

# Real Food Calculator Final Report

## Fall 2012

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## **Overview**

For our research project, we investigated the amount of “real food” purchased by Carolina Dining Services over a five-week purchasing period in September of 2012. Our project combined both the efforts of Carolina Dining Services and the Real Food Challenge, a national campaign seeking to raise awareness and promote the use of sustainable food choices on college campuses. The Real Food Challenge provided us with a framework to record and research institutional food purchases for both Ram’s Head and Lenoir dining halls. Called the Real Food Calculator, it enabled us to systematically track information such as product names, brands, and total money spent per item. After compiling this information from invoices provided by Carolina Dining Services, we used the comprehensive guidelines provided by the Real Food Challenge to determine the total percentage of “real food” purchased by both dining halls during September. While this number reflects a mere sampling of a greater purchasing period, it provides a picture of the direction Carolina Dining Services is heading in. We were able to make this picture more complete by comparing previous results from 2010 and 2011 with our own results. Finally, we used our analysis to give Carolina Dining Services suggestions for how they could increase their current percentage of “real food.”

## **Defining Real Food**

The Real Food Challenge uses four categories to qualify food as “real”: local and community-based, fair, ecologically sound, and humane. They have further sectioned each category into a “green light,” “yellow light,” or “red light” identifier. The green light identifier is considered the best representation of the standard, while the yellow light identifier is considered a lesser, but still acceptable, representation of the standard. The red light identifier means that the product is close to reaching an adequate standard, but cannot be considered real food. Finally, a product is considered “Real Food B” if it meets one of the standards, and “Real Food A” if it meets two or more. These classifications help paint a clearer picture of the types of foods that are purchased.

### *Local and Community-Based*

Green light, local and community-based food must be grown, processed, and distributed by a privately traded, independently or cooperatively owned business. All of the production, processing, and distribution must occur within 150 miles of the institution in question. Yellow light, local and community-based food must be grown, processed, and distributed by a business under the same restrictions, but does not need to be privately traded. The food can come from within 250 miles of the institution. Because companies sometimes obtain ingredients from multiples sources, or send their products away for processing, both the producer and 50% or more of the ingredients must fit the above qualifications to be considered local and community-based. Red light, local and community-based food is produced by an independently or cooperatively run business, but is not within 250 miles of the institution.

### *Fair*

Green light, fair food includes any product certified as Ecocert Fair Trade, Fair Food Standards Council, Fair for Life, Fair Trade (by either the Fair Labeling Organization or Fair Trade USA), or Food Justice. Yellow light, fair food includes products with 50% of their ingredients meeting the above qualifications, or products certified with Fair Trade Certified Ingredient. Red light, fair food includes products classified as Rainforest Alliance Certified or Food Alliance Certified.

### *Ecologically Sound*

Green light, ecologically sound food includes anything classified as Biodynamic Certified, Food Alliance Certified, USDA Organic, Protected Harvest Certification, or Rainforest Alliance Certified. Seafood that falls under this category must have a Marine Stewardship Council certification or be on the Monterey Bay Aquarium's Seafood Watch Guide "Best Choices" list. Coffee must be labeled "Bird Friendly" by the Smithsonian Migratory Buyer's Guide. Yellow light, ecologically sound food must be Fair Trade Certified, Salmon Safe, Transitional Organic, or be on the Monterey Bay Aquarium's Seafood Watch Guide "Good Alternatives" list. Products identified as red light will have claims such as "Raised without Antibiotics" or "Naturally Raised," or be Good Agricultural Practices (GAP) certified by the USDA.

