Consumption Patterns and Demand for Local Food in Chittenden County, Vermont

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Introduction

During the past several years, Vermont consumers have been voicing and demonstrating increased interest in local, Vermont-grown food products. Over just a ten year period, from 1992 to 2002, direct sales of local, Vermont-grown food products increased by 140 percent (Timmons, 2006). Furthermore, the amount of money spent on local food products can be a substantial portion of a household's total food spending. In 2005, the average Vermont household spent approximately $125 dollars per week on food, and almost $25 or one-fifth of that money was spent on local products (Center for Rural Studies, 2005).

In order to assess current patterns of local food purchasing in Chittenden County, Vermont, with the goal of assisting in the facilitation of future interactions between local farms and consumers, the Intervale Center (IC) with research assistance from the Center for Rural Studies (CRS) at the University of Vermont developed and conducted a study on the demand for local food products.

This final report presents the (a) research questions, (b) study methodology, (c) findings and discussion, and (d) conclusions. *Appendix A* is the entire survey questionnaire. *Appendix B* is presents all of the descriptive findings for all of the survey questions in table form.

Research Questions

In order to understand current consumption patterns and the demand for local food, the IC developed eleven research questions. These questions were stated as follows:

1. *Who are the consumers?*
2. *Where are they purchasing food products?*
3. *How much do consumers spend on food products?*
4. *What local food products are they purchasing and why?*
5. *Are consumers interested in local products?*
6. *Are there any products in demand that are currently unavailable?*
7. *What are the barriers to buying local food products and what are the best ways to overcome those barriers?*
8. *Are consumers satisfied with current food options and availability?*
9. *What is the general level of interest in Community Supported Agriculture (CSA) shares?*
10. *What have been the membership experiences of consumer in CSAs?*
11. *What are the consumer preferences for a CSA model?*

This report answers the eleven research questions based on the statistical findings from the demand study. *Question 1* is addressed by examining the characteristics of the individual consumers and of the household where they reside, while the remaining ten questions are informed by information given by the respondent representing the household. The responses to each of the ten questions are presented in the Findings and Discussion section, which is followed by a brief discussion of conclusions that have been drawn from the findings of the study.

Study Methodology

Study Design

For this study, the design and methods were selected and developed collaboratively by the IC and CRS. The survey sample was randomly drawn from a list of telephone numbers of households in Chittenden County, Vermont. The survey instrument (questionnaire) was developed by CRS and approved by IC staff. The instrument was pre-tested by trained professional interviewers prior to the implementation of the survey. The study methods, sample, and instrument were reviewed and approved by the UVM Committees on Human Research (CHR).

Data Collection

The survey was conducted at the University of Vermont by telephone between the hours of 4:00 p.m. and 9:00 p.m. beginning on November 5, 2007 and ending on November 13, 2007. The telephone polling was conducted by a trained staff of interviewers using the Sawtooth Software Ci3 computer-aided telephone interviewing (CATI) system. Only Chittenden County residents over the age of 18 years who were the primary household food shopper were eligible and interviewed for this study.

In total, 1,030 eligible households in Chittenden County were successfully contacted, yielding 412 usable completed questionnaires; therefore, the response rate was 40 percent. The results based on a group of this size have a confidence interval of 95 percent with a margin of error of plus or minus 5 percentage points. This means that if the survey were repeated, 95 percent of the time the results would be plus or minus 5 percent of the point estimate reported.

Data Analysis & Reporting

The survey results were analyzed using the statistics program SPSS 15.0 (Statistical Package for the Social Sciences). Frequencies and descriptive statistics are calculated for each variable. Possible relationships between variables are explored using either t- or f-tests to compare mean values of test categories and determine statistical significance in the variation of the means. Chi-square tests are used to calculate the statistical significance of the cross tabulation tables, which compare percentage distribution of two ordinal or nominal measured variables. Relationships were determined to be statistically significant if the critical value (p) reported is equal to or less than 0.10, meaning that there is a 10% or less likelihood that relationship between the variables occurred by chance. Tables presenting the frequencies and the results of the descriptive analysis and statistical tests were created using Word 2007. Graphs used to illustrate the results were created using Excel 2007.

Findings

Question 1: Who are the consumers?

The criteria for participation specified that respondents be the "primary food shopper in the household," in addition to being a person 18-years-old or older and living in Chittenden County. Note that the demographic characteristics of the survey respondents will most likely differ from those of the general Chittenden County population because of the eligibility requirements used to target specified consumers. The individual demographic characteristics of survey respondents are presented in *Table 1*. The majority of respondents are well-educated as almost two-thirds have achieved a bachelor's degree or higher levels of education. The majority is female between the ages of 35 and 64 years old; the average age of respondents is 56 years old. Respondents' have lived in Vermont for an average and median of 35 years, with 66.1 percent having lived in Vermont for at least half of their lifetime or more.

Table 1. Demographic characteristics of the study population

Demographic	Frequency	Percent
Education		
Less than a Bachelor's degree	153	37.9
Bachelor's degree or greater	251	62.1
Gender		
Male	128	31.1
Female	284	68.9
Age		
18- to 34-years-old	30	7.5
35- to 64-years-old	259	64.9
65-years-old or older	110	27.6
Lifespan lived in Vermont		
Less than half of life lived in Vermont	134	33.9
Half of their life or more lived in Vermont	261	66.1

Table 2 displays the general characteristics of respondents' households. Sixty three percent of households surveyed earn an annual income of $50,000 or more. The median household is a two person family, with a range of one to seven and mean of 2.4 household members. Almost three quarters do not have children under the age of 18 years living in their household. The low average household size and high proportion of those without children most likely reflects respondents' average age of 55 years; if they have children, it is speculated that they are adults and no longer live in the household. Households with children, 27 percent, have an average of 1.8 and median of 2 children. Almost half of households surveyed consider their residence to be a suburban area, 32 percent said rural and 22 percent said urban.

Table 2. Demographic characteristics of the study population households

Demographic	Frequency	Percent
Household Income		
Less than $25,000	37	10.8
$25,000 to $50,000	90	26.2
$50,000 to $65,000	44	12.8
$65,000 to $100,000	82	23.9
$100,000 or greater	90	26.2
Number of People in the Household		
One	99	24.4
Two	170	41.9
Three	49	12.1
Four or more	88	21.7
Number of People Under 18-Years-of-Age		
No children	296	72.7
One	43	10.6
Two	46	11.3
Three	15	3.7
Four or more	7	1.7
Rurality		
Rural	127	31.5
Suburban	189	46.9
Urban	87	21.6

Question 2: Where are they purchasing food products?

During the seven-day period prior to the study, consumers purchased food from a wide variety of venues ranging from grocery stores to farmers' markets and "Big Box" stores to specialty food markets. *Figure 1* shows the percentage of households that purchased food from these venues.

