

# How Green Are Colgate's Dining Halls?

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## Abstract

In this paper I examine what percent of Colgate University's food and beverage purchases are local (grown and processed within 250 miles) or third-party certified. I find that 19.59% of Colgate's food budget is devoted to these products, with local products and third-party certified products constituting 14.55% and 5.04% respectively. This question is part of the AASHE's (Association for the Advancement of Sustainability in Higher Education) STARS (Sustainability Tracking Assessment and Rating System) program, and will help Colgate make strides in their sustainable dining practices by providing them with a basis for progress measurement across time and institution.

*JEL Classification:* Q01, Q56, Q10

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## **Introduction**

This paper determines what percentage of Colgate University's food and beverage budget is spent on sustainable food (local and/or third-party certified). I find that 19.59% of Colgate's food is local or third-party certified, with local food accounting for 14.55% of purchases and third-party certified food accounting for 5.04% (and 3% of purchases being organic). For the sake of this study, products are considered local if they are grown and processed within 250 miles of Colgate and third-party certifications include USDA Certified Organic, Marine Stewardship Council Blue Ecolabel, Food Alliance, Fair Trade, and Certified Humane Raised and Handled. This question is part of the Sustainability Tracking Assessment and Rating System (STARS), a program created by the Association for the Advancement of Sustainability in Higher Education (AASHE). STARS, a campus sustainability rating system, was designed for higher education institutions to report on their sustainability measures in all institution sectors. Each institution gets rated based on how well they perform in a large range areas, from education and research to operations, administration, and planning (AASHE).

As the threat of climate change has grown over time and gained prominence in the media, we have seen a worldwide push to "go green" and live in a more sustainable way. As our knowledge of ways to mitigate the environmental impact of our lifestyles and activities has grown, many have turned to food choices as a means to reduce their carbon footprint, given that the food industry contributes to approximately 20 to 30 percent of global greenhouse gas emissions (Food Engineering Division, 2010). People are purchasing increasingly more locally grown and organic foods, as well as shifting their diets to vegetarianism and veganism as ways to reduce their personal impact on the environment. As it is unreasonable to expect entire campuses to turn vegetarian or vegan, the Food Purchasing component of STARS pinpoints the percentage

of an institution's budget devoted to local and third-party certified foods as an important measure of its strides towards sustainability.

Calculating the percent of Colgate's food purchases dedicated to local and third-party certified food will create a baseline from which Colgate can measure its sustainability progress across both time and institution. Through using the common definition of sustainable food and the reporting methods as outlined by the AASHE, Colgate will be able to gauge their progress in comparison to other colleges and universities. Participation in STARS, which supports information sharing across institutions, will allow Colgate to gain insight into the sustainable dining practices and methods of other institutions. Colgate will be equipped to learn from other institutions the best ways to increase their sustainable food purchases. This information sharing will be particularly useful with nearby institutions, such as Hamilton College and Morrisville College, which share similar geographic and school size restraints to their food purchasing. This initial baseline calculation and the updated calculations to come will help Colgate set and meet sustainability goals in its dining facilities for years to come.

Decreasing the environmental footprint of its dining halls through the purchase of local and third-party certified food is just one of many sustainability measures that Colgate has taken in recent years. Through groups such as the Campus Ecology Group, the Sustainability Council, Students for Environmental Action, Green Thumbs (who promote local and sustainable food production and manage Colgate's Community Vegetable Garden), Green Gates, the Composting Club, and the Greek Sustainability Council, Colgate students and faculty are pushing for and implementing environmentally friendly measures in all aspects of life at Colgate (Colgate University, 2011).

In 2009 Colgate became one of 660 colleges to sign the American College and University Presidents' Climate Commitment (ACUPCC), pledging to take both short-term and long-term action to become eventually carbon neutral: “[b]y signing the commitment, Colgate pledges to complete an emissions inventory, take immediate short-term action to reduce greenhouse gas emissions, make ‘sustainability’ a component of the academic curriculum, and create a two year step-by-step plan with measurable goals including a target date for reaching carbon neutrality” (Colgate University, 2011). While food purchasing is only one of many ways to reduce emissions, buying more local and third-party certified food will certainly help Colgate in moving towards carbon neutrality. The creation of a baseline of measurement for these types of purchases, as is done in this study, will help Colgate set and achieve both long-term and short-term goals, in their dining halls and as a campus as a whole.