### *Humane*

Green light, humane food must be certified as Animal Welfare Approved, Biodynamic, Humane, or be in step 4 or higher in the Global Animal Partnership program. Any animal species may be considered yellow light, humane if they are Certified Organic, Food Alliance Certified, or in step 3 of the Global Animal Partnership program. Ruminant animals, such as cows, can have the yellow light qualification if they are AGA Grassfed, or labeled "Process Verified Grass Fed" by the USDA and identified as "Never Ever 3" or "Naturally Raised." "Never Ever 3" is a classification by the USDA that means the product contained no antibiotics, growth promotants, or animal by-products. Pigs are considered yellow light humane if they are Certified Humane, while eggs are yellow light humane if they are American Humane certified, certified Organic, or "Cage Free." Red light humane includes products with labels such as "Gestation Crate Free" for eggs or "eBGH/rBST-free" for dairy.

There are several provisions that automatically exclude a product from being considered real food, even if meets one of the previous qualifications. Producers that use Concentrated Animal Feeding Operations (CAFOs) or have been found guilty of criminal charges of slave labor within the past ten years are immediately disqualified. Any product that is likely to contain Genetically Modified Organisms (GMOs), such as soy, canola, or beet sugar, is also disqualified. Products containing ingredients that make it a health concern are prohibited as well. The list of ingredients includes, but is not limited to, high fructose corn syrup, sodium nitrate, sodium nitrite, partially hydrogenated oils, and several food dyes. This list is included because it is generally accepted that real food must be somewhat healthful, and many of these ingredients have been known to cause serious health concerns.

### **Why Real Food?**

There is a growing movement to support more sustainable food choices taking hold in communities and college campuses across the United States. This raised awareness has stemmed from questions about the norms set in place by the large agribusinesses that monopolize our food system. Where does my food come from? How was it produced? What *exactly* am I eating? Surmounting inquiries into both the healthfulness and ethics of conventional food have returned significant answers. Real food has been shown to benefit the environment, the local economy, and overall health. In an article adapted for the *Growing for Market* newsletter, author Vern Grubinger enumerates the positive impacts of local food. Contrary to corporate farm operations

that exhaust the soil and contribute to erosion, small farming practices conserve fertile soil and protect water sources. They also contribute to the financial stability of a community by removing the “middleman” and directly feeding capital into the local economy. Locally grown food also contains more nutrients than food that has taken days, or even weeks, to arrive at the supermarket. By selecting real food, we acknowledge our role as conscious, and responsible, consumers.

The University of North Carolina has made great strides in informing its campus about the importance of real food. Student organizations such as Alianza promote the ethical treatment of Latino farmworkers in North Carolina, while FLO (Fair, Local, Organic) Food works closely with nearby farmers and vendors to organize a farmer’s market on campus each semester. The Carolina Campus Community Gardens also positively impacts the area by providing fresh produce to low-wage university employees, and UNC’s student-run HOPE Gardens grows organic produce for the local homeless population. This commitment to real food demonstrates that students are actively thinking about their food choices. As a university full of passionate and motivated students, the University of North Carolina is in a unique position to enact social change. We have the potential to redefine our current food system by paving the way in awareness and action. Other universities have recognized this role by piloting the Real Food Calculator to increase their percentage of sustainable foods on campus. Brown University, University of Washington, University of California at Berkeley, University of Maryland, University of Vermont, Iowa State University, and Cornell College are just a sample of the universities leading the way.

### **Methodology**

We used the Real Food Calculator to determine the amount of real food purchased by Carolina Dining Services during a five-week purchasing period in August-September 2012. The Real Food Calculator is a Microsoft Excel worksheet created by the Real Food Challenge that allows students to record and categorize dining hall invoices, then calculates the percentage of real food purchased.

For the first half of the semester, we entered all of CDS’ food-related invoices from that five-week purchasing period into the Real Food Calculator spreadsheet. We ended up with a comprehensive overview of CDS’ food purchases that included the following information for each item purchased: product vendor, product code, product brand, total money spent on product, and product category (aka meat, baked good, poultry, dairy, eggs, fish/seafood, coffee/tea, other beverage, produce or grocery/staple).