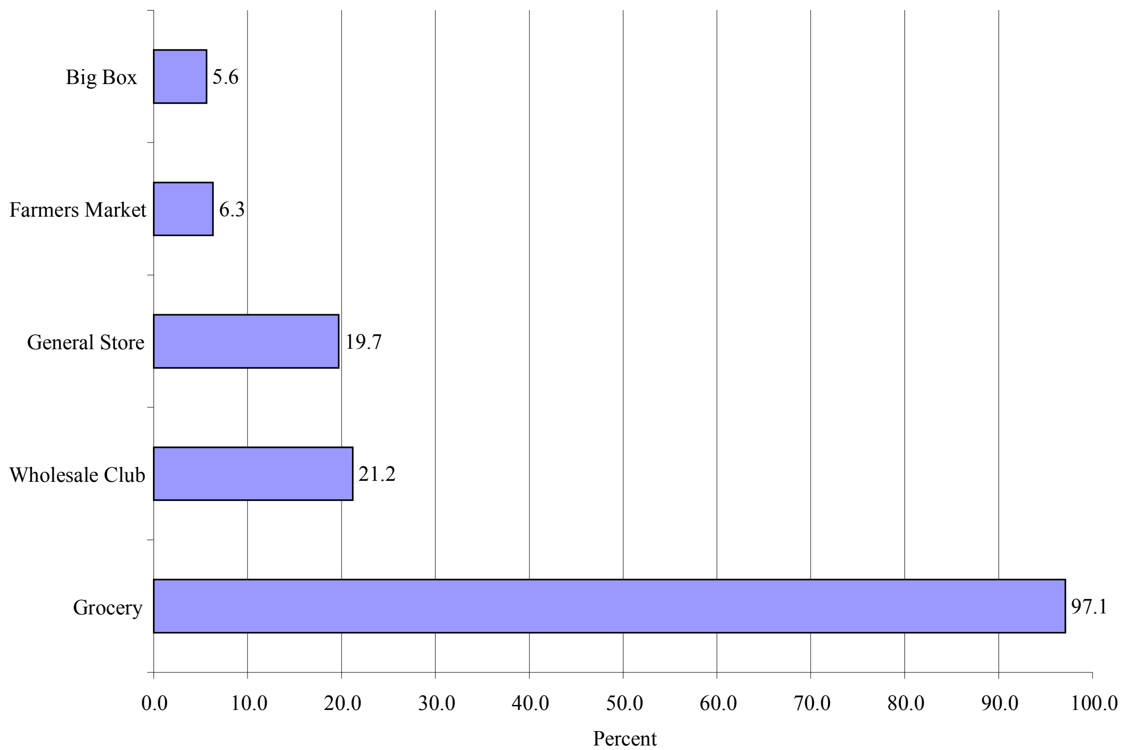

Figure 1. Percent of respondents who purchased food at various types of venues during the past seven day period

Broken down by venue, during the past week, approximately half (48.1 percent) of the population surveyed shopped at two or more grocery stores. Primarily, consumers purchased food at one of several major grocery stores. Almost half (47.3 percent) of respondents listed *Hannafords* as their primary grocery store, while 18.9 percent went to *Shaws*, 16.0 percent went to *Price Chopper*, and 5.9 percent shopped at *City Market*. To a much lesser extent, consumers went to other grocery stores, such as *Grand Union*, *Healthy Living*, *P&C*, and *IGA*. When examining the frequency of visits to these grocery stores, half (50.3 percent) of consumers visited the store once during the seven day period, while 29.5 percent went twice, 14.3 percent went three times, and 6.2 percent went four times or more times. When asked what they liked *most* about this grocery store, commonly given responses included: they liked the location (34.7 percent), food product selection (26.7 percent), prices of products (14.4 percent), and they like the store (17.4 percent).

In addition to grocery stores, many consumers bought food at wholesale clubs and general stores. *COSTCO* was the only wholesale club noted, while more than 40 different general stores were mentioned. The primary reasons mentioned for shopping at a wholesale club were price, followed by selection and availability of bulk products; while a wide variety of reasons for shopping at a general store were given, such as friendliness, prices, supporting local businesses and convenience. A strong majority (92.0 percent) of those who shopped at a wholesale club went once in the seven day period, while consumer's patterns of shopping at general stores mirrored those of grocery store shoppers; 54.3 percent visited a general store once, 24.7 percent shopped there twice and 12.3 percent shopped at a general store three times in a seven day period.

The smallest proportion of survey respondents said they purchase food at farmers' markets (including farm stands) (6.3 percent) and "big box" stores (5.6 percent). The reasons given for shopping at farmers' markets included: freshness, quality, variety, and buying local. It should be noted that this study was conducted in November when there are few farmers' markets in operation or their product offerings are dwindling for the growing season. Consumers preferred shopping at "big box" stores (such as Wal-Mart) because of price, convenience, and for "no particular reason." All farmers' market and big box store food shoppers visit these locations only once in a seven day time frame.

The results show that grocery stores are the primary venues for household food purchasing, with most shoppers visiting their store once or twice a week; however, consumers also frequent other venues based on their specific preferences, such as the convenience and friendliness of general stores, bulk options and low prices at wholesale clubs, fresh and local foods at farmers' markets, and the price and convenience of "big box" venues. Next, consumers' spending patterns at these different venues on all food products and local food products are examined.

Question 3: How much do consumers spend on food products?

During a seven day period, primary food shoppers surveyed self-reported (to the best of their knowledge) spending between $3 and $1,025 on *all food products* for their household and an average of $141 (these figures do not include any money spent on a CSA share). The average, median and mode dollar amounts spent on all food products at each venue option are presented in *Figure 2*. Consumers spent the most money on food at their grocery store [spending values from both the primary and secondary grocery stores were combined to give a total picture of household food spending in grocery store venues]. Money spent on food at grocery stores ranged from $0 to $925, with an average of $111, median of $95 and mode of $100. Shoppers spent the second highest average dollar amount on food at wholesale clubs; dollars spent ranged from $8 to $500, with an average of $86 spent on food. However, as shown in *Figure 1*, only about a fifth of consumers (21.2 percent) shopped at wholesale clubs during the seven-day period, while almost all consumers (97.1 percent) shopped at grocery stores. Venues where shoppers spent the least average amount of money on food items was at general stores (mean of $24), farmers' markets (mean of $22) and big box stores (mean of $18).

Figure 2. Mean, median and mode dollar value of food purchases at various types of venues during the past seven day period

Purchasing patterns of *local food* products
Including current CSA shareholders, 58.5 percent of respondents said they purchased local products from at least one venue (maximum of four venues) in the past seven days, with 60.6 percent shopping only at one location for local foods and one in three people shopping at two locations. Eight percent of respondents said they bought local food from three or four venues. Recent local food purchasers are significantly more likely to have spent more money overall in the past seven days on food shopping (mean of $162) compared to those who spent less money on food shopping (mean of $118) ($p \leq .01$).