## **Literature Review**

### The Environmental Benefits of Going Local vs. Organic

There has been much literature written about the environmental benefits of purchasing both local and organic food. In their paper, “Food-Miles and the Relative Climate Impacts of Food Choices in the United States,” Weber and Matthews (2008) compare the greenhouse gas emissions from the life-cycle of food production to those from the transportation of food. They find that the large majority of greenhouse gas emissions from the United States food industry occur through production (83%), while the transportation of food only accounts for 11% of emissions (with the final transportation from retailer to consumer, or what is known as “food miles,” contributing a mere 4%). Their study also compares the greenhouse gas emissions from the production of different types of food, finding that red meat is 150% more greenhouse gas

intensive than chicken or fish. Consequently, Weber and Matthews (2008) conclude that organic food, as well as a dietary shift away from red meat and dairy, should be prioritized over local food in order to most successfully mitigate our environmental impact (p. 1). My paper, on the other hand, complying with the AASHE criteria, does not touch on dietary shifts (such as going vegetarian or vegan) or answer the question of whether local or organic food should be prioritized. My study accommodates both the purchases of organic and local food in its calculations, and both types of purchases are weighted equally. While, in lieu of Weber and Matthews' findings, the equal weighting of organic and local food may seem like a weakness in my paper, at this time, there is no way around the AASHE's sustainable food and beverage purchasing criteria. If I were to calculate the percent of Colgate's purchases that are local and/or organic, with organic food weighted more heavily, Colgate would not receive the benefits of being able to compare its numbers to other institutions. It should also be noted that while many local products purchased by Colgate are not certified organic, many of these products can essentially be considered organic in terms of their environmental impact. Many small farms that Colgate purchases from cannot afford the extra costs it entails to take the final steps to become USDA certified organic, but still practice their farming almost as if they were organic (G. Murray, personal communication, March 21, 2012).

### The Debate Over What Is Local

As the local food movement has gained momentum, there has been much debate over what actually counts as local. There is still no universally acknowledged definition for what qualifies a product as local. While some, such as Alisa Smith and J.B. MacKinnon, authors of "The 100-Mile Diet" define local as within a 100-mile radius, other definitions are more lax, allowing local to simply mean within a state or province (DeWeerd, 2008), or as set by the U.S.

Congress in the 2008 Food, Conservation, and Energy Act (2008 Farm Act), within 400 miles (Martinez et al., 2010, p. iii). However, since the study of my paper complies with the STARS program, which defines local as grown and processed within 250 miles, I will not focus on whether or not this definition is a good measure of a product's locality. Despite the disagreement about what is considered local, the significance of this STARS dining credit comes through its creation of a shared definition for higher education institutions to use in the measurement of their sustainable dining efforts. This common definition sets up a basis for comparison of dining sustainability across both time and institution, which will help Colgate further its sustainability goals.

### Colgate's Sustainable Dining

In 2010, four Colgate Environmental Studies students—Adriana Lopez, Alex Yingling, Ali Stokes, and Cat Weiss—wrote a paper entitled “Investigating Local Food and Sustainable Dining at Colgate University.” Their paper analyzes the meaning of the word “local,” the degree to which Colgate has gone local in their dining halls, and the resultant benefits of local food to Colgate, the surrounding community, and the greater sustainability movement. Their report also recommends ways for Colgate to increase its commitment to local foods. They pinpoint creating a baseline of local food use as the most important next step in increasing this commitment, and advise doing so by calculating the percentage of total Colgate food purchases that are local (Lopez et al., 2010). My paper expands on this paper by doing exactly this calculation and taking this important step in Colgate's efforts to go green in their dining halls. Lopez et al. (2010) also advise that Colgate use the AASHE definition of local (within 250 miles), which I am using in this study. While their report discusses the AASHE's sustainable dining criteria (as I outlined earlier in this paper) and the benefits of third-party certified food (such as organics), they do not

include third-party certified food purchases in their recommended calculation of a baseline for Colgate's sustainable food purchases. I will expand on their research by calculating the percentage of both local and third-party certified purchases in Colgate's food budget.