For the semester’s second half, we researched each food item purchased by CDS to determine whether it fell into one or more of the four real food categories: local and community based, fair, ecologically sound, and/or humane. To determine whether food items fit these categories, we started by determining which products were counted as real food from last year’s Real Food Calculator. For all other food items, we called companies, researched farms and checked the Monterrey Bay Best Practices guide (for seafood) to determine whether they qualified as real food.

If food items fit into one of the four real food categories, they were categorized as real food B. If

food items fit into *more* than one of these four categories, they were categorized as real food A.

We then organized the expenditures for each food item according to category (meat, dairy, eggs, etc.) and calculated the percentage of real food for each category, as well as an overall percentage combining all categories. We also considered the percentages for each real food category, meaning Local & Community Based, Fair, Ecologically Sound, Humane, and Conventional (not real food).

After triple checking and proofing our results, our total amount of food purchases entered into the Real Food Calculator was \$891,339.49. As indicated by adding up all the CDS invoices, the total amount of food purchased was actually \$891,786.43. This means our results had a margin of error of .0005%, which is a margin we're comfortable with considering CDS' vast number of invoices.

**Results**

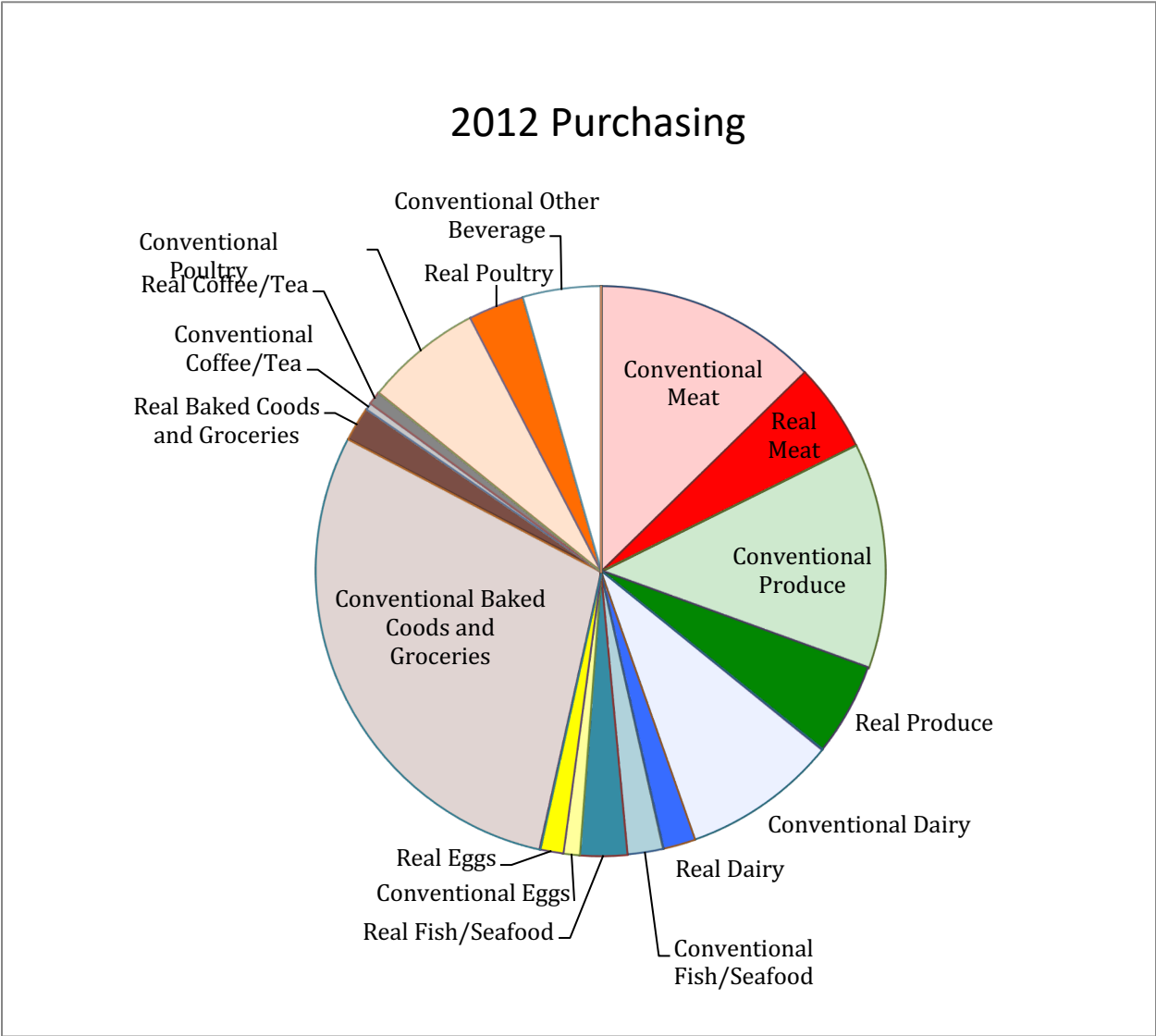
*Table 1. Real Food as Percentage of Total Food Purchased by CDS during 5 Weeks in Fall 2012*

