzed. Socio-economic variables for age, gender, ethnic origin, marital status, and educational level also were summarized. Data were analyzed and summarized using the Statistical Package for the Social Sciences (SPSS) and the Excel spreadsheet. Chi-square tests were used to test for differences in willingness to pay for safer meats and vegetables.

Results and Discussion

Of the 1,000 respondents to the survey, 10.4 percent were less than 35 years old and 89.6 percent were 35 years or older, 66.3 percent of study participants were married, 14.0 percent were divorced or separated, 9.7 percent were widowed, and 9.0 percent had never been married. About 21 percent of respondents were males while 78.9 percents were female. Analysis of ethnic groups of participants shows that 707 (79.7 percent) were Caucasian or white, 128 (12.8 percent) were African-American and 30 (3 percent)