Having purchased local foods in the past seven days is significantly related to having children at home (68.2 percent) ($p \leq .05$), completion of a bachelor's degree or more education (65.3 percent) ($p \leq .01$) and earning an annual household income of $65,000+ (66.9 percent) ($p \leq .01$). Further, respondents who are younger (mean age of 54) ($p \leq .05$), have a larger household size (mean of 2.6) ($p \leq .01$) and have lived in Vermont for fewer years (mean of 33.5) ($p \leq .05$) are significantly more likely to have purchased local foods in the past seven days compared to their counterparts. No other demographic variables showed significance.

Figure 3 compares respondents' perceived availability of local foods at each venue by their actual purchasing of local foods in the past seven days. Eighty three percent or more of respondents said that local foods are available at grocery and general stores and farmers' markets. Fewer respondents, 40 percent, feel wholesale stores provide local foods and roughly one third feel local foods are available at big box stores.

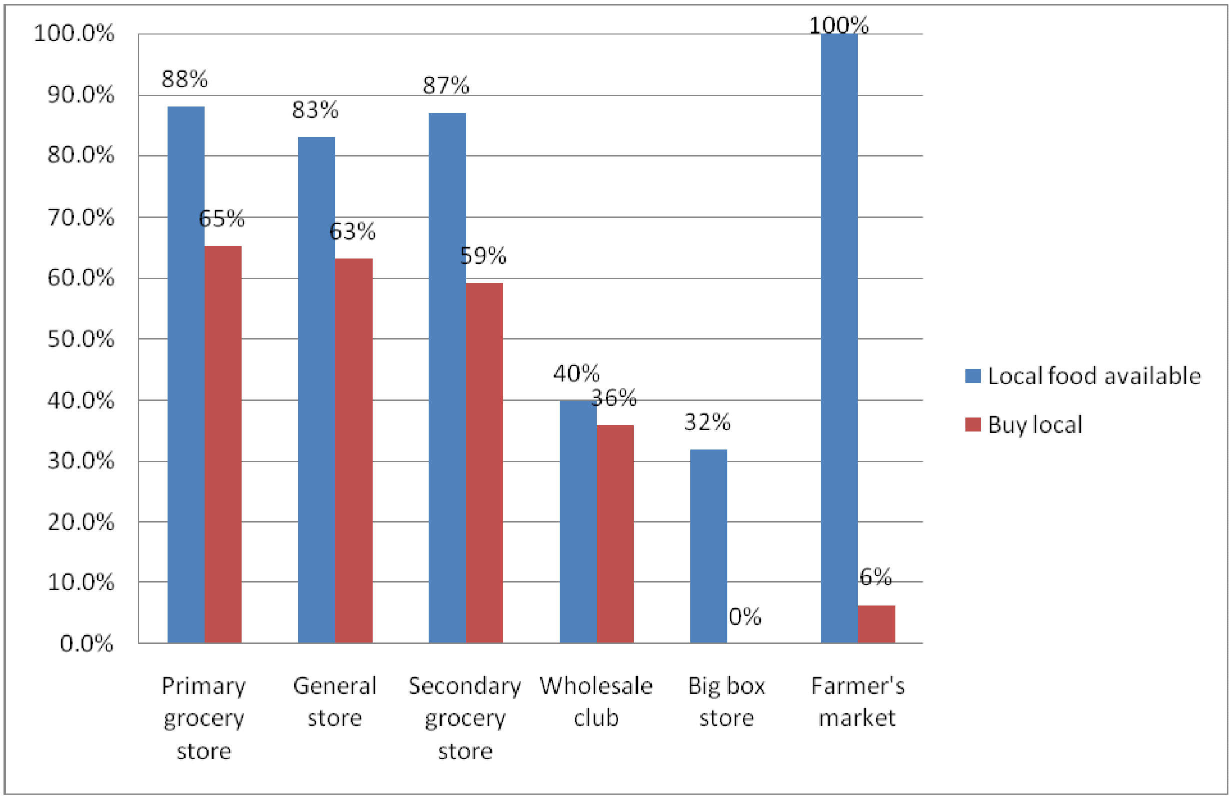

Figure 3. Comparison of perceived availability of local food at venues and actual purchase of local food during the past seven day period

Looking at actual purchasing of local products in the past seven days at these venues only, the majority bought local products at their primary grocery store (65.3 percent), general store (63.2 percent) and secondary grocery store (59.3 percent), which are locations that most respondents perceive as providing local options. Buying local at one's primary grocery store was significantly related to having a bachelor's degree or more education ($p \leq .01$) and earning $65,000+ in annual household income ($p \leq .05$). Slightly more than a third of consumers (36 percent) buy local foods at wholesale stores, while no respondents said that they purchased local foods at a big box store, even though 32 percent said that local products are available there.

Regarding farmers' markets, in the past seven days only six percent of respondents said they shopped at a farmers' market; since all products sold there are local, this is the percentage of respondents who are considered to have purchased local foods at this venue. Males (9.4 percent) are significantly more likely than females (5.0 percent) to have shopped at a farmers' market in the past seven day time frame ($p \leq .10$). It is important to note that the time frame when this survey was conducted was in November when there are few farmers' markets in operation in Vermont. However, the data suggests that demand for local food continues beyond the traditional Vermont growing season, which suggests the need for supporting options such as a winter farmers' markets.

Spending patterns on *local food* products

In that same seven-day period of time, primary shoppers self-reported, to the best of their knowledge, having spent between $0 and $240 on *local food* only (these values do not include any money spent on a CSA share). Regardless of whether or not respondents purchased local foods, consumers spent an average of $16 on local food during the seven day time period, with a median expenditure of $2 and mode of $0. Based on dollar amounts spent on *all food* and *local food only*, shoppers spent between 0% and 100% of their food monies on local foods in the past seven day period.

Almost half, 49.5 percent, of consumers surveyed did not spend *any* money on local food. Excluding these persons, of respondents who spent any dollar amount on local food, the average amount spent was $32 and the median and mode amount was $20. Local product purchasers spent between 1% and 100% of their food monies on local foods during the reference time period, with an average of 23% and mode of 16% of food monies being spent on local items.

No significance difference in dollar amount spent was found when comparing demographic profiles of those who spent any money on local foods, with the exception of age. Respondents who are younger than the average age of respondents (55 years) are more likely to spend more money ($35.89 average) on purchasing any local food products than older respondents ($27.31) who also purchase local foods ($p<.10$). However, for the most part, those who purchase any local options spend roughly the same amount of money regardless of most demographic differences.