<i>Real Food versus Conventional Food</i>	<i>%-age of Total Food Purchased, Fall 2012</i>
Conventional Food	79.86%
<b>Real Food</b>	<b>20.14%</b>

*Table 2. Real Food Purchases by Category as Percentage of Total Food Purchased by CDS*

<i>Total \$ Spent</i>	<i>Category</i>	<i>Conventional</i>	<i>Real Food A</i>	<i>Real Food B</i>
\$48,415.30	Baked Goods	100%	0%	0%
\$157,503.71	Meat	71.84%	0%	28.16%
\$87,461.96	Poultry	67.84%	30.58%	1.59%
\$95,324.19	Dairy	82.67%	9.83%	7.50%
\$20,202.73	Eggs	41.12%	0%	58.88%
\$41,563.38	Fish/Seafood	43.49%	33.89%	22.62%
\$10,322.45	Coffee and Tea	34.58%	0%	65.42%
\$39,176.83	Other Beverages	100%	0%	0%
\$160,898.19	Produce	70.29%	0.46%	29.25%
\$228,858.47	Grocery/Staple	99.73%	0%	0.27%
\$891,339.49	TOTAL	79.86%	5.71%	14.43%

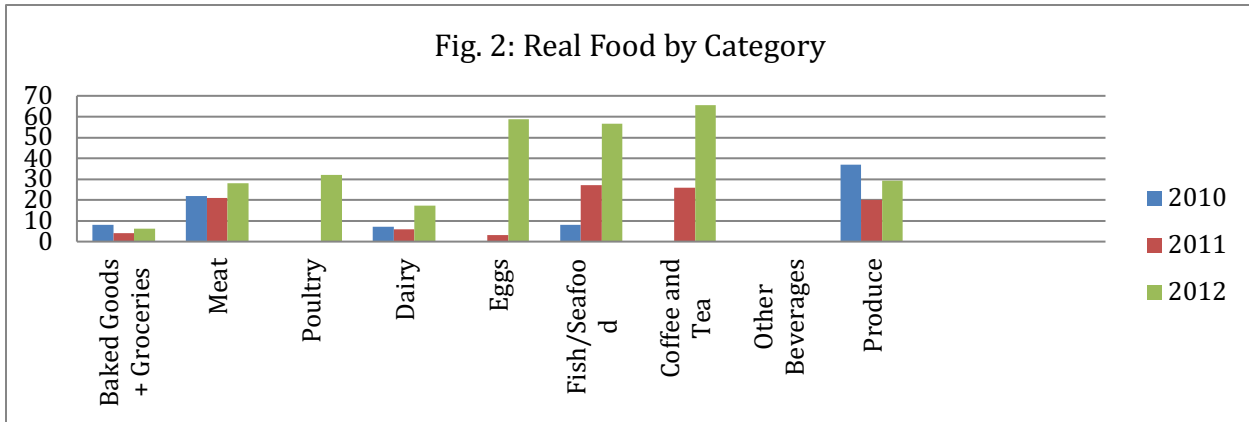
Table 3. Pie Graph of Table 2 Results



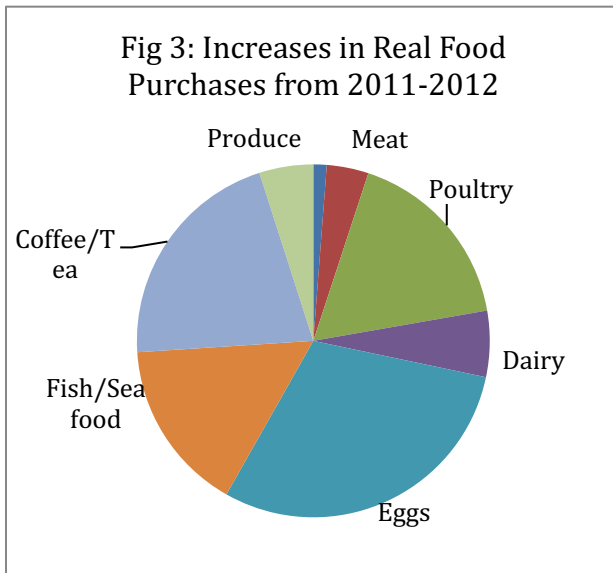
**Analysis**

This year’s calculator results mark an incredible increase in Real Food Purchases. Figure 1 shows the Real Food percentages from 2010 to present, and Figure 2 shows the increase in Real Food by category from 2010 to 2012. Please note that the 2011 data was later modified to include some miscounted seafood and dairy\*.

Year	Real Food
2010	12.7%
2011	9.9%*
<b>2012</b>	<b>20.1%</b>



As Figure 2 shows, the most dramatic increases in percentages have been in the categories of Poultry, Eggs, Seafood, and Coffee and Tea. While the increase in seafood has more to do with increased reporting accuracy\*, the others are representative of new trends in purchasing. Figure 3 breaks down the increase from 2011 to 2012, showing which categories contributed the most to the overall increase.



This illustration shows that the single largest contributor to the increase in Real Food was egg purchases. Liquid eggs are now purchased through Freshpoint, and though there was question as to whether they could be counted as local (and they were not), they were counted as humane due to the company’s American Humane Certification.