## **Methodology**

In March 2011, the AASHE, Princeton Review, Sierra magazine, and the Sustainable Endowments Institute came together to create an overarching sustainability data collector and reporting procedure for higher education institutions. Before this streamline of campus sustainability surveys, institutions had to complete four different surveys, consisting of different sets of questions and reporting protocols. The extensive time and effort needed to complete these four different surveys left campus sustainability coordinators feeling fatigued and frustrated, often deterring them from completing these surveys. While each of these organizations still assess this data and assign separate ratings to schools according to their own principles, this streamlining of data collection encourages and allows more institutions to complete the campus sustainability survey and will be a powerful tool in helping them make strides in sustainability (AASHE).

It is not feasible to compute the exact percentage of Colgate's 2011 food budget that is local and/or third-party certified. My approach is to develop a robust estimate that can be used to show trends over time and against other schools. In consultation with George Murray, Director of Dining Services at Colgate, and Michael Stagnaro, Campus Dining Services Executive Chef, I identified which companies provide sustainable products to Colgate (Sysco, Mento Produce, Purdy and Sons, Bimbo Bakeries, Bryne Dairy, Utica Bagel Grove, United Whole Foods, and Fair Trade Coffee). I contacted representatives from each of these companies to get estimates of

the percentage of Colgate's purchases from them that are local or third-party certified. Most of these companies were unable to provide percentages specific to Colgate, but gave me either the overall percentage of their products that meet these requirements or the specific kinds of products that meet them. I then multiplied these percentages by the total amount of Colgate purchases from each respective company to determine the amount of money spent on sustainable products from each. These amounts (in dollar value) of local purchases by Colgate were then added together and divided by the total 2011 food and beverage expenditure to get the percent of purchases that were local and/or third-party certified.

For some suppliers I was able to obtain Colgate's purchase amounts from the 2011 calendar year. Some suppliers, however, were only able to provide us with the amounts from September (the start of the academic school year) through March of the 2011-2012 academic year. George Murray assured me that approximately the same amount of money is spent on these companies per month (personal communication, April 17, 2012). This information allowed me to calculate the monthly purchase amount from the 7-month purchase total. I then used this monthly purchase amount for April's spending and cut it in half for May's spending (since school is only in session for the first two weeks of the month). George also assured me that Colgate's purchases in the summer months are minimal enough that unless included in the data given to us by companies, we could ignore them in our calculations (G. Murray, personal communication, April 17, 2012).

It is important to note that many assumptions had to be made in the data gathering and manipulation process. While having to make such assumptions is not ideal, it comes with the territory of taking on a complex study, such as this one, and having to depend on outside parties for much of your data. Despite the estimations and generalizations that had to be made in this



study, I believe that the results still paint an accurate picture of Colgate's commitment to sustainable dining. It is also important to note that as long as this same methodology is used for future calculations, we will be able to measure Colgate's *progress* in its purchase of local and third-party certified foods with great accuracy.

## **Results**

I find that 19.59% of Colgate's food budget is devoted to local and/or third-party certified products. Local purchases constitute the bulk of this percentage (14.55% of the budget), while third-party certified purchases make up 5.04% of the budget (with USDA Certified Organic products accounting for 3% of total food purchases). Colgate's local purchases, in order of decreasing magnitude, come from Sysco, Purdy and Sons, Byrne Dairy, Mento Produce, and Utica Bagel Grove. Sysco—the largest food service marketing and distribution company in the country and the provider of almost 68% of Colgate's food—alone accounts for 6.62% of the budget through its local products, such as apples, tomatoes, potatoes, cheese, and lettuce. The second largest amount of Colgate's local purchases comes from Purdy and Sons in nearby Sherburne. As Purdy and Sons is one of the only USDA federally inspected local agricultural processors of meats, poultry, and seafood in the area, Colgate works with them to streamline their local purchases. While Purdy and Sons directly produces some of the food Colgate purchases, a large part of their role lies in distributing local food from other vendors, such as Common Thread and the ultra-local, student-run Hamilton Community Garden. Colgate's purchases from and through Purdy and Sons primarily include meat, produce, granola and yogurt. In addition to its Sysco and Purdy and Sons purchases, Colgate buys locally grown and processed milk, cream, half and half, and cottage cheese from Bryne Dairy, whole wheat bagels from Utica Bagel Grove, and produce from Mento Produce.