However, significant differences were found when comparing demographic variables to dollar amount spent on local food, including those who did not spend any money on local foods. Households earning $65,000+ in annual income are more likely to spend more money ($21.61 average) on local products compared to those earning less income ($12.05 average) ($p \leq .01$). Respondents with a Bachelor's degree or more education spend an average of $19 on local foods in the given week compared to those who have completed less education ($12.25 average) ($p \leq .05$). Further, presence of children in the household showed significance in likelihood of spending more money on local products ($22.50 average) compared to those without children ($13.55 average) ($p \leq .05$). In addition, respondents who are younger than the average age of 55 years spend a higher average dollar amount ($22.24) compared to older respondents ($11.29). Gender was not found to be a significant factor of dollar amount spent on local foods.

Next, it is important to examine the average amount of *local food* spending at each of the venues where consumers buy food products. *Figure 4* shows that of the average $114.60 spent at grocery stores, $12.80 is spent on local food (11.2 percent). By contrast, on average only $3.90 out of $86.20 that is spent at wholesale clubs, such as *COSTCO*, goes toward the purchase of local foods. This means that only 4.5 percent of all spending at wholesale clubs goes toward local food. In contrast, 35.0 percent of money spent on food at general stores went to buying local food products. Finally, all of the money spent at farmers' markets went toward local products, while none of the money spent on food at "big box" stores was spent on local food.

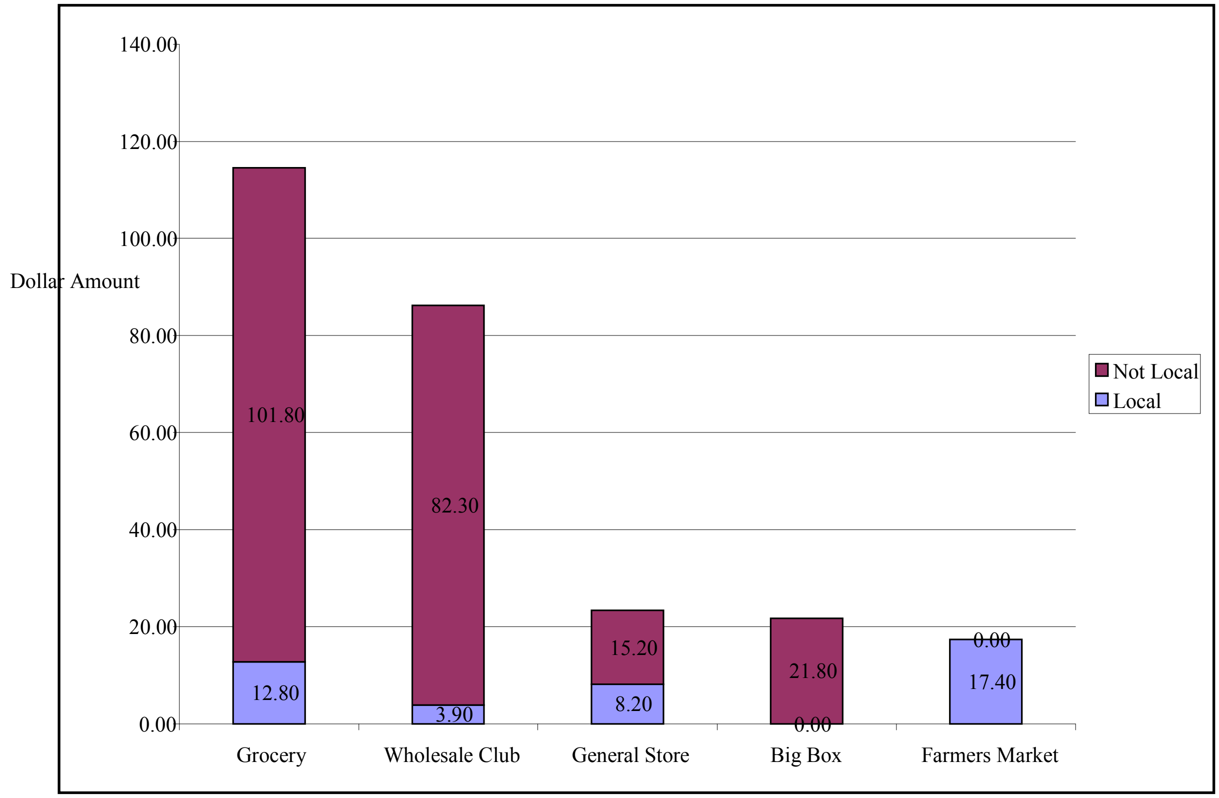

Figure 4. Average (mean) dollar value of local and non-local food purchases at various types of venues during the past seven-day period

Thus far, the data has shown where consumers surveyed have spent money on food, how much they spent, and the demographic profile of those more likely to purchase local food. The next section focuses on what products consumers purchased in general, products they purchased that are locally grown or produced, and products they would like to buy locally, but are not currently buying.

Question 4: What local food products are consumers purchasing?

Consumers purchased a wide variety of local food products from the various venues where food is sold in the area. At grocery stores, respondents bought everything from fruits and vegetables to breads and cheeses. Also, many consumers bought products that have traditionally been viewed as major products from the state of Vermont, such as dairy (milk and cheese), maple products (syrup, etc.), and apples and apple products. Furthermore, consumers bought (a) raw, whole foods that need little or no processing, such as berries, (b) foods that were lightly processed like honey, and (c) foods such as salsa or granola that are more heavily processed or mixed with other ingredients. Products purchased were both grown and produced in Vermont and grown elsewhere yet were processed in-state.

Consumers who purchased food from general stores bought many of the same products that were bought at grocery stores. Beer and eggs were the only local products mentioned as being purchased at general stores that were not mentioned by grocery store shoppers.

Only seven local products were mentioned by those consumers who shopped at wholesale clubs, which included: milk, cheese, butter, maple syrup, apple cider, hamburger meat, and Vermont-roasted coffee. Overall, a wide variety of local food products were purchased by consumers at grocery and general stores, while the variety of products purchased at wholesale clubs was limited.

Question 5: Are consumers interested in local food products?

Respondents were asked to indicate their first, second and third most important factors when purchasing food products, given the choices of price, quality, local, and organic. *Figure 5* shows that the highest proportion of respondents (46.1 percent) said that quality was the most important factor in their purchasing decisions; a quarter of respondents mentioned price as the first most important factor, followed by local and organic factors.