Aside from the seafood increases, and following eggs, the purchases of organic chicken, fair trade coffee, and increases in dairy, most likely from the local hoop cheese, have been the primary sources of the increase in Real Food this year.

\* In 2011, 9.9% was the original Real Food percentage, but it was later modified to WHAT to include some, but not all seafood, and PET dairy. These charts are based on the data prior to the amendment, which may make a significant difference in seafood purchases. With dairy purchases however the comparison is less affected, because PET could not be counted as real food in 2012 due to changes in standards for the local category.



### **Calculator Shortcomings**

We observed some shortcomings to using the Real Food Calculator as a means for calculating CDS' food sustainability. Doing so makes CDS subject to an outside organization's sustainability standards which are subject to change; although if UNC-CH were to sign the Real Food Campus Commitment, we'd be sure to establish what standards would be used until 2020 so that 'backwards' progress due to shifting guidelines would not be a possibility. Also, some of RFC's national certifications required for real food are difficult and expensive for small, truly sustainable farmers to obtain (e.g. Grayson Farms is not USDA Grass-Fed certified, so we could not count them as local and not ecologically sound even though their cows are grass-fed).

We are also concerned that the Real Food Calculator does not discriminate against different types of real food purchasing -- for instance, CDS could increase their real food percentage by buying more Monterrey Bay Best Practice seafood and buying less local, ecologically sound meat; which we would consider a less-sustainable move that the Real Food Calculator would not pick up on. All this said, the Real Food Calculator ultimately provides a very useful third-party metric for tracking CDS' food sustainability, and it allows enough leeway for judgment in cases of concern like those above.