As mentioned above, the majority of Colgate’s third-party certified food is USDA Certified Organic. United Whole Foods supplies 95% of Colgate’s organic food products, which includes rice, beans, tofu, seitan, tempeh, some oils, some vinegars, almond butter, soy butter, frozen and regular yogurt, and artisan flour (M. Stagnaro, personal communication, April 14, 2012). Colgate also purchases Fair Trade Coffee and all of its bread (besides bagels) from Bimbo Bakeries. The bread purchased from Bimbo Bakeries is all produced in plants located within 250 miles of Colgate that are third-party certified. Unfortunately, the Director of Quality Assurance was unable to tell me who specifically certified them. See Figure 1 below for a breakdown of results by company for overall sustainable purchases, local purchases, third-party certified purchases, and organic purchases.

**Figure 1**

<b>Company</b>	<b>Amount Local or Third-Party Certified (\$)</b>
Bimbo Bakeries	40,569.48
Byrne Dairy	83,467.17
Fair Trade Coffee	7,749
Mento Produce	9,768.5
Purdy & Sons	91,988.75
United Whole Foods	71,079.63
Utica Bagel Grove	2,448.39
Sysco	157,030.12
<b>Total</b>	<b>464,101.04</b>
Total Colgate Food/Beverage Purchases (Jan. 2011 – December 2011)	2,369,321
<b>% of Sustainable Purchases</b>	<b>0.195879343</b>

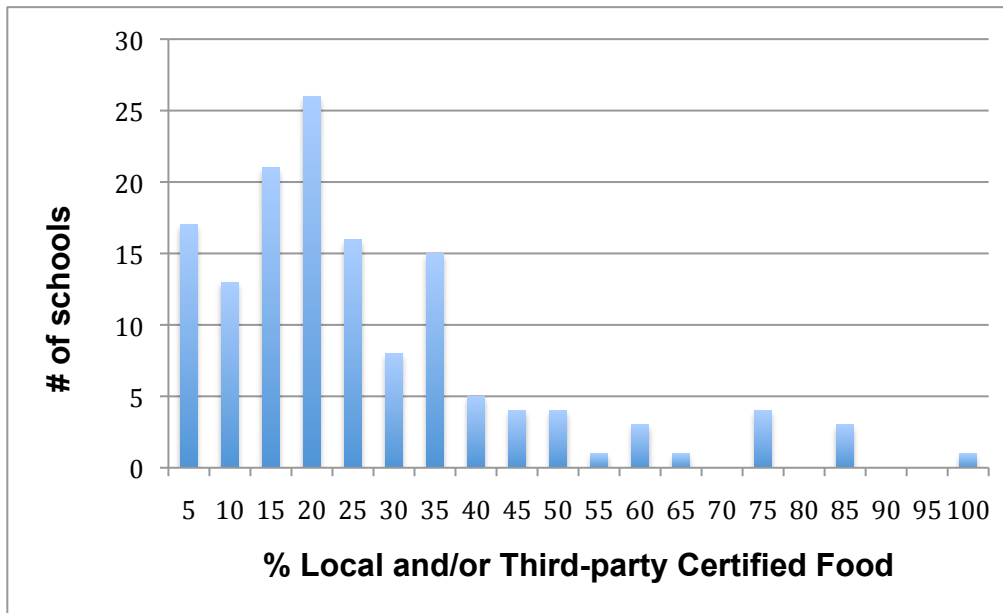
<b>Local Suppliers</b>	<b>Amount Local (\$)</b>
Byrne Dairy	83,467.17
Mento Produce	9,768.5
Purdy & Sons	91,988.75
Utica Bagel Grove	2,448.39
Sysco	157,030.12
<b>% of Local Purchases</b>	<b>0.145485956</b>