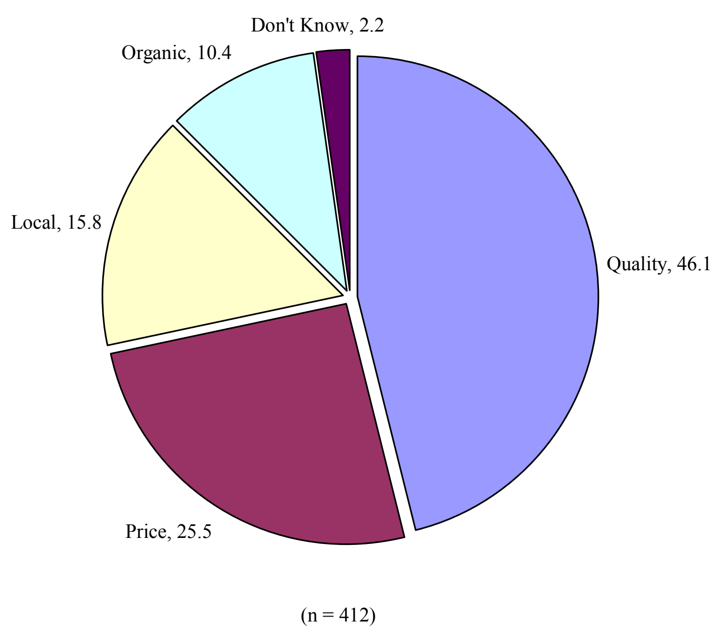

Figure 5. Most important factors when buying food products

Food that is locally grown was not the top priority for respondents' first choice; however, consumers indicated that locally grown products was their top factor for both their second and third choices (30.6 and 37.0 percent respectively). Thus, while the local factor may not be the primary concern of the greatest number of consumers, it is widely considered as a secondary or tertiary factor in their purchasing decisions. The organic factor was mentioned by the smallest percentage of consumers as a primary and secondary concern, while being second to last as a tertiary factor. The results suggest that quality, locally produced, and reasonably priced products are important factors in purchasing decisions of this market over products being organic.

Consistent with these findings, 71.1 percent of consumers agreed or strongly agreed with the statement, “I usually buy the local option when it is available” and 69.9 percent say they buy food items of the “highest quality.” However, only 17.0 percent agreed that they “usually buy the least expensive option.” Based on these findings of consumer preferences and purchasing patterns, there is a high demand for high quality and locally produced products.

Question 6: Are there any products in demand that are currently unavailable?

Almost a quarter (24.1 percent) of those surveyed had *specific* products that they “would like to buy locally, but haven’t been able to find.” This data is shown in *Figure 6*. The five most commonly mentioned products include: meat (21.2 percent), vegetables (20.2 percent), fruit (14.1 percent), produce (7.1 percent), and dairy products (4.0 percent) (n = 99). Less often mentioned items include cereals, grains, and fish/seafood products. Respondents would also like to see more local foods sold at almost every venue where they shop. Specifically, more than three quarters would like more local food options at the two shopping locations where they spend the highest average dollar amount per week, their primary grocery store (82.7 percent) and *COSTCO* (79.3 percent). Likewise, 60.0 percent would like more local options at their general store followed by slightly more than a third (34.8 percent) of “big box” store shoppers.

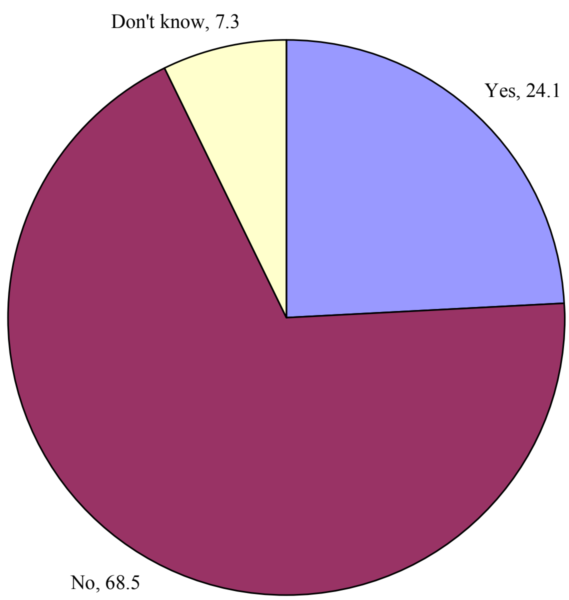

Figure 6. Whether or not consumers would like to buy a product made or produced locally that they have not been able to find thus far

Question 7: What are the barriers to buying local food and what are the best ways to overcome those barriers?

Consumers mentioned a variety of barriers to buying local food. The five barriers mentioned most frequently are shown in *Table 3.* The high price of local food products was the most commonly mentioned barrier, while the seasonal nature of certain local foods was the second most common concern mentioned by almost 20.0 percent. Among the less often mentioned responses, barriers such as education, awareness, selection, and labeling issues were also mentioned by consumers. Though many respondents indicated various barriers to purchasing local foods a small proportion felt there were no barriers to buying local food (7.1 percent) and 5.3 percent did not know of any barriers.

Table 3. Top five barriers to buying local food

Number	Response	Frequency	Percent
1.	Price	110	27.9
2.	Seasonal availability	76	19.3
3.	Availability	74	18.8
4.	Supply	15	3.8
5.	Accessibility	12	3.0

When asked their opinion on ways to overcome these barriers to buying local foods, nearly one-third of respondents did not know while the majority offered up ideas. A greater variety of solutions were offered than the actual number of barriers mentioned by respondents. To address the concern of cost, some suggested that prices should be lowered on local food products (8.0 percent), while others suggested that with increased competition, prices would be reduced due to market forces (2.0 percent). Regarding the issue of seasonal availability, consumers suggested the development of more greenhouses (2.9 percent) and hydroponic growing options (0.6 percent) as well as increased preservation and storage of food through canning and freezing (1.1 percent).

To address the barriers of availability and accessibility, consumers mentioned a wide variety of solutions. These solutions ranged from offering more local food in stores (9.7 percent) and specifically in larger stores such as grocery stores (3.4 percent), to promotion and advertising (7.2 percent) and better labeling and identification of local food options (2.0 percent). Some consumers would like to see more farm-to-supermarket partnerships (1.4 percent), food cooperatives (1.1 percent), farmers' markets (0.9 percent), and community gardens (0.6 percent). Some respondents also commented that as demand for local products increases, supply would naturally increase such as the availability of options throughout the year (3.4 percent) and specifically during the winter months (1.1 percent). Regarding barriers of limited local suppliers for food products, responses given ranged from general comments such as "produce more local food products" (3.2 percent) to more specific methods of providing subsidies to farmers to grow local food (3.4 percent), tax incentives (0.9 percent), or an increase in the local workforce (0.6 percent).

Though many respondents provided ideas to address various barriers, a segment of the sample feel that nothing can or should be done to address them (2.3 percent), while others gave a wide variety of miscellaneous responses to the question (9.4 percent).

Question 8: Are consumers satisfied with current food options and availability?

Overall, the majority of consumers are satisfied with their current store options to shop for local foods, quality and selection of local foods, and the availability of local food during the summer months. However, respondents were less satisfied with the price of local and the availability of local food during the winter months.

As shown in *Figure 7*, three quarters were satisfied or very satisfied with current venues to purchase local foods. However, the 21.7 percent of primary household shoppers who are not satisfied with venue options represent a large portion of households in Chittenden County (12,250[1]), based on the sampling methodology employed for this study.