### **Suggestions for the Future**

The increases in real food in the last year go above and beyond what was recommended or anticipated for such a short period of time. After reaching a goal that was not expected to be within grasp until 2020, Carolina Dining Services has a variety of options for future improvement.

#### *Purchasing Improvements*

While the overall real food percentage is 20.14%, less than 6% qualifies as real food A (falling into more than one category of real food). Stonyfield yogurt, organic chicken, and some of the seafood make up most of this category. We recommend shifting purchasing towards more real food A products. This could take form in purchasing more produce that is both local and organic, or animal products that are certified organic (the USDA organic certification standards are stringent enough that they can qualify a product as both ecologically sound and humane).

We have investigated some products that would make a significant impact on real food percentages with relatively easy transitions. The product with the most room for improvement is milk. Although PET was counted in a past year, they mix milk from a variety of locations, which makes tracing the sources very difficult. There are a few solutions to this problem that are worth further investigation: making occasional purchases of organic milk in addition to the regular PET purchases, or shifting all purchases to another company like Maola. Albert's Organics offers at least two brands of milk that would qualify as real food: Organic Valley and Natural by Nature (which CDS has purchased in past years). According to the price lists we had access to, these brands are approximately twice as expensive per ounce as PET, but could be purchased occasionally for "Green Theme" meals, or implemented on a weekly or biweekly basis like the grass fed burgers. Of course, being able to count all milk purchases as real food would be preferable (if we had been able to count PET this year the overall real food percentage would

have been 23.65%). We have also seen some encouraging information regarding Maola milk, which would be more in the same price range as PET. Maola is based in North Carolina and sourced by the Maryland & Virginia Milk Producer's Cooperative, which includes milk from North Carolina as well. We are currently waiting to hear back about the percentage of milk that could count as local.

The categories with the most room for improvement are baked goods and groceries (these categories have been combined in much of our analysis to avoid differences from counting certain products like cookie dough in different categories from year to year). We recognize that these foods are often difficult to obtain in a sustainable manner, especially processed goods with many ingredients. That being said, we have identified purchases that can easily be shifted in the category. Veggie burgers are one of the larger purchases in the grocery category. We currently purchase veggie burgers from Morningstar, a company that the 2010 calculator group had qualms with due to transparency issues. We have identified Amy's Kitchen organic foodservice burgers as an excellent alternative – they have a variety of flavors, including black bean, which makes up the bulk of our current purchasing. When speaking with Tracy Brasher, Amy's food service manager, we were told that Amy's burgers are in the same ballpark range as the Morningstar burgers (about \$50 for a case of 48 burgers). Had all veggie burgers been organic this year, the real food percentage would have been 20.56%. This is a large difference for a product change that does not increase cost.

We have also investigated local options for staples like flour and cornmeal. CDS has been known to purchase local bread flour from Lindley Mills. Although none was purchased during the sample period we addressed, we decided to investigate potential companies that could provide a larger variety of local flours. The company Old Mill of Guilford sells local white and wheat flours, as well as local corn flour in 25 pound bags. Although the prices are nearly double what CDS is currently paying for conventional Sysco flour, they have already demonstrated the possibility of purchasing some local flour. Having all local corn bread during Green Theme meals could be a viable way to incorporate more real food into the Grocery category.

Another goal to work towards in future purchasing is to decrease the amount of products that include ingredients with health concerns. A number of current bread products, such as Cobblestone Mills and Flower's hamburger buns, contain high fructose corn syrup. We recommend purchasing more Nature's Own breads, which do not contain high fructose corn syrup, and finding a healthier replacement for Flower's hamburger buns. It may also be worth investigating the prices of organic bread options such as Rudi's Bakery. Similarly, there are many condiment brands, and varieties within certain brands, that do not include high fructose corn syrup. For instance, while original Heinz ketchup uses high fructose corn syrup, their organic ketchup option does not. We recommend purchasing products with less harmful ingredients.