<b>Third-Party Certified Suppliers</b>	<b>Amount Third-Party Certified (\$)</b>
Bimbo Bakeries	40,569.48
Fair Trade Coffee	7,749
United Whole Foods	71,079.63
<b>% of Third-Party Certified Purchases</b>	<b>0.050393387</b>

<b>Organic Suppliers</b>	<b>Amount Organic (\$)</b>
United Whole Foods	71,079.63
<b>% of Organic Purchases</b>	<b>0.03</b>

Out of the 143 schools that have so far completed this sustainable dining credit and reported the percent of their food budget devoted to local and/or third-party certified purchases on the STARS website, Colgate ranks 74<sup>th</sup>. At 19.59%, Colgate lies below the average of 24.85% but is close to the median of 20%. See Figure 2 below for a histogram, showing the distribution of schools within each 5-point percentage range.

**Figure 2**



## **Conclusion**

### What can Colgate do to improve its sustainable food purchasing score?

As the chief motivation of this paper is to help Colgate become more sustainable by setting up a basis of comparison for its sustainable food purchases across time and institution, it is important to think about specific ways Colgate can most effectively and efficiently improve its score going forward. As is evident from the results of this study, Colgate has decided to devote much more of its dining budget to local, rather than third-party certified foods. After talking to George Murray and Michael Stagnaro, it appears that going forward, Colgate will continue to predominantly use the purchase of local food to increase their environmentally friendly dining practices. Colgate has found it difficult to increase their organic purchases as buying organic is usually more expensive than buying local. In addition, students do not seem to care enough about their food being organic to justify the extra costs. There is certainly a narrow niche, which appreciates the organic offerings in the dining halls, but on the whole, these offerings are not helpful to the majority of students (M. Stagnaro, personal communication, April 14, 2012). George Murray also highlighted the importance of supporting the local economy and community as a major motivation in continuing to target local food. (personal communication, April 27, 2012).

One of the most efficient ways Colgate will continue increasing their local food purchases is through Purdy and Sons. Colgate has been streamlining much of its local purchases through Purdy and Sons, who directly produce food for Colgate in addition to distributing the local products of nearby companies. Purdy and Sons inspect and process these products, ensuring that they are safe and can be sustained throughout the entire school year. Over the past five years, Colgate has brought in increasingly more local products through Purdy and Sons and George

Murray is confident that we can expect much of future increases in Colgate's local food purchases to come through Purdy and Sons, as working with them helps simplify and make more efficient the, what can be complicated, process of purchasing local food (personal communication, April 27, 2012).

Barring an overall decrease in the price of organic products, I do not expect Colgate's organic purchases to increase to the degree that their local purchases will. However, as part of a Sodexo corporation decision, Colgate has vowed to purchase only Marine Stewardship Council Blue Ecolabel seafood by 2015. This commitment represents a strong step in working towards more sustainable dining facilities. While ideally Colgate would be able to significantly increase both their local and organic purchases, Dining Services has to work within its budget and student preferences, and at the current time and as the results of this study show, Colgate is better adept to increase its purchase of local food.

## **Appendix**

### How the STARS Credit Works:

For each STARS credit, there are a maximum number of points that can be received, with incremental points available. The question that is explored in this paper, which completes the "OP Credit 6: Food and Beverage Purchasing," is under the sub-category "Dining Services" under the "Operations" section. Institutions earn the maximum 6 points if 50 percent of their food and beverage purchases is either grown and purchased within 250 miles of the institution or third-party certified (USDA Certified Organic, Marine Stewardship Council Blue Ecolabel, Food Alliance, Fair Trade, Certified Humane Raised and Handled). If purchases meet both of these requirements, they are not double-counted. Up to 50% of their purchases, institutions are

awarded incremental points based on the percentage of their purchases that are sustainable (AASHE).