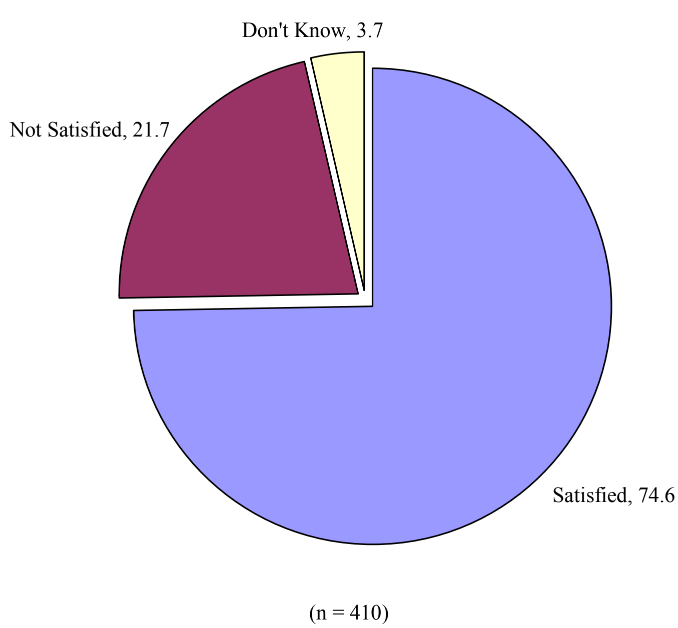

Figure 7. Satisfaction with current options of places to shop for local food.

[1] Based on 2000 US Census Bureau figures, which indicate there are 56,452 household in Chittenden County.

Of those who were not satisfied with local shopping options, 28.5 percent would like to see more store options while 17.0 percent would like to see more local foods offered in grocery stores. Other reasons for not being satisfied with current options for buying local foods parallel purchasing barriers mentioned by respondents, including the seasonal availability of food in Vermont (12.5 percent), general availability (10.2), and price of local products (8.0).

In addition to a high proportion of respondents who are satisfied with places to shop for local foods, a majority expressed satisfaction with the general selection of local foods (85.4 percent) and availability of these products during the summer months (86.6 percent). However, only 25.8 percent were satisfied with the availability of local food during the winter months while more than half (52.0 percent) were dissatisfied with this availability during the winter. This finding reflects the consistent finding that "seasonality" is a barrier to buying local foods. This finding suggests that there is a potential market for supplying local food products during the winter months, through methods such as aforementioned suggestions of increased green houses, hydroponic operations, food preservation and a winter farmers' market. Additional research into this area may be warranted to determine what types of products would be of interest to consumers during this time frame. A majority (88.6 percent) were also satisfied with the quality of local food available, which is a positive finding since almost half of respondents prioritize "quality" as their primary factor when purchasing food products. Over half (51.2 percent) of respondents indicated satisfaction with the price of local food, 23.0 percent had no opinion and a quarter (25.4 percent) were not satisfied. As shown in Figure 8, households earning less than $25,000 in annual income are significantly less likely to be satisfied with the price of local foods compared to households that earn a higher income ($p \leq .05$).

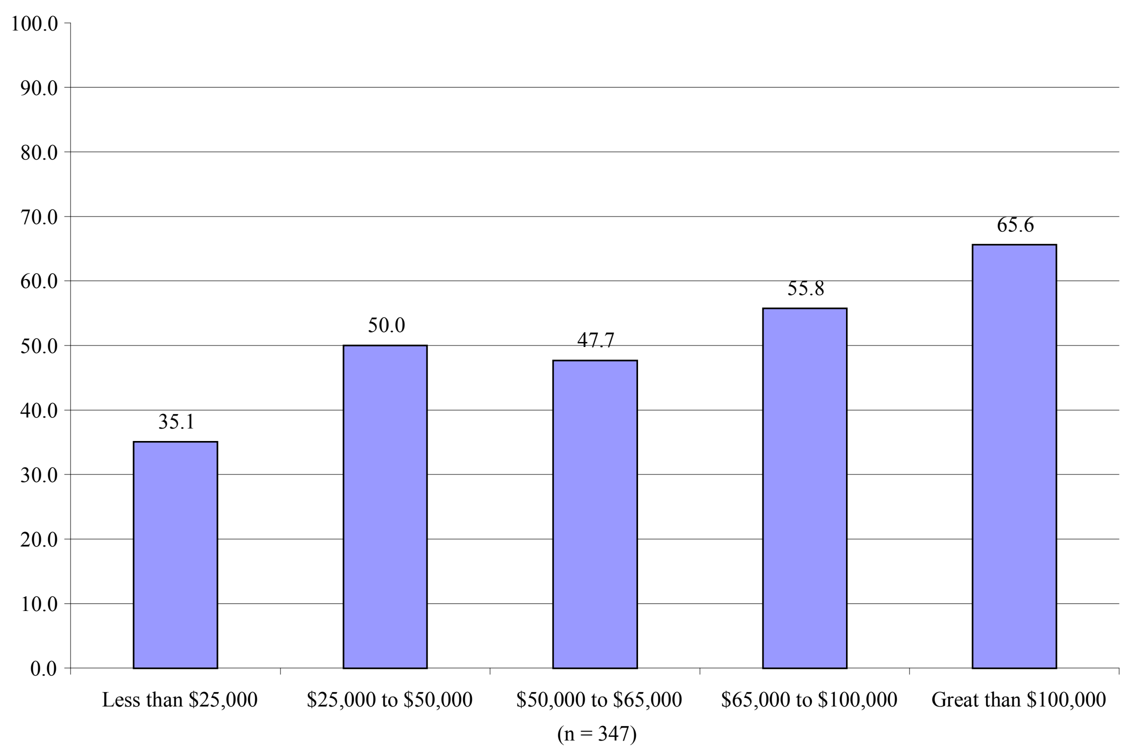

Figure 8. Satisfaction with the price of local food by household income

It appears that although a large percentage of consumers surveyed are satisfied with the current options of places to shop and products, there is a sizable section who would like to see both more shopping options for buying locally produced products. Community Supported Agriculture (CSA) farms may be one alternative method for providing more options for consumers.

Question 9: What is the general level of interest in community supported agriculture?

Awareness of CSAs is high in both Chittenden County and Vermont in general (see *Table 4*). All respondents were presented with a definition[2] of a CSA and asked if it would be an option that they might consider. After hearing this definition, 43.7 percent would consider joining a CSA, while 56.3 percent were not interested. Comparing interest in joining a CSA by income levels, a greater percentage of higher income consumers said that they would possibly be interested in a CSA share, compared to those with lower incomes. Specifically looking at the opposite ends of the income spectrum, 45.6 percent of consumers earning \$100,000 or more in 2007 were interested in the CSA model, compared to 27.0 percent of households earning less than \$25,000 that expressed interest ($p \leq .10$). This finding reflects that of *Figure 8* where lower income households were less satisfied with the price of local foods. Additional research is needed to explore the reasons behind the income gap in joining a CSA. However, given this information, a CSA farm that is concerned with hunger issues and lower income households' access to their foods should consider a high cost of a CSA share as a potential deterrent to membership or provide low cost options through working or subsidized memberships so they are more affordable to lower income households.