When modifying the budget to include more expensive products like organic milk and local corn meal, it is important to keep in mind that these purchases do not have to add to the total budget. These purchases can be balanced out by reducing purchasing of other products with higher degrees of substitutability. Conveniently, some of these more elastic goods are also products

with health concerns. We recommend balancing purchases with reductions of other products like Gatorade and other beverages, of which a great deal of flavors are currently offered, or reducing the number of cereal options (Gatorade, sodas, and many of the cereal brands contain at least one ingredient with a health concern), even if these changes are just for a few days out of the week, or for certain meals of the day.

### *Collaboration with Students*

We believe that working with students has been one of the primary drivers behind these dramatic changes in purchasing. Continuing to work with the FLO Food student working group will lend CDS further support and advice in future purchasing improvements.

Having worked closely with the Carolina Dining Services staff in gathering the data for the calculator, we have a few recommendations for improving the internship in years to come. Unfortunately, data entry dominated the majority our internship time. Our Real Food Challenge liaison, Nina Mukherji, has mentioned a Sysco “velocity report” to us that would streamline the data process, and allow future interns much more time to research future improvements. We recommend CDS to work with Sysco and future interns to make this report accessible. We also encountered some organizational issues in our receipts of the invoices for each week of the period. We were often missing invoices, and received duplicates of others. This led to some initially miscounted data, and many hours of extra time spent checking our entries later. It would be beneficial to the process as a whole if CDS employees improved the organizational system of their invoices in the future.

We also recommend an expansion of the calculator internship next year. Having met the goal of 20% real food for this prolific late summer-early fall purchasing period, we would like to see 20% real food for the entire year. To start working towards this goal, we recommend twice as many interns next year, with half of them working on a fall period, and half working a winter period, so we can understand what our purchases look like when fewer local produce options are available.

We would also like to see Carolina Dining Service’s excellent work in sustainability made public to more of the general student body. While the Green Theme meals are an excellent way to increase education, we have some suggested methods to further increase student awareness. We would like to survey meal plan holders on their desires for real food in the dining hall to get a better idea about what changes the general student body would like to see. We would like to see improved accuracy of the labelling in the dining halls, with Local stickers that use the “250 miles” description rather than the current “150 miles.” Grayson Farms burgers cannot accurately be labelled with the current stickers, but we believe they deserve to be counted. It would be both more transparent and beneficial to identify Organic and Ecologically Sound foods with stickers as well. Seafood could have Monterey Bay Approved stickers and Local stickers when applicable, and eggs could have a Humane sticker. We want to ensure that students are aware of the positive changes taking place in the dining hall, and through our experience with Local labels as meal plan holders, we think similar stickers would be an excellent way to do this.

### *Distant goals*

Looking to the future, there are many steps that can be taken to continue this trend of real food increases, and to increase the quality and health of student dining options in general. Many of these changes are incremental, but it is useful to have larger goals to work towards as well. Our goals for the more distant future for CDS are 20% real food for the entire year, and eventually having a local or organic meat or entree at every meal. We also recommend that FLO Food and CDS work together to create a goal for next year's Fall period real food percentage. On another note, we encourage CDS and FLO Food to continue to work toward constructing an on- or near-campus greenhouse, such as those provided by the company Brightfarms, for an ultra-local food source.

### **Conclusion**

We congratulate CDS for making such rapid progress toward achieving an admirable real food percentage of 20%. FLO Food looks forward to working with CDS to increase their real food percentage and sustainability practices even further in the near and distant future. Should the Real Food Campus Commitment get signed, we're confident that CDS will meet its stated objectives.

### **Sources**

Grubinger, Vern. "Ten Reasons to Buy Local Food." Adapted from *Growing for Market*. April, 2010. Web. 11 December 2012.

"Real Food Calculator Guide: 2012 - 2013 Version." *Real Food Challenge*, 2012. Web. 11 December 2012.