The Specific Company Calculations:

**Bimbo Bakeries**

Jan. - March 15, 2012 Purchases	\$16,904
<b>Total Sept. 2011 – May 2012 Purchases</b>	<b>\$40,569.48</b>

I was given Colgate's Bimbo purchases for the first 15 weeks of 2012 (Jan. – March 15, 2012). I then divided this number (\$16,904) by 15 to get the weekly amount (\$1,126.93), and used the weekly amount to calculate the total Bimbo purchases for the 36 weeks of the school year. All products from Bimbo are third-party certified.

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**Byrne Dairy**

<b>Total 2011 Local Purchases</b>	<b>\$83,467</b>
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I was given a breakdown of Colgate's 2011 Byrne Dairy purchases. Using my acquired knowledge from a Byrne Dairy representative that all milk (including heavy cream and half and half) and cottage cheese are grown and processed within 250 miles of Colgate, I went through the invoice and added up these types of products.

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**Fair Trade Coffee**

Sept. 2011 - March 2012 Purchases	\$6,381
Calculated April - May 2012 Purchases	\$1,368
<b>Total Sept. 2011 – May 2012 Purchases</b>	<b>\$7,749</b>

I was given Colgate's Fair Trade Coffee purchases for September 2011 - March 2012 (\$6,381). I then divided this number by 7 to get the monthly amount (\$912), and used the monthly amount to calculate April's estimated purchases and the first half of May's purchases, which added up to \$1,368.

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### Mento Produce

Quarter 1% Local Purchases	5%
Quarter 2% Local Purchases	13%
Quarter 3% Local Purchases	28%
Quarter 4 % Local Purchases	19%
<b>Average % Local Purchases</b>	<b>16.25%</b>

2011 Coop Purchases	\$63,220.66
2011 Frank Purchases	\$243,047.01
<i>Total 2011 Purchases</i>	\$306,267.67
<b>Total 2011 Local Purchases</b>	<b>\$49,768.50</b>

Mento Produce provided me with the percent of local food that they supply per quarter. I then averaged these percentages and applied this average percentage (16.25%) to Colgate's total 2011 Mento purchases to obtain the dollar amount of local purchases from Mento for the year.

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### Purdy and Sons

<b>Total April 2011 – March 2012 Local Purchases</b>	<b>\$91,988.75</b>
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I was given the direct dollar amount of local food that Colgate purchases from Purdy and Sons.

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### Sysco

<b>Total 2011 Local Purchases</b>	<b>\$157,030.12</b>
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I was given the direct dollar amount of local food that Colgate purchases from Sysco.

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## Utica Bagel Grove

Sept. 2011 – March 2012 Frank Purchases	\$28,799
April – May 2012 Frank Purchases	\$7,090.50
<i>Total Sept. 2011 – May 2012 Frank Purchases</i>	<i>\$35,889.50</i>

Sept. 2011 - March 2012 Coop Purchases	\$6,293
April – May 2012 Coop Purchases	\$1,888.50
<i>Total Sept. 2011 – May 2012 Coop Purchases</i>	<i>\$8,181.50</i>

Percent of bagels whole-wheat (locally grown)	5.56%
Total Sept. 2011 – May 2012 Purchases	\$44,071
<b>Total Sep. 2011 – May 2012 Local Purchases</b>	<b>\$2,448.39</b>

I was given Utica Bagel Grove's purchases for Frank (\$28,799) and the Coop (\$6,293) for September 2011 - March 2012. I then divided this number by 7 to get the monthly amounts for Frank (\$4,727) and the Coop (\$1,259), and used the monthly amounts to calculate the estimated purchases for April and the first half of May (\$7,090.50 for Frank and \$1,888.50 for the Coop). I was told that only the whole-wheat bagels (2.5 of the 45 dozen bagels purchased by Colgate per week) are made from flour grown within 250 miles of Colgate. I then calculated the percentage of bagels that are locally grown and processed (5.56%) and applied this amount to the total September 2011 – May 2012 bagel purchases for the year.

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## United Whole Foods

% Organic Food Purchases	3%
Total 2011 Food Purchases	\$2,369,321
<b>Total 2011 Organic Purchases</b>	<b>\$71,079.63</b>

I was given the percent of Colgate's purchases that are organic (3%) and then applied this percentage to the total 2011 food purchases.



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