Table 4. Awareness of the term "Community Supported Agriculture" (CSA)

	Chittenden County	Vermont
Yes	54.1	52.3
No	42.4	47.0
Don't know	3.4	0.7

[2] The definition developed by the IC read as follows: Community Supported Agriculture (or CSA) is a system where members pay in advance for a share of farm products and receive a basket of food each week. Typically in Vermont, a CSA share of vegetables and fruit costs about \$20 per week and feeds a family of four.

Question 10: What have been the membership experiences in a CSA?

Regarding previous membership of a CSA, 10.7 percent of respondents indicated that their household had been a member of a CSA at some point in time. Of those households, 39.5 percent were a current or former member of a CSA during the past year. However, this number (17) represents a small proportion (4.2 percent) of the sample surveyed. Comparing respondents' CSA membership status to having bought local foods or not in the past seven days, only 16.3 percent of those who purchased local foods at any venue in the past week had ever been a member of a CSA. This low percentage suggests that CSA farms are missing out on a market of local-minded shoppers. Nonetheless, local buyers are significantly more likely to have ever been a member of a CSA (16.3 percent) compared to those who did not purchase local foods in the past seven days (2.9 percent) ($p \leq .01$). All current members of a CSA also reported having purchased local foods in the past seven days, while 55.3 percent of local food purchasers were not CSA members. This finding also suggests that CSA farms are potentially missing out on a large portion of Chittenden County residents who are local minded shoppers but are not CSA members. Looking at potential future CSA memberships, those who recently purchased local foods (49.8 percent) are significantly more likely to potentially purchase a farm share in the future, compared to 35.1 percent of those who did not recently make local food purchases ($p \leq .01$).

When these CSA shareholders (n=17) were asked why they were members, they responded that they wanted to "support local farmers," receive "fresh food," "build community", and "make friends." Consumers who were former members of a CSA (n = 26) were asked why they were no longer current members. The most common response (30.8 percent) was that they received too much food from their CSA share, which produced too much waste. Another 26.9 percent said that the location of the share pick-up was not convenient. Others provided responses such as they moved to a location not served by a CSA, began gardening, found a CSA membership to be too expensive, felt the CSA had the wrong product mix, or did not want to be a CSA member any longer.

Question 11: What are the consumer preferences for a CSA model?

As previously stated, 43.7 percent expressed interest in joining a CSA in the future, which demonstrates a higher demand for this service compared to the low proportion of respondents who are or have been members of a CSA. Interested persons indicate that the best methods for delivering the share would either be to their home (47.8 percent), which was the most often mentioned delivery method or a central distribution center where the share can be picked up by the consumer (39.0 percent). Almost 5.7 percent of consumers said that they would like their share distributed at their workplace, while another 5.7 percent gave some other location and 1.9 percent did not know where they would want to receive a CSA share. *Figure 9* shows consumers' preferences for local products that they would like to see offered in a CSA share. Almost all respondents were interested in a share of vegetables, followed by fruit, eggs, and dairy. Meat products were also of interest to respondents. This product mix should be taken into consideration when developing a CSA model to meet the demands of consumers.

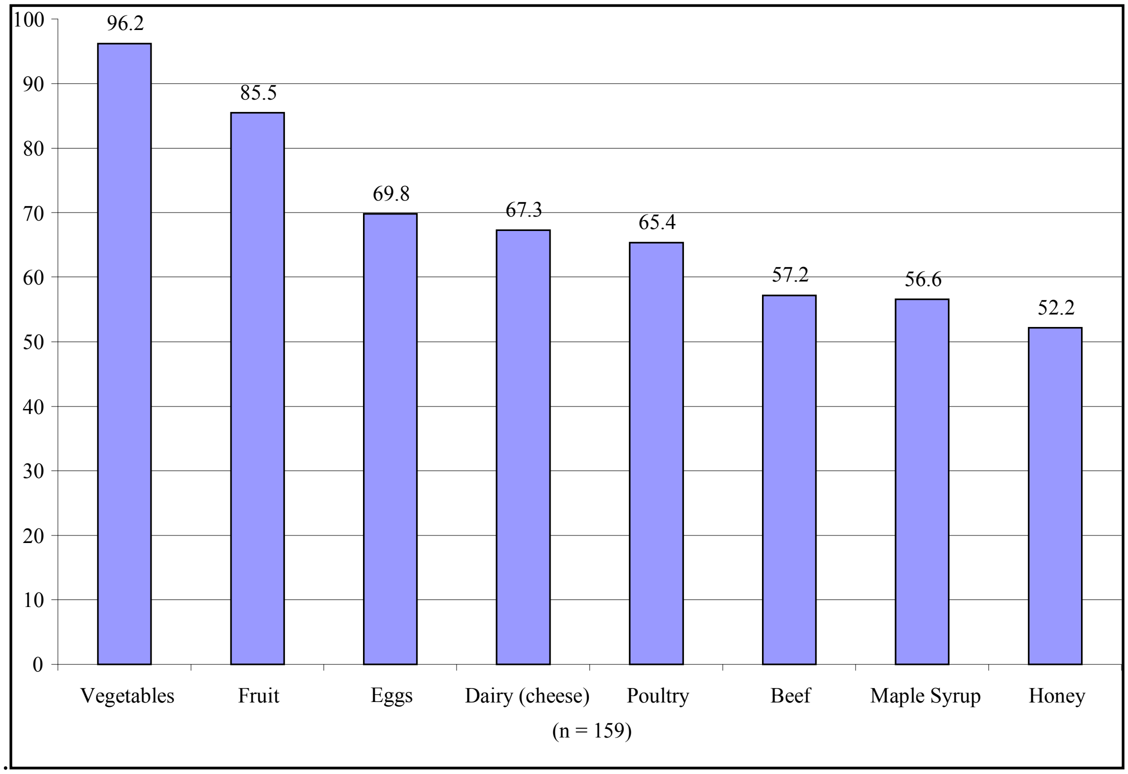

Figure 9. Local products that potential CSA members would like offered in a share

Conclusions

Household purchasing patterns
The results show that grocery stores are the primary venues for household food purchasing, with most shoppers visiting their store once or twice a week; however, consumers also frequent other venues based on their specific preferences, such as the convenience and friendliness of general stores, bulk options and low prices at wholesale clubs, fresh and local foods at farmers' markets, and the price and convenience of "big box" venues. A low proportion of respondents said they shopped at farmers' markets within the past seven days. However, this most likely reflects that the study was conducted in November when there are few farmers' markets in operation or their product offerings are dwindling for the growing season, thus they are attracting fewer shoppers. As dollars spent equates demand, respondents spent the highest average amount of money on weekly food purchases at their grocery store, with an average of $111, and at wholesale clubs, with an average of $86 spent on food. Customers who shopped at farmers' markets spent an average of $22 on products there.

Purchasing local foods
Over half of the sample surveyed (58.5 percent) are considered to be "local food shoppers," as they indicated having purchased local products from at least one venue and up to four venues in the past seven days; two out of three surveyed purchased local products at one location while about one in three people shopped at two locations. Primary venues for purchasing local foods (and the widest variety of local options) in the past week are grocery stores and general stores. These consumers spent between $0 and $240 on *local food* only. Recent local food purchasers are significantly more likely to have spent more money overall in the past seven days on food shopping (mean of $162) compared to those who spent less money on food shopping (mean of $118). Local food shoppers are also more likely to be younger, have children at home, have completed more education, and earn a higher household income of $65,000 or more per year. Half of all respondents did not spend any money on local food. However, this proportion most likely reflects the demographic profile of respondents, with the majority being older without children living at home.

Of shoppers who spent any amount of money on buying local foods, the average dollar amount spent was $32 or an average of 23% of all food monies spent during that past week. Being younger was also the only demographic predictor for spending more money on local foods; otherwise, those who purchased any local option spent roughly the same amount of money regardless of most demographic differences. However, significant differences were found when comparing demographic variables to dollar amount spent on local food, including those who did not spend any money on local foods. Spending a higher average dollar amount on local foods in the past week was significantly related to earning a higher income ($65,000+), having a higher education (bachelor's degree or higher), having children at home, and being younger; all of these characteristics were also related to being a local food shopper (according to this study) in general.

Demand for local products and satisfaction with current options
The results suggest that consumers value quality and reasonably priced local products. Being organic is less of an important option to respondents when purchasing products. Further if a local option exists the majority of respondents are *usually* more likely to buy that option. Overall, the majority of consumers are satisfied with their current store options to shop for local foods, quality and selection of local foods, and the availability of local food during the summer months. However, respondents were less satisfied with the price of local and the availability of local food during the winter months. The quarter of respondents who are not satisfied with their current options of places to shop for local food expressed demand for more local products to be sold, specifically in grocery stores, and for additional venue options.

Commonly noted barriers to buying local foods were the seasonal availability and price of products. The **seasonal availability** of local foods in Vermont was consistently expressed as a reason for not being satisfied with current options for buying local foods. This finding suggests that there is a potential market for supplying local food products during the winter months. Respondents suggested ways to address this barrier through the use of greenhouses, hydroponic operations, increased preservation and storage of food through canning and freezing and creating additional markets for local products, such as a winter farmers' market, and connecting more local producers to mainstream stores. Additional research into this area could help determine what types of products would be of interest to consumers during this time frame.

In addition, many respondents were not satisfied with the **price** of local products as a factor that limits one's access to local options. Price was of particular concern to households earning less than $25,000 a year in 2007. As price is possibly a barrier to some consumers, it may be worthwhile to explore methods for lowering local food prices or alternatively explain to consumers more effectively why the price of local food can be higher. Respondents also indicated that their demand for local products is greater than the availability of these products. The five most commonly mentioned products, which consumers feel are not readily available locally include meat, vegetables and fruit, with a small portion mentioning produce and dairy products. Because there is a sizable portion of those surveyed who would like to see more shopping options for buying locally produced products, Community Supported Agriculture (CSA) farms may be one alternative method among several other for providing more options.

CSA membership and recommended CSA model
More than half of residents in Chittenden County, and Vermont as a whole, were aware of the term Community Supported Agriculture or CSA. A low proportion of households, 11%, said they were members of a CSA at some time, with only 4% of respondents being current or recent members of a CSA. Recent local food buyers are significantly more likely to have ever been a member of a CSA (16%) compared to those who did not purchase local foods in the past seven days (3%). In addition, 55% of recent local food shoppers were not current members of a CSA, compared to 44% who are. These figures suggest that CSA farms are missing out on a market of local-minded shoppers.

Almost 44% of respondents expressed interest in joining a CSA in the future, which demonstrates a higher demand for this service compared to the 4% who are or have been members of a CSA. Interest in joining a CSA is related to earning a higher income, which reflects that lower income households were less satisfied with the price of local foods. Additional research is needed to explore the reasons behind the income gap in joining a CSA and purchasing local foods in general. However, given this information, a CSA farm that is concerned with hunger issues and lower income households' access to their foods should consider the potential deterrent of an expensive CSA and provide lower cost options for shareholders through working or subsidized memberships so they are more affordable to lower income households.

Respondents who are interested in potentially joining a CSA indicated that overall convenience is an important factor for receiving the food share. Specifically, respondents would like shares delivered to their home, which was the most commonly mentioned delivery method, or a central distribution center where the share can be picked up by the consumer, such as their workplace or another convenient location. The product mix desired by potential consumers of a CSA share include: vegetables, fruit, eggs, and dairy. Meat products were also of interest to respondents. This product mix should be taken into consideration when developing a CSA model to meet the demands of consumers. Reasons why respondents discontinued a CSA membership should also be taken into consideration, including receiving too much food that would go to waste, inconvenient pick up locations, price, and wrong product mix. CSA farms could promote composting of food waste or connect "gleaning projects," which distribute extra food to low income families, to shareholders who feel they have too much food for their family to consume. Low-cost share options, such as allowing members to volunteer hours on the farm in exchange for a reduced price or simply asking current shareholders (who are more likely to have a high annual family income) to donate extra money to support/subsidize lower cost shares, will also satisfy consumer demand of those who would like to be CSA members but feel they are cost prohibitive.

In addition, when marketing a CSA model, farms should stress the reasons why current shareholders have joined their CSA, including supporting local farmers, receiving fresh food, building community and making friends. As younger families with children were identified as being more apt to have recently purchased local products, CSA farms should also consider "family friendly" options within product mixes and at pick up sites.

Overall, this research shows that there is demand for quality and reasonably priced local products in Chittenden County, specifically during the winter months. Respondents would like additional venues for purchasing local foods, which is shown in respondents' interest in joining a CSA in the future. Based on this demand, CSA farms should consider all of the factors mentioned in this report, such as product mix, convenience and cost of shares, as well as develop educational materials on why customers join CSAs, their benefits to the community, and how to share one's share with others if they feel they receive more than their family can consume. Future research could focus on desired product mix for a winter share and reasons behind the income gap and local food purchasing/CSA membership. Based on the bivariate analysis presented in this report, multivariate analysis will be conducted to further explore predictors of purchasing of local foods. In addition, the researchers will perform a "cluster analysis" of consumers represented in this study sample to help in target specific consumers in Chittenden County when marketing CSA shares and local food products in general